

Outcomes of the Cycling City and Towns programme: monitoring project report

Individual town results: Cambridge

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1 Introduction

1.1 Description of the Cycling City and Towns programme in Cambridge

Cambridge became a Cycling City in 2008. The focus of 'Cycle Cambridge' was to encourage cycling in the villages surrounding the city and spread the cycling culture existing in Cambridge into these areas. Initially the programme was also to encompass cycling to new developments around Cambridge, but as implementation of these developments slowed, the emphasis was placed on cycling to surrounding villages and areas of the city with lower levels of cycling.

Infrastructure improvements covered a variety of approaches including laying new red surfacing, installing advanced stop boxes, resurfacing routes and constructing and improving 16 cycle routes¹. Emphasis was placed on improving existing or constructing new traffic-free, shared use paths linking to the villages surrounding Cambridge. Although not completed within the timeframe of the Cycling City and Towns programme, a new cycle route running alongside The Busway guided bus route now links Cambridge and St Ives via a number of villages.

Speed reductions for motorised vehicles were introduced in the city centre and along other key routes. Improvements were made to increase accessibility and safety on routes including Hill Road Bridge and Gilbert Road. Cycle parking was increased with the addition of 1,900 new spaces, 900 of which were in schools and 194 of which were at Cambridge station.

Smarter measures centred on workplace, neighbourhood and school engagement programmes. The Travel to Work partnership and Travel Plan Plus were two schemes which were already in place in the area, and which received funding from Cycle Cambridge. Altogether over 300 local businesses, employing over 70,000 commuters, were engaged. Events and promotional activities sought to raise the profile of the Cycle Cambridge brand and engaged with an estimated 13,000 people. Bikeability training was delivered to 4,470 children and Bike It was delivered in 19 schools in the Cambridge area. Further and higher educational establishments were engaged through Fresher's Fair events and through the distribution of cycle maps and security advice. A new promotional map was produced to highlight the cycle routes in the area and to promote leisure cycling.

¹ Cycle Cambridge (2011) Cycle Cambridge End of Programme Report, Cycle Cambridge. Available at <https://www.gov.uk/government/publications/cycling-england-cycling-city-and-towns-end-of-programme-reports> [Accessed 31 May 2012]

1.2 Expenditure

While this report is primarily concerned with the monitoring evidence around outcomes of the Cycling City and Towns programme, it is useful to place these in context through summarising the programme inputs in terms of capital and revenue expenditure. Details of expenditure in Cambridge during the Cycling City and Towns programme are summarised in Table 1-1.

Table 1-1 : Funds invested in cycling in Cambridge

	2008 – 2011 revenue	2008 – 2011 capital	Total
Cycling England/DfT/DH investment	£1,131,728	£2,708,272	£3,840,000
Matched funding	£3,000	£5,111,000	£5,114,000
Total	£1,134,728	£7,819,272	£8,954,000

1.3 Summary of available monitoring data

The following data sources are available:

- Data from 17 automatic cycle counters
- 12 hour annual manual counts from 2005 onwards at 24 sites on a cordon around Cambridge and 13 sites on the River Cam screenline; quarterly counts at the same locations between quarter 4 2009 and quarter 4 2010
- Pupil Level Annual School Census (PLASC) travel data and monitoring data from Bike It
- route user intercept survey data from Parker's Piece, a park in central Cambridge
- Travel for Work survey data
- STATS19 cycling casualty data
- Active People Survey (APS) data.

1.4 Summary of headline findings

Strong evidence of growth in levels of cycling from a relatively high initial baseline

Amongst the indicators of change available, there is evidence of growth in cycling in Cambridge over the programme period. The most complete data sets, time series data from automatic cycle counters located predominantly on traffic-free cycle routes, indicate a growth in volumes of cyclists recorded over time, particularly on routes between Cambridge and surrounding villages. This is corroborated by manual count data, indicating an overall increase in volumes of cyclists on radial routes and on routes crossing the River Cam over time. Notwithstanding the limitations of the data source, cycling to both primary and secondary schools appears to have grown significantly over time. Schools engaged with Bike It have seen a significant increase in the numbers of children cycling to school every day.

- Automatic cycle counter data indicate an increase in volumes of cycles counted of +9% against a 2009 baseline. Based on data from the 17 automatic cycle counters, this estimated growth corresponds to an increase from 8,423 trips per day counted in 2009 to 9,173 in 2011
- An increase was observed at nine of the automatic cycle count sites, a decrease at four and no change at two locations²
- Analysis of manual count data collected in comparable periods at 23 count sites on a cordon around Cambridge indicates a significant increase in counts
- Significant changes in volumes of cyclists were recorded at 18 sites on the cordon when comparing 12 hour manual counts performed in 2005 and 2006 with 2009 and 2010 - 14 were increases and four were decreases
- Analysis of manual count data collected in comparable periods at 11 count sites on the River Cam screenline indicates a significant increase in counts
- Significant changes in volumes of cyclists were recorded at eight sites on the screenline, comparing 12 hour manual counts performed in 2005, 2007 and 2008 with 2009, 2010 and 2011 - six were increases and two were decreases
- Across all schools, the percentage of children cycling to school as measured by PLASC was 18.2% in 2010/11 compared to 10.0% in 2006/07
- Bike It data indicate an increase in children cycling to school on the day of the survey from 37.8% in pre surveys to 51.6% in post surveys, and an increase in children cycling to school everyday from 13.0% to 21.2%
- Surveys of employers engaged in the Travel Plan Plus scheme found an increase in the proportion of respondents cycling to work from 14.2% in 2009 to 20.1% in 2011 for a subset of 10 employers participating in all years of the survey
- Compared to pre-programme data, the number of cycling casualties was not significantly different during than before the Cycling City and Town programme
- Active People Survey data indicate a increase in Cambridge in the proportion of respondents cycling once or more per month and the proportion cycling 12 or more times per month between 2007/8 and 2010/11

2 Analysis of automatic cycle counter data

Data from a total of 17 automatic cycle counters have been analysed. In the following sections information regarding the location, volumes of cyclists recorded and change in volumes of cyclist recorded over time are presented for each location.

Approximately half of the cycle counters are located within central Cambridge and the remaining counters monitor access routes into Cambridge. One of the counters was installed in 1997, two in 2000, one in 2003, two in 2004 and eight in 2009. Two of the remaining counters were installed in 2010 and one in 2011. In order to be consistent across Cycling City and Towns, data from 2007 onwards are included in the analysis.

Two distinct sets of analysis have been undertaken using cycle counter data in Cambridge. In the first, all available data were analysed using a regression model to allow an estimate of change in cycle trips recorded over the programme period against a baseline. In the second, data from individual sites were analysed in order to determine the average volumes of cyclists recorded, distribution of cycle trips

² Insufficient data were available for the remaining two count sites to enable an estimate of change over time to be calculated

over the course of the day and (where sufficient data are available) the annual percentage change in the count of cyclists.

2.1 Town-wide analysis

Table 2-1 presents the percentage change in cycle counts relative to a 2009 baseline including data to the end of September 2011. Although five of the counters have some data in 2007 and 2008, insufficient data are available to be able to produce reliable estimates of cycle volumes in these years.

Table 2-1 Change in cycle count in Cambridge at the end of the Cycling City and Towns period relative to a 2009 baseline (baseline = 100%)

	2009	2010	2011
Change against 2009 baseline	100%	100%	109%*

* indicates a significant difference ($p < 0.05$) compared to the 2009 baseline

The counter data indicates increases in the volume of cyclists recorded for each year. A significant uplift in counts is observed between 2010 and 2011. Although the percentage increase recorded by the automatic cycle counters in Cambridge is lower than in other towns in the programme, the high baseline level of cycling in Cambridge means it has achieved the second highest increase in trips counted per counter per day (44 additional counts per day) amongst the Cycling City and Towns.

In order to explore whether the periods of severe weather nationally in late 2009 and early and late 2010 have impacted on these estimates of change in cycle counts, an additional element was added into the regression model. Table 2-2 presents the findings of this analysis.

Table 2-2 Change in cycle count in Cambridge at the end of the Cycling City and Towns period relative to a 2009 baseline including an adjustment for snow (baseline = 100%)

	2009	2010	2011
Change against 2009 baseline	100%	103%*	106%*

* indicates a significant difference ($p < 0.05$) compared to the 2009 baseline

When adjusting for the periods of severe weather in 2009 and 2010, there is an increased growth in cycling levels between 2009 and 2010, although the growth over the programme period has decreased by 3%-points.

2.2 Analysis of data from individual counter sites

Data from individual cycle counters were analysed in order to determine the rate of change in volumes of counts recorded at each location over time. The results of this analysis are summarised in Table 2-3. There are not sufficient data available to robustly estimate the annual percentage change in the number of cyclists counted at any of the automatic cycle counters included in the analysis, with the exception of one channel of the counter located on Barton Road (map reference 4). At this site, the annual average percentage change was +4% based on weekday data and +1% based on weekend day data.

Using the more limited data available for the remaining count sites, change over time is positive for nine count sites and negative for four count sites. No change was observed at two sites. The remaining two sites have less than one year of complete data hence it is not possible to make an estimate of change over time.

In the following table counters are ordered by their location relative to the centre of Cambridge, starting with those located closest to the town centre. Map references refer to the accompanying map (section 8).

Table 2-3 Description of automatic cycle counters in Cambridge

Map reference	Location	Time period	Annual change ^b	Average daily count in 2010	Comments
1.	Garret Hostel Lane	2007-2011 ^{a d}	Positive	Overall: 1,622 ^e Weekdays: 1,704 Weekend days: 806	Located on Garret Hostel Lane, a traffic-free shared use path linking A1134 Queens Road and a university site (Trinity College). It is approximately half a mile west of the centre of Cambridge. Weekday counts show 'commuting' peaks with high usage throughout.
2.	Thompson's Lane	2009-2011	Positive	Overall: 332 Weekdays: 359 Weekend days: 251	Located on National Route 11 of the National Cycle Network, a traffic-free path at the entrance to Jesus Green, a park half a mile north of the centre of Cambridge. Weekday counts show 'commuting' peaks.
3.	Cutter Ferry Bridge	2009-2011	Negative	Overall: 1,330 Weekdays: 1,428 Weekend days: 981	Located on National Route 11 of the National Cycle Network on a traffic-free shared use riverside path. It is located adjacent to Cutter Ferry Bridge over the River Cam, approximately three quarters of a mile east, north-east of the centre of Cambridge. A college site and housing are nearby. Weekday counts show 'commuting' peaks.
4.	Barton Road ^g	2007-2011 ^{a c}	Channel A: Weekday: +4% Sat/Sun: +1%	Channel A: Overall: 549 Weekdays: 618 Weekend days: 321	Located on a traffic-free shared use path adjacent to Barton Road in a residential area approximately three quarters of a mile south-west of the centre of Cambridge. Weekday counts show 'commuting' peaks.
			Channel B: Positive	Channel B: Overall: 169 Weekdays: 178 Weekend days: 98	

5.	Trumpington Road	2011	- ^h	Overall: 732 Weekdays: 837 Weekend days: 398	Located on an on-road cycle lane, approximately two miles south of the centre of Cambridge. Weekday counts show 'commuting' peaks.
6.	Carter Bridge	2009-2011	Negative	Overall: 2,296 Weekdays: 2,485 Weekend days: 1,225	Located on a shared use traffic-free bridge over a railway. The bridge links two residential areas and is one mile south-east of the centre of Cambridge. Weekday counts show 'commuting' and 'school' peaks.
7.	Riverside Bridge	2009-2011	Positive	Overall: 1,327 Weekdays: 1,443 Weekend days: 989	Located on National Route 51 of the National Cycle Network, a traffic-free riverside path approximately one and a quarter miles north-east of the centre of Cambridge. A common and a residential area are nearby. Weekday counts show 'commuting' peaks.
8.	Stourbridge Common	2009-2011	No change	Overall: 1,921 Weekdays: 2,086 Weekend days: 1,594	Located on National Route 51 of the National Cycle Network at the start of a traffic free shared use path by the River Cam, heading on to Stourbridge Common. It is approximately one and a half miles north-east of the centre of Cambridge. Weekday counts show 'commuting' peaks.
9.	Jubilee Path (near Stourbridge Common)	2010-2011	- ^h	Overall: 1,839 Weekdays: 2,062 Weekend days: 1,299	Located on a traffic-free shared use path at the foot of a bridge within Stourbridge Common, approximately one and a half miles north-east of the centre of Cambridge. Weekday counts show 'commuting' and 'school' peaks.
10.	Penny Ferry	2009-2011	Negative	Overall: 208 Weekdays: 203 Weekend days: 250	Located on National Route 11 of the National Cycle Network, a traffic-free shared use riverside path adjacent to the River Cam approximately one and a half miles north-east of the centre of Cambridge. Weekday counts show 'commuting' peaks.
11.	Tin's Path, Cherry Hinton	2010-2011	Positive	Overall: 511 Weekdays: 556 Weekend days: 286	Located on a traffic-free shared use path, near to a dance and leisure centre, approximately two miles south-east of the centre of Cambridge. Weekday counts show 'commuting' peaks.

12.	A1303, Airport roundabout	2009-2011 ^a	Positive	Overall: 155 Weekdays: 172 Weekend days: 98	Located on National Route 51 of the National Cycle Network, a traffic-free shared use greenway to the north of a roundabout. The site is surrounded by fields and is approximately three miles east of the centre of Cambridge. Weekday counts show 'commuting' peaks.
13.	B1046 Comberton Road	2007-2011 ^{a c}	No change	Overall: 96 Weekdays: 133 Weekend days: 55	Located on a traffic-free shared use path adjacent to B1046 Comberton Road, approximately three and a half miles west, south-west of the centre of Cambridge in a rural location between the settlements of Comberton and Barton. Weekday counts show 'commuting' and 'school' peaks.
14.	Stripey Path	2009-2011	Positive	Overall: 507 Weekdays: 607 Weekend days: 225	Located on National Route 11 of the National Cycle Network, a traffic-free shared use path adjacent to a railway in Great Shelford, three and a half miles south of the centre of Cambridge. Weekday counts show 'commuting' peaks.
15.	Fulbourn Road	2010-2011 ^{a f}	Positive	Overall: 68 Weekdays: 79 Weekend days: 37	Located on a traffic-free shared use route adjacent to Fulbourn Road. The location is surrounded by fields and is between Cambridge and Fulbourn, approximately four miles south-east of the centre of Cambridge
16.	Clayhithe	2009-2011	Positive	Overall: 117 Weekdays: 113 Weekend days: 128	Located on National Route 11 of the National Cycle Network, a traffic-free shared use riverside path adjacent to the River Cam in Clayhithe outside Waterbeach. The counter is located approximately five miles north-east of the centre of Cambridge and surrounded by fields. Weekday counts show 'commuting' peaks.

17.	A1303 Quy Bottisham	2007-2011 ^a	Negative	Overall: 88 Weekdays: 107 Weekend days: 60	Located on a traffic-free shared use path adjacent to A1303 Newmarket Road in a semi rural location approximately five miles east of the centre of Cambridge. Weekday counts show 'commuting' peaks.
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^a data are also available for earlier periods, but to ensure consistency these have not been included in the analysis

^b for counters with less than 36 months of data only a tentative indication as to the direction of the change can be reported, either positive, negative or no change

^c no data are available for 2009

^d no data are available for 2009 or 2010

^e no data are available for 2010 and therefore average daily counts for 2011 have been reported

^f data are available for two channels in 2007 and 2008, no data is available in 2009 and one channel of data are available for 2010 and 2011. As it was not possible to identify which of the previous two channels the data from 2010/11 relates to, only data from 2010 and 2011 has been included in the analysis

^g one of the channels on the Barton Road counter was not collecting data for most of 2010 and therefore the estimates of annual change and average daily counts have been calculated separately for each channel

^h insufficient data are available for this site to enable any estimate of change over time to be made

2.3 Relationship between programme activity and automatic count data

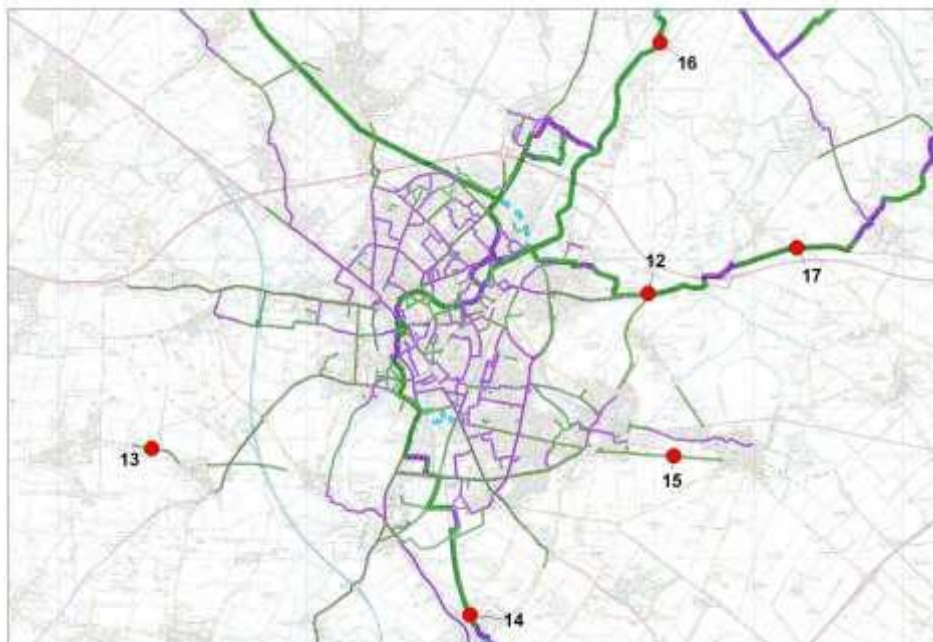
2.3.1 Increasing cycling in villages surrounding Cambridge

The initial emphasis of the Cycle Cambridge programme was on encouraging cycling both from planned new developments around the city and from villages in the surrounding area. Progress on new developments slowed during the Cycling City and Towns programme, and as a result the focus shifted to encouraging cycling amongst villages surrounding Cambridge. Improvements to existing routes were implemented and new traffic-free, shared use paths were created.

A number of automatic cycle counters are located on routes linking to villages surrounding Cambridge (Map 2-1):

- A counter located at Clayhithe (map reference 16) monitors movement to and from Clayhithe and Waterbeach
- Counters located at Airport Way (map reference 12) and adjacent to the A1303 at Quy (map reference 17) monitor movement to and from Quy and Bottisham
- A counter located at Fulbourn Road (map reference 15) monitors movement to and from Fulbourn³
- A counter located on the route between Great Shelford and Addenbrookes Hospital (map reference 14) monitors movement between Great Shelford and the centre of Cambridge
- A counter located adjacent to the B1046 (map reference 13) monitors movement to and from Comberton

Map 2-1 Automatic cycle counters on routes linking to villages surrounding Cambridge (site numbers refer to Table 2-3)



³ data for a single direction of travel only included for this site due to problems with data reliability

Collective analysis of data from these locations indicates a growth in cycle trips recorded of +27% against a 2009 baseline (compared to +8% against a 2009 baseline for all counters in Cambridge), with much of this growth occurring between 2010 and 2011 (Table 2-4). This equates to an additional 202 cycle trips counted each day.

Table 2-4 Change in cycle count recorded by counters located on routes linking to villages surrounding Cambridge at the end of the Cycling City and Towns period relative to a 2009 baseline (baseline = 100%)

	2009	2010	2011
Change against 2009 baseline	100%	111%*	127%*

* indicates a significant difference ($p < 0.05$) compared to the 2009 baseline

The change in cycle counts recorded counters located more centrally in Cambridge are shown in Table 2-5. This +1% increase equates to an increase of 108 trips counted per day although the increase is not significant.

Table 2-5 Change in cycle count recorded by counters located in the centre of Cambridge at the end of the Cycling City and Towns period relative to a 2009 baseline (baseline = 100%)

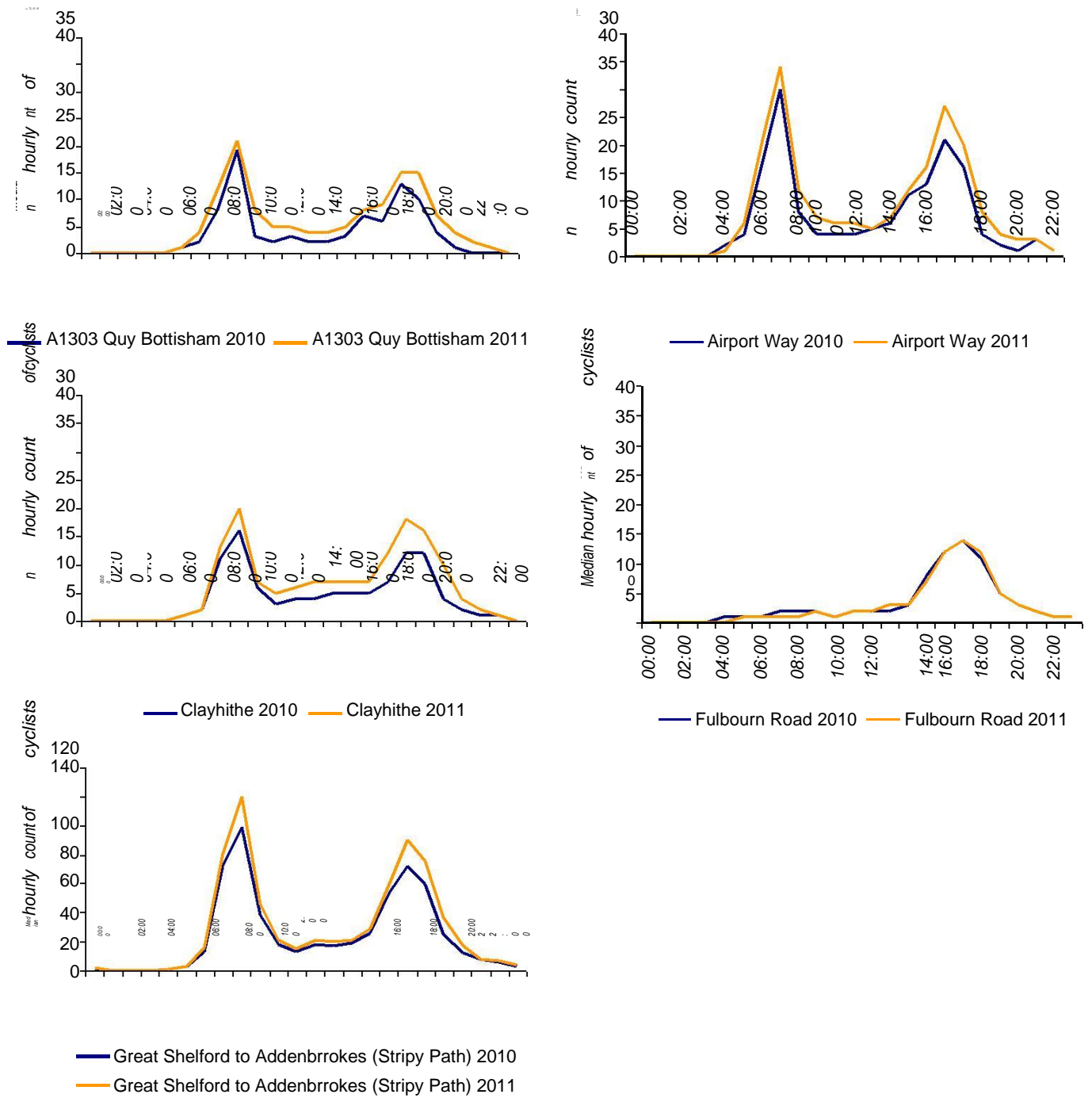
	2009	2010	2011
Change against 2009 baseline	100%	96%*	101%

* indicates a significant difference ($p < 0.05$) compared to the 2009 baseline

Weekday hourly data for counters monitoring movement to and from villages surrounding Cambridge (excluding the Fulbourn Road site) are presented in Chart 2-1⁴, based on data collected in 2010 and 2011. These indicate pronounced peaks in flows of cycles recorded at the times of day associated with commuting, and a growth in cycle trips between the years compared. Whilst growth is largely confined to commuting times for the site located between Great Shelford and Addenbrookes, other locations have seen a growth in trips made across the day.

⁴ Data presented for the Fulbourn Road site relate to one direction of travel only; data are not presented for the Comberton Road site due to there being insufficient data for 2010 to make a comparison with 2011

Chart 2-1 Median hourly count of cyclists recorded on weekdays in 2010 and 2011 by automatic cycle counters located on routes between Cambridge and surrounding villages



3 Analysis of manual count data

In Cambridge two sets of manual counts have historically been undertaken – one set forming a cordon around the centre of Cambridge and one on a screenline based on the River Cam.

3.1 Cambridge cordon

Twelve hour manual counts have been undertaken at 24 locations, mainly on radial routes, forming a cordon around the centre of Cambridge. The counts were undertaken annually in September and October each year and in 2010 quarterly counts were also undertaken. The 24 count locations, indicated on the accompanying map (section 8), are as follows:

- Barton Road (map reference CB)
- Horningsea Road (map reference CS)
- Cambridge Road (from Fulbourn) (map reference CU)
- Babraham Road (map reference CW)
- Histon Road (map reference CH)
- Huntingdon Road (map reference CJ)
- Worts Causeway (map reference CR)
- Madingley Road (map reference CE)
- Milton Road (map reference CM)
- Newmarket Road (map reference CX)
- High Street, Teversham (map reference CV)
- Granham's Road (map reference CN)
- Shelford Road (map reference CP)
- Hauxton Road (map reference CT)
- Coton Road (map reference CF)
- Girton Road (map reference CK)
- Fulbourn Old Drift (map reference CQ)
- River Cam Path (Near Fen Ditton) (map reference CD)
- North of Madingley Road (map reference CC)
- Coton Footpath (map reference CI)
- Granchester Path (map reference CA)
- Trumpington Addenbrookes (map reference CG)
- Jane Coston Bridge (map reference CL)
- Granhams (map reference CO)

Chart 3-1 presents the total counts in each year since 2005 across 23 of the count sites⁵. Although counts were undertaken in 2008, they were only performed at 16 of the sites. As the total count for 2008 is not comparable, it has not been included in Chart 3-1.

⁵ The Granhams site has been excluded as no data was available in 2005

Chart 3-1 Total counts for 23 manual count sites on a cordon around Cambridge since 2005 (counts performed in 2008 are not included due to inconsistency with other years)

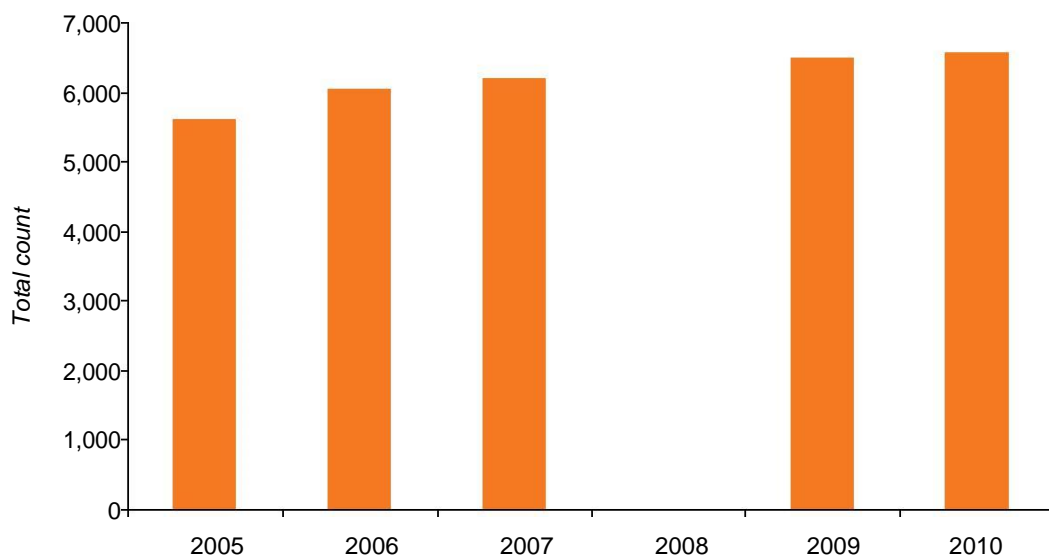
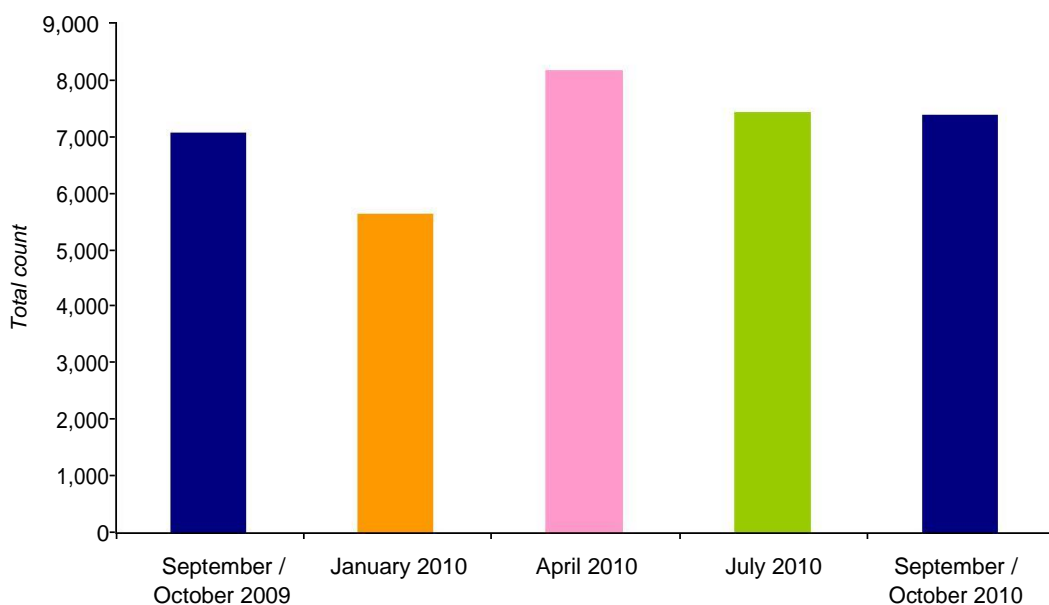


Chart 3-1 indicates an increase in cyclists crossing the cordon into and out of Cambridge between 2005 and 2010. The quarterly counts undertaken in 2010 are presented in Chart 3-2. Although counts recorded in January are slightly lower than those performed later in the year, counts are generally high throughout the year.

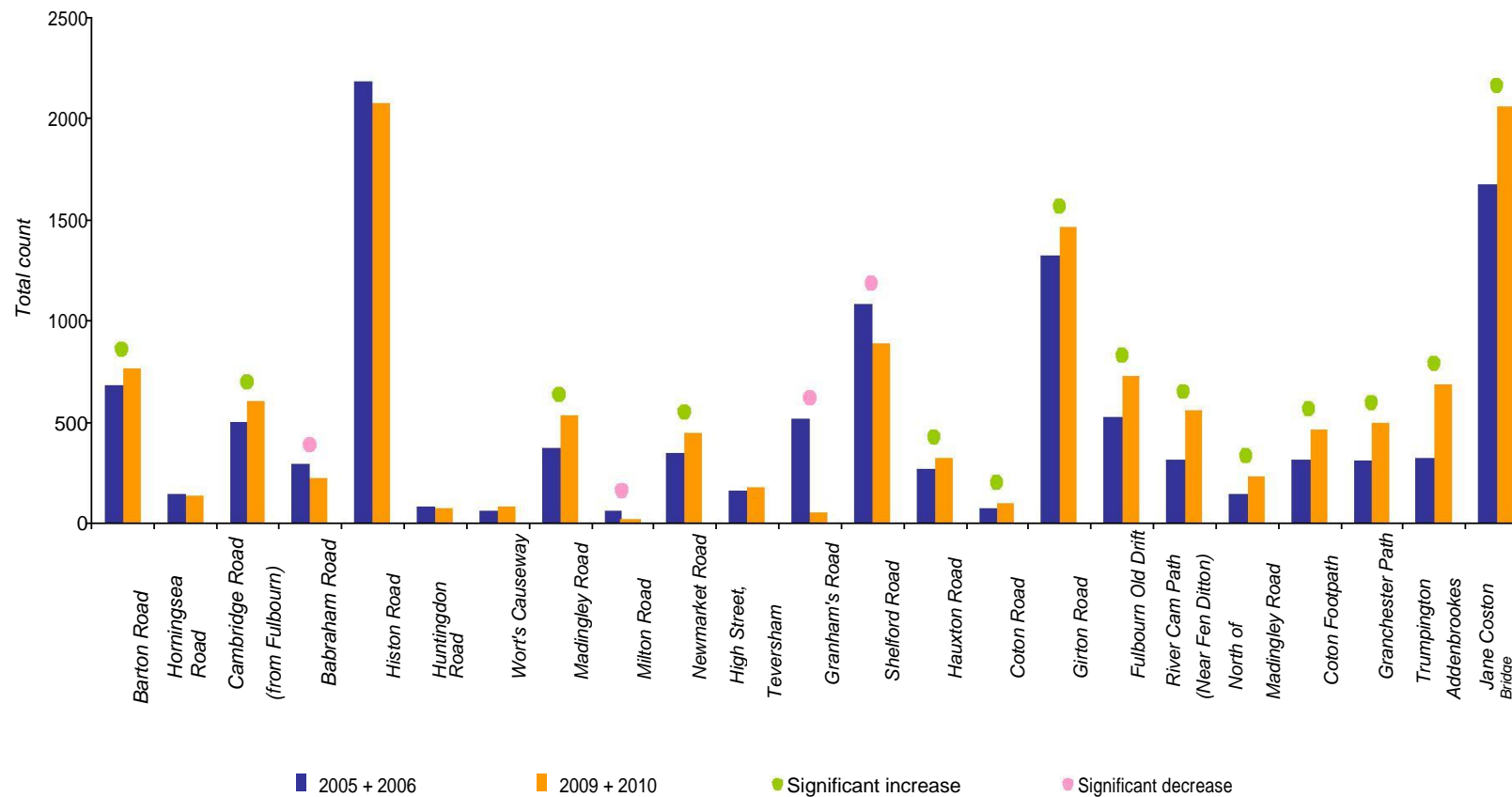
Chart 3-2 Total counts for 23 manual count sites on a cordon around Cambridge



Analysis of change over time has been performed using annual counts. Chart 3-3 compares data collected in 2005 and 2006 with data collected in 2009 and 2010⁶.

⁶ The Granhams site has not been included as no count was undertaken in 2005

and



⁷ significant when $p < 0.05$

Overall, a significant increase in counts was observed between 2005/06 and 2009/10. Significant changes in volumes were observed at 18 of the 23 count sites. Of these 18 significant changes, 14 were increases and four were decreases.

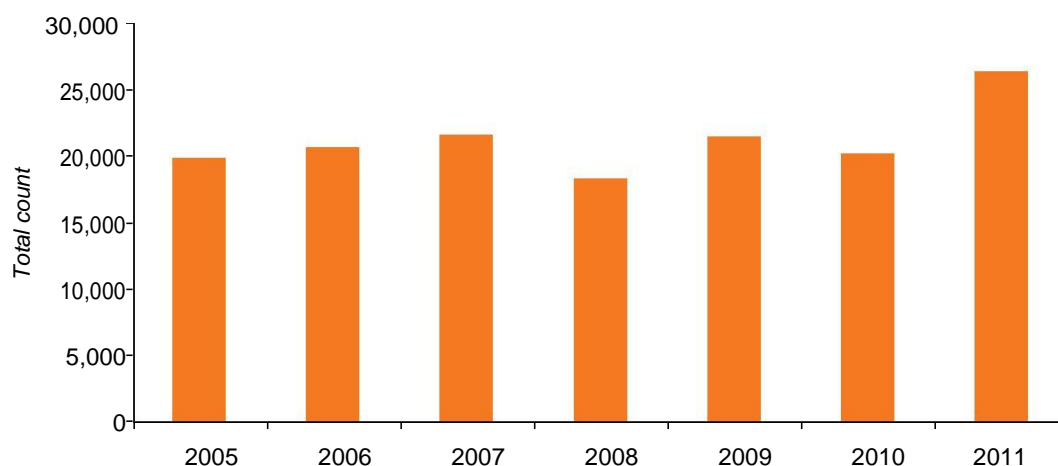
3.2 River screenline

Annual 12 hour manual counts have been undertaken each spring at 12 sites along the River Cam screenline. An additional site was introduced in 2009 (Riverside) and quarterly counts were performed at the same locations between quarter 4 2009 and quarter 4 2010. The 13 count locations are as follows:

- Elizabeth Way (map reference RD)
- Victoria Avenue (map reference RB)
- Bridge Street (map reference RH)
- Silver Street (map reference RA)
- Fen Causeway (map reference RI)
- Green Dragon Footbridge (map reference RE)
- Pyes Footbridge (map reference RC)
- Fort St George (map reference RK)
- Jesus Locks (map reference RJ)
- Garret Hostel Lane (map reference RF)
- Mill Lane Weir (map reference RG)
- Coe Fen (map reference RL)
- Riverside (map reference RM)

Chart 3-4 presents the total counts in each year since 2005 across 11 of the count sites⁸.

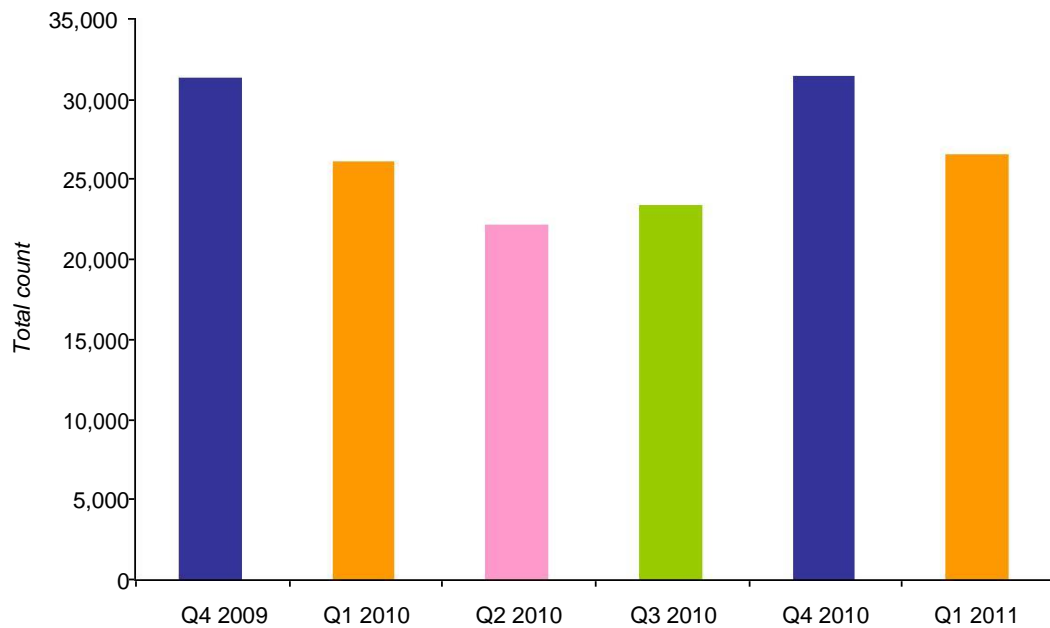
Chart 3-4 Total counts for 11 manual count sites on the river screenline in Cambridge since 2005



The count of cyclists increased between 2005 and 2007 before declining in 2008. Although the volumes of cyclists counted fluctuated from 2008 onwards, the greatest volumes of counts were recorded in 2011. Quarterly count data collected between 2009 and 2011 are presented in Chart 3-5.

⁸ The sites which have been excluded are Riverside, where data is only available from 2009, and Pyes footbridge, which was closed for refurbishment during the 2005 count period

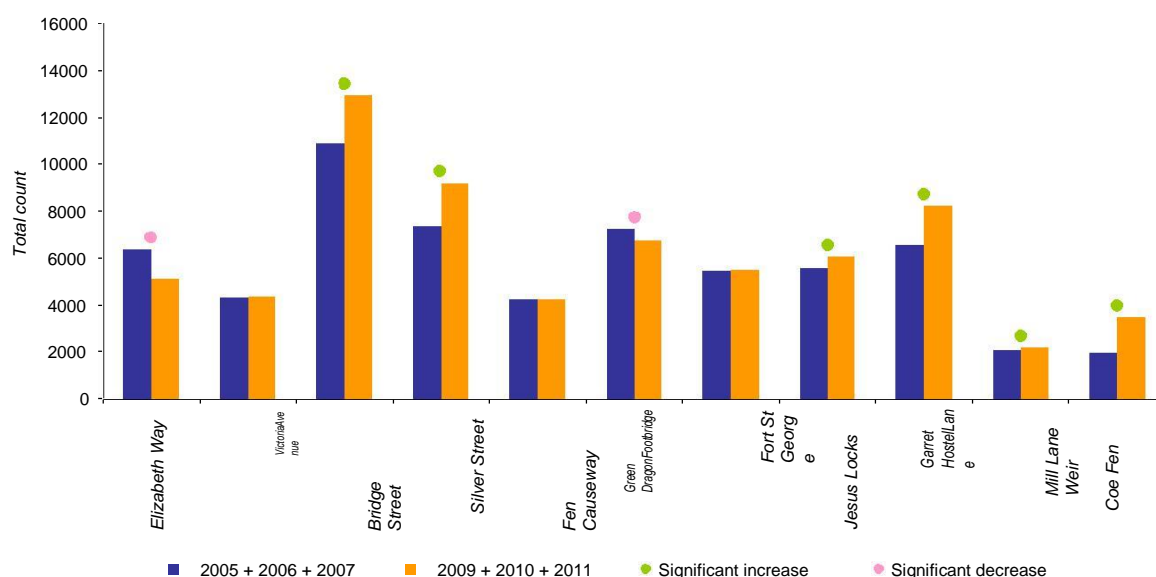
Chart 3-5 : Total counts for 11 manual count sites on the river screenline in Cambridge



Analysis of change over time has been performed using annual count data. Chart 3-6 compares data collected in 2005, 2006 and 2007 with data collected in 2009, 2010 and 2011⁹.

⁹ The Pyes Footbridge site has not been included as no count was undertaken in 2005

Chart 3-6 Comparison of manual count data collected on the river screenline in Cambridge in 2005, 2006 and 2007 with data collected in 2009, 2010 and 2011¹⁰



Overall, a significant increase in counts was observed when comparing data from 2005-2007 with data from 2009-11. Significant changes in volumes were observed at eight of the 11 count sites. Of these eight significant changes, six were increases and two were decreases.

The Pyes Footbridge count site was excluded from the analysis presented in Chart 3-6 due to an absence of data for 2005. Other time periods can be compared for this site: a decrease in counts was observed when 2006 and 2007 counts were compared with counts recorded in 2010 and 2011. A second comparison, between data in 2006, 2007 and 2008 with data collected in 2009, 2010 and 2011 suggests a significant decrease in counts recorded at this location.

4 Analysis of school related data

During the Cycling City and Towns programme, Cycle Cambridge has engaged with schools through training 2,246 children in level 1 Bikeability, 2,208 children in level 2, and 16 in level 3. Bike It was delivered in 19 schools and schools also participated in Sustrans' Virtual Bike Race 2010 and The Big Pedal 2011.

4.1 PLASC

The percentage of pupils in Cambridge stating cycling to be their usual mode of travel to school are summarised in Table 4-1.

¹⁰ significant when $p < 0.05$

Table 4-1 Percentage of pupils surveyed reporting cycling to be their usual mode of travel to school

	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	9.8%	12.4%	13.6%	14.1%	14.2%*
Secondary	8.3%	17.8%	25.9%	26.2%	27.2%*
All schools ^a	9.1%	15.1%	19.6%	20.0%	20.5%*

^a These figures are based on data from 45 primary schools and 10 secondary schools

* indicates a significant change in cycling in the 2010/2011 academic year compared to the 2006/07 academic year ($p < 0.05$)

These substantial changes across the years reported in Table 4-1 are heavily influenced by four secondary schools, three of which recorded counts of zero cyclists in 2007 and relatively high counts of cyclists (over 100) in later years. The other school recorded less than 10 cyclists in 2007 and over 200 in 2008. Table 4-2 includes the percentage of pupils cycling to school if the data from these schools are excluded in the years with very low counts only. The schools have been included in other years because they make up four of the 10 secondary schools in Cambridge and as they have some of the highest levels of cycling, excluding them entirely would be misleading. This does mean, however, that the data does not relate to a consistent group of schools across the years.

Table 4-2 Percentage of pupils surveyed reporting cycling to be their usual mode of travel to school, excluding questionable secondary school data

	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary ^a	9.8%	12.4%	13.6%	14.1%	14.2%*
Secondary ^b	11.5%	20.5%	25.9%	26.2%	27.2%*
All schools	10.5%	16.1%	19.6%	20.0%	20.5%*

^a These figures are based on data from 45 primary schools

^b These figures are based on data from six secondary schools in 2006/07, nine in 2007/08 and 10 from 2008/09 onwards

* indicates a significant change in cycling in the 2010/2011 academic year compared to the 2006/07 academic year ($p < 0.05$)

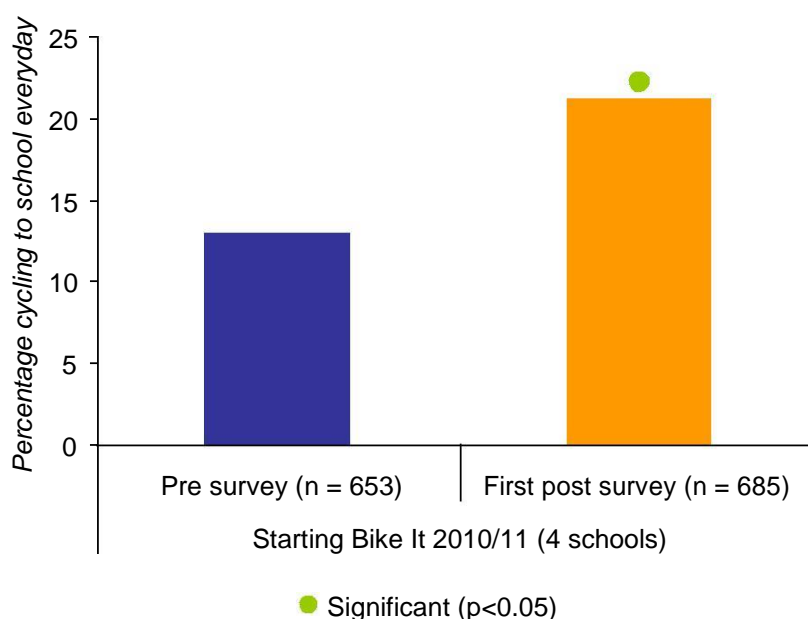
Four of the six secondary schools for which we have included data from 2007 and 2008 show an increase in the level of cycling between these two years. One school is particularly influential in the percentage increase observed between these two years, seeing an increase from 2% in 2007 to 14% in 2008.

The data presented in Table 4-2 suggest a significant increase in the proportion of children cycling to primary and secondary schools. Combining primary and secondary school data, there has been a significant increase in the proportion of children cycling to school from 10.5% to 20.5%.

4.2 Bike It

Bike It has been delivered in a total of 19 schools in Cambridge during the programme period. Data are available in the standard format (i.e., pre survey followed by a post intervention survey at the end of the first academic year of engagement) for four schools. Aggregated percentages of children cycling everyday for schools starting Bike It in each academic year during the programme are presented in Chart 4-1. The change in the proportion of children surveyed cycling to school everyday between the pre and post survey is significant for schools starting Bike It in the 2010/11 academic year.

Chart 4-1 Proportion of children cycling to school everyday in the pre engagement Bike It survey and the first post-engagement survey



Aggregating together data from all pre intervention and first post intervention surveys performed during the project, the percentage of children surveyed cycling to school everyday increased from 13.0% to 21.2%¹¹, whilst the proportion to cycle to school regularly (everyday or once or twice a week) increased from 26.5% to 51.7%¹². The proportion 'never' cycling decreased from 49.0% to 28.2%¹³. The proportion of children cycling to school on the day of the survey increased from 14.6% to 25.2%¹⁴.

Table 4-3 presents levels of cycling to school as recorded by PLASC in schools where Bike It was delivered between 2006 and 2011. In the table below non-Bike It schools are those not engaged in Bike It at any point between 2006 and 2011 (excluding the data from the secondary school excluded from the PLASC tables above (Table 4-2)).

¹¹ Significant increase (p<0.05)

¹² Significant increase (p<0.05)

¹³ Significant decrease (p<0.05)

¹⁴ Significant increase (p<0.05)

Table 4-3 : Comparison of PLASC data from non-Bike It schools and Bike It schools grouped by year of first engagement in Cambridge

	2007	2008	2009	2010	2011
Non-Bike It schools ^a	11.3%	17.4%	21.3%	22.1%	22.9%
Bike It in 2010 ^{b,c}	6.3%	8.4%	8.9%	6.7%	5.8%

^a Data for 37 primary schools and nine secondary schools that were not engaged in Bike It

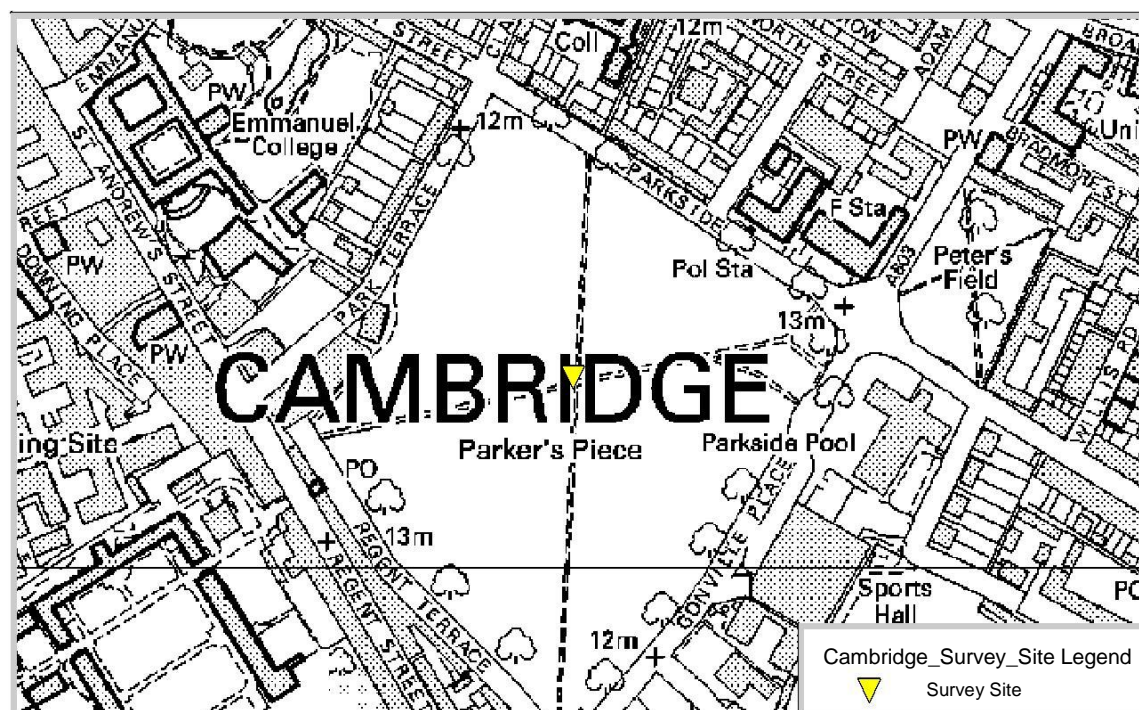
^b Data for eight primary schools and one secondary school initially engaged in Bike It in 2010

^c PLASC data are collected in January. Bike It engages with schools from the beginning of the academic year. For schools starting Bike It in, for example, 2008, the relevant PLASC year is 2009

5 Route user intercept survey

A route user intercept survey was undertaken at Parker's Piece, a park in central Cambridge during October 2009. Route users were counted and interviews performed over 12 hours on each of four days – a school-holiday weekday, a school-holiday weekend day, a term-time weekday and a term-time weekend day. The location of the survey is presented in Map 5-1.

Map 5-1 Location of route user intercept survey performed at Parker's Piece



A total of 10,986 cyclists were counted over the four day survey period. Of those surveyed, the majority of cyclists were either shopping (42.5%) or commuting (40.8%), whilst other users were making journeys for leisure (11.4%), personal business (3.5%) and education (1.1%). Most cyclists surveyed classified themselves as experienced regular cyclists (97.9%). When asked about factors influencing their decision to use the route, 97.8% agreed or strongly agreed that it was the best transport option, 97.9% that this was the most convenient route, 89.2% liked the surroundings on the route and 88.2% that the route felt safe.

6 Workplace travel data

The Travel Plan Plus project promotes sustainable travel to work to a network of employers in Cambridge. The scheme engages employers in Cambridge Science Park, Cambridge Business Park and St John's Innovation Parks, Cambridge Regional College and Taylor Vinters Solicitors. Since 2009, an annual survey has been made of employers engaged in Travel Plan Plus. The survey is delivered through the Cambridgeshire Travel for Work Partnership. Participants provide information about their journeys over the course of the survey week. The mode share of cycling trips made on Monday to Friday of the survey week are presented in Table 6-1. Data are presented for all employers participating in the survey each year, alongside results for a core group the same ten employers participating in each year.

Table 6-1 Percentage of respondents from Travel Plan Plus employers cycling to work as recorded in the annual Travel for Work partnership survey

Year	% cycling	
	All employers ^a	Core employers ^b
2009	17.3%	14.2%
2010	22.9%	19.1%
2011	23.3%	20.1%

^a In 2009 1,603 responses were received, in 2010 there were 1,333 and in 2011 there were 1,708

^b A group of 10 employers who have participated in the survey in all years

7 Analysis of casualty data

Cycle user casualty data were derived for Cambridge from STATS19 collision data. The average number of killed, seriously injured and slightly injured in each year prior to the Cycling City and Towns programme (2003-2008) are compared to those occurring during the programme in Table 7-1. The difference between the time periods compared is not significant.

Table 7-1 Annual average number of cyclists killed or injured in Cambridge before (2003-2008) and during (2009-2010) the Cycling City and Towns programme

	Annual average number of casualties			Total
	Killed	Seriously injured	Slightly injured	
Pre-programme	0.3	20.2	187.3	207.8
During programme	0.0	26.5	213.0	239.5

* indicates a significant change between cycling casualties recorded before and during the Cycling City and Town programme

8 Analysis of physical activity data

Data are available from Sport England's Active People Survey (APS) for two years prior to the Cycling City and Towns programme and all three years of the project. The APS data provide information on the proportion of people cycling for at least 30 minutes once or more per month and the proportion cycling for at least 30 minutes, 12 or more times per month. It should be noted that the data refer only to cycling in bouts of 30 minutes or more and therefore this measure may under represent overall cycling in the towns as shorter journeys are not included.

The proportion cycling once or more per month increased by 5.0%-points (from 29.5% to 34.5%) in Cambridge between 2007/8 and 2010/11. The proportion cycling 12 or more times per month increased by 3.6%-points (from 8.5% to 12.1%) over the same period. Neither of these are significant changes¹⁵.

9 Maps

The following pages contain maps indicating the location of manual count and automatic cycle counter locations, and the estimated change in volumes of cycles recorded at these sites.

¹⁵ For the proportion cycling once or more per month, $p=0.09$. For the proportion cycling 12 or more times per month, $p=0.06$.

Automatic cycle counters

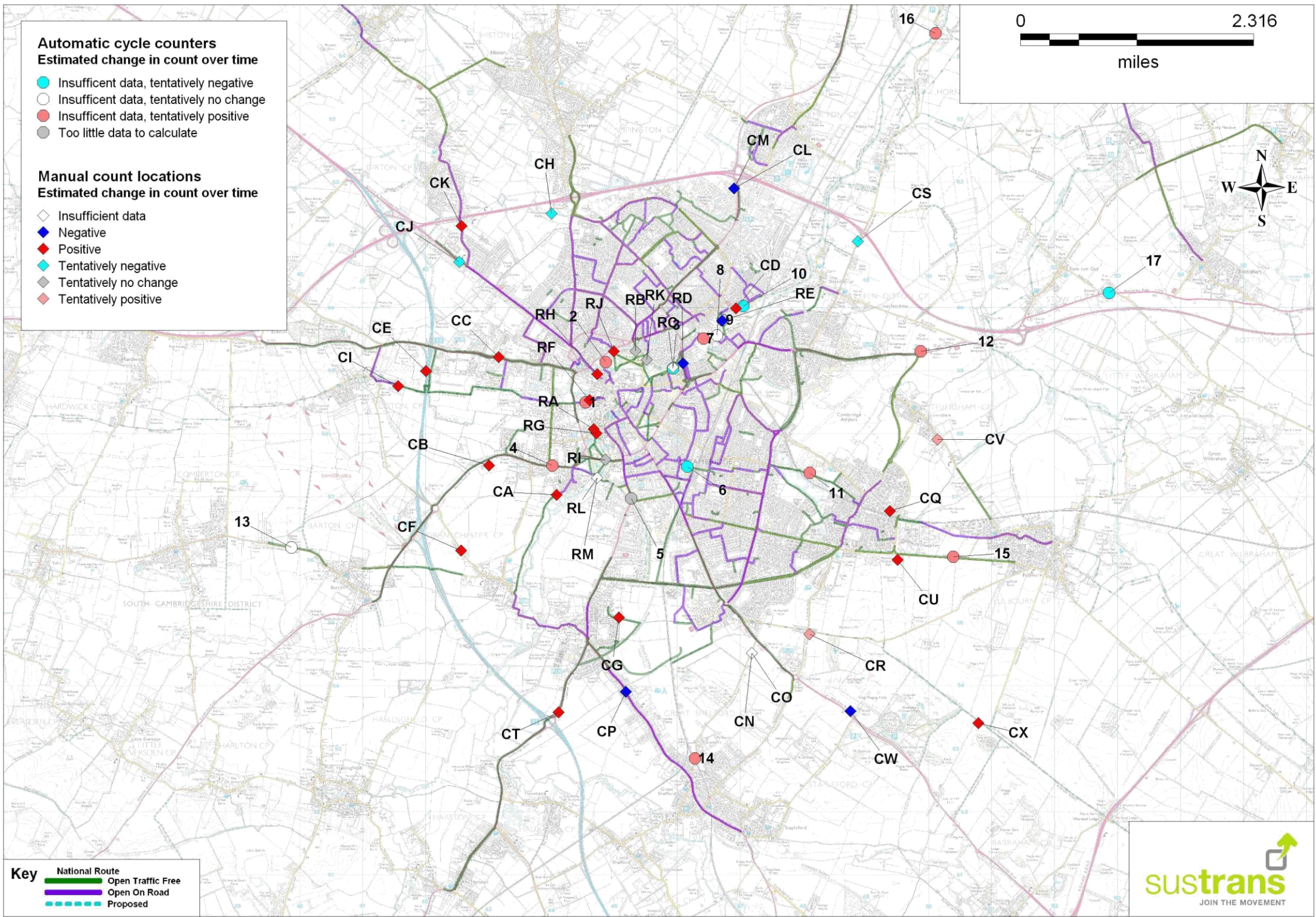
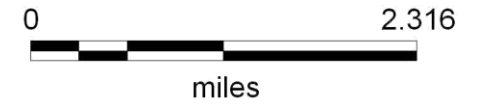
Estimated change in count over time

- Insufficient data, tentatively negative
- Insufficient data, tentatively no change
- Insufficient data, tentatively positive
- Too little data to calculate

Manual count locations

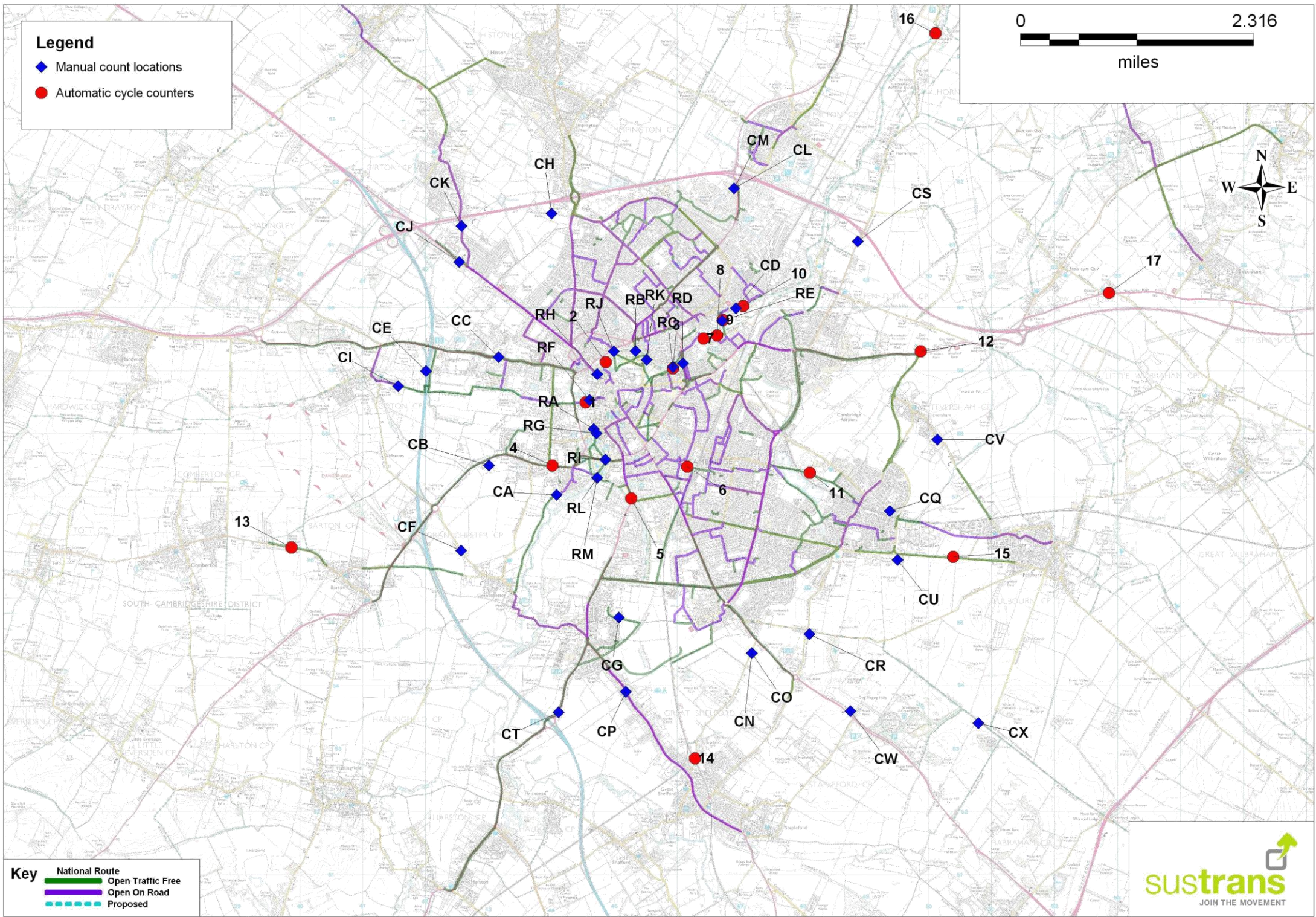
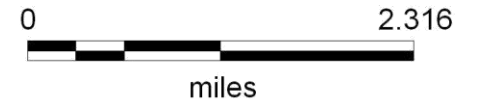
Estimated change in count over time

- ◇ Insufficient data
- ◆ Negative
- ◆ Positive
- ◆ Tentatively negative
- ◆ Tentatively no change
- ◆ Tentatively positive

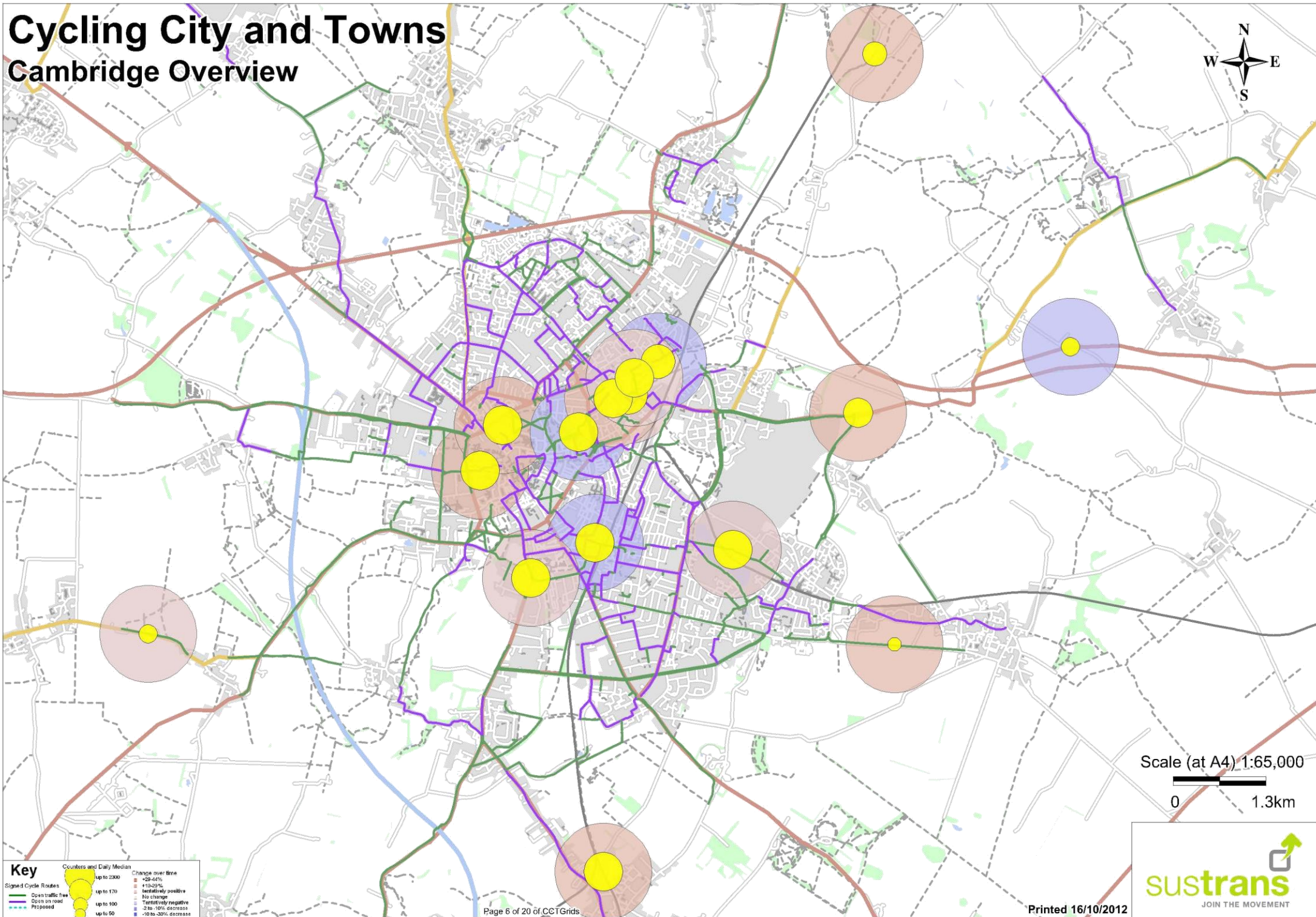


Legend

- ◆ Manual count locations
- Automatic cycle counters



Cycling City and Towns Cambridge Overview



Key

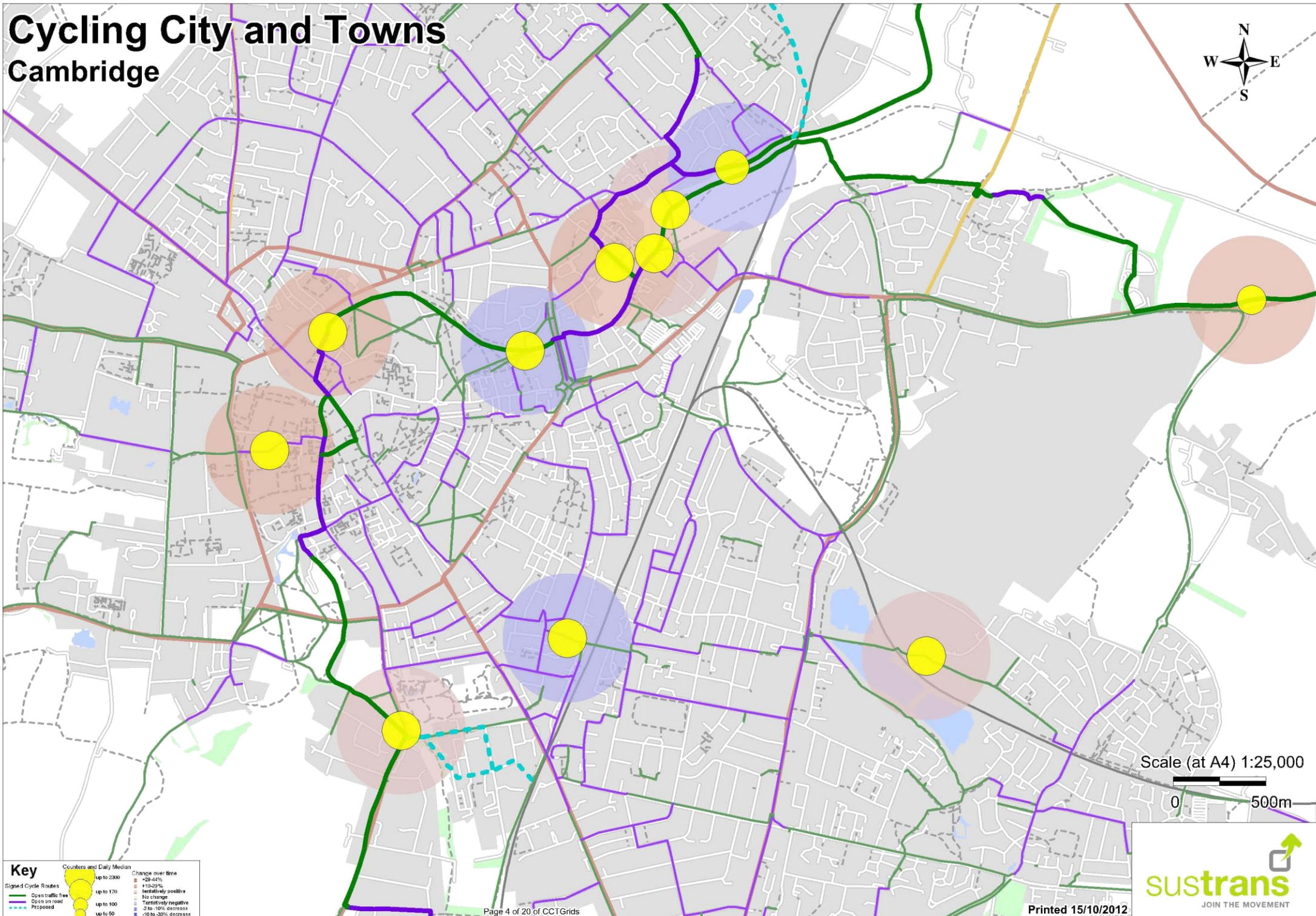
Counters and Daily Median	Change over time
up to 2300	+29-44%
up to 170	+19-29%
up to 100	Indefinitely positive
up to 50	No change
Open traffic free	Tentatively negative
Open on road	-2 to -10% decrease
Proposed	-10 to 33% decrease

Scale (at A4) 1:65,000

0 1.3km



Cycling City and Towns Cambridge



Key		Counters and Daily Median	Change over time
Signed Cycle Routes	up to 2300	+29-44%	+19-29%
Open traffic free	up to 170	Indefinitely positive	No change
Cycle on road	up to 100	Tentatively negative	-2 to -10% decrease
Proposed	up to 50	-10 to 33% decrease	

Scale (at A4) 1:25,000
0 500m

