Outcomes of the Cycling Demonstration Towns programme: monitoring project report

Individual town results: Aylesbury

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1 Introduction

1.1 Description of the Cycling City and Towns programme in Aylesbury

Aylesbury was one of six towns initially engaged in the Cycling Demonstration Towns programme between 2005 and 2008. During this time, the emphasis of Cycle Aylesbury was on soft measures to encourage cycling, particularly marketing of the existing cycling routes. The Gemstone Network, a series of eight colour-coded routes, was based largely on existing infrastructure. This approach, together with the construction of 3km of new route, expanded the cycle network in Aylesbury from 14.1km to 24.4km. Emphasis was placed on cycling to four destinations – the railway station, workplaces, schools and Aylesbury town centre. Alongside route development, 350 cycle parking spaces were installed at these destinations. Route specific maps were distributed to houses, schools and workplaces located on each route. Cycle Aylesbury worked with 15 businesses to promote cycling. Twenty one schools were engaged in Bike It and 109 cycle parking spaces were improved or installed at seven of these schools. Bikeability training was delivered to 904 pupils during the programme. Total spend during the Cycling Demonstration Towns programme was £2.5m, of which £0.8 was revenue expenditure and £1.7m, capital.[1]

During the subsequent Cycling City and Towns programme delivered in Aylesbury during 2008-2011, focus was on a combination of hard and soft measures. Between 2008 and 2011 a total of 3.7km of traffic free paths were constructed, along with 4.3km of on-road cycle lanes and improved crossing facilities, increasing dedicated cycling facilities from 22.4km to 30.4km. Route development included two new Gemstone cycle routes (to complement the existing network that was branded during the Cycling Demonstration Town phase), and the extension of existing routes, improving cycle access to employment areas and surrounding villages. An additional 8km of route has been signed since 2008, building on the extensive signage installed on 22km of route during the Cycling Demonstration Towns programme. Cycle parking availability has increased by 36%, with the installation of 90 new spaces across various locations. Cycle Aylesbury has engaged with schools and workplaces, and has delivered interventions to encourage cycling to the railway station.[2]

1.2 Expenditure

While this report is primarily concerned with the monitoring evidence around outcomes of the Cycling Demonstration 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 Aylesbury during the Cycling Demonstration Town and Cycling City and towns programme are summarised in Table 1-1.

[1] Department for Transport (2009) 'Making a Cycling Town: a compilation of practitioners experiences from the Cycling Demonstration Towns programme. Qualitative survey 2005-2009'. Department for Transport.

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

Table 1-1 Funds invested in cycling in Aylesbury

	2005-2008 revenue	2005-2008 capital	2008-2011 revenue	2008-2011 Capital
Total	£750,000	£1,720,000	£628,771	£2,608,841

1.3 Summary of available monitoring data

The following data sources are available:

- Data from 19 automatic cycle counters
- 12 hour manual counts performed quarterly at nine locations since 2006
- counts of parked bicycles at Aylesbury railway station
- Pupil Level Annual School Census (PLASC) travel data and monitoring data from Bike It
- workplace travel survey data (collected between 2008/09 and 2010/11)
- STATS19 cycling casualty data
- household survey of physical activity and campaign awareness
- Active People Survey (APS) data.

1.4 Summary of headline findings

Weak evidence of growth in levels of cycling from a relatively low initial baseline

The most complete data sets, time series data from automatic cycle counters located predominantly on traffic-free cycle routes, indicate growth in levels of cycling in Aylesbury over the programme period, although this occurred predominantly in the first phase of the programme. Substantial within-town variation is evident both in the direction and magnitude of change in levels of cycling as recorded by automatic cycle counters. Manual count data also indicate an overall increase in cycling over time, although this varies between individual count locations. There has been a steady growth in cycling to the railway station. Notwithstanding the limitations of the data source, cycling to secondary schools appears to have peaked in 2008/09 before declining again to 2010/11. Cycling to primary schools has remained broadly constant year to year during the programme. It is therefore difficult to draw solid conclusions regarding the overall impact of the programme on levels of cycling to schools. The proportion of pupils cycling to school everyday increased significantly in schools engaged in Bike It.

- Automatic cycle counter data indicate an increase in volumes of cycles counted of +6% against a 2005 baseline – an increase from an estimated 1,294 trips per day counted in 2005 to 1,373 in 2011
- An increase was observed at nine sites, a decrease at nine site and no change at one site
- Manual counts performed on a partial cordon around the town centre indicate an annual increase in the volumes of cycles counted of +3%
- Volumes of parked bikes at the railway station increased by +35% between 2003/04 and 2010/11
- Across all schools, the percentage of children cycling to school as measured by PLASC was 1.7% in 2011 compared to 1.5% in 2007
- Bike It data indicate an increase in children cycling to school on the day of the survey from 4.2% in pre surveys to 11.4% in post surveys, and an

increase in children cycling to school everyday from 3.4% in pre surveys to 10.7% in post surveys

- Compared to pre-programme data, the number of cycling casualties was not significantly different during the Cycling City and Town programme
- The household level survey of physical activity found that in 2006, 26.8% of respondents cycled in a typical week. This increased to 29.3% in 2009 and was 29.9% in 2011.
- APS data indicate an increase in Aylesbury in the proportion of respondents cycling once or more per month over the programme period (2005/6 to 2010/11) and a statistically significant increase in the proportion cycling 12 or more times per month over the same period.

2 Analysis of automatic cycle counter data

Data from a total of 19 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. The cycle counters are located all around the town centre, with coverage of the Gemstone Cycleway Network and other routes. Three of the 19 count sites were installed in 2002, two in 2003, one in 2004, six in 2006, two in 2007, one each in 2008 and 2009, and the remaining three, in 2010. In order to be consistent across towns, data from 2005 onwards are included in the analysis.

Two distinct sets of analysis have been undertaken using cycle counter data in Aylesbury. 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 cycles recorded, distribution of cycle trips 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

In 2009, following the Cycling Demonstration Towns phase, an increase in counts of cyclists of +2% was reported, relative to a 2005 baseline and including data to the end of March 2009 (Table 2-1).

Table 2-1 Change in cycle count in Aylesbury at the end of the Cycling Demonstration Towns period relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009
Change against 2005 baseline	100%	102%	109%*	111%*	102%

* indicates a significant difference ($p<0.05$) compared to the 2005 baseline

Table 2-2 presents the percentage change in cycle counts relative to a 2005 baseline including data from all counters to the end of September 2011.

Table 2-2 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	102%	109%*	111%*	108%*	97%*	106%*

* indicates a significant difference ($p<0.05$) compared to the 2005 baseline

The difference between the uplift to 2009 reported at the end of the Cycling Demonstration Town period (Table 2-1) and the equivalent figure reported using data to the end of the Cycling City and Towns period (Table 2-2) is due to two factors. Firstly, the Cycling Demonstration Towns analysis included data up to March 2009 only. The inclusion of data to the end of 2009 in the analysis reported in Table 2-2 impacts upon the percentage change in 2009. Secondly, the configuration of counters around the Bourg Walk changed following the completion of the bridge. The original analysis included data from a counter located close to the bridge on Thame Road. During the Cycling Demonstration Towns period, the annual average change in the count recorded at this location was -13%[3]. This count site has been replaced in the present analysis with data from three count sites around the Bourg Walk, at Thame Road, College Path and Penn Road.

The Mill Way and Vale Park Drive count sites have been included within the analysis above, however, both have seen a decrease in counts due to the displacement of cyclists onto other routes, for example across the Bourg Walk in the case of the Mill Way site. This suggests that they do not represent true decreases in the number of cyclists, and the analysis has been repeated excluding these two counters. Table 2-3 shows that without these two counters a smaller increase in counts is observed between 2005 and 2008, but a greater increase is observed over the entire programme period (2005 to 2011).

Table 2-3 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2005 baseline, excluding Mill Way and Vale Park Drive (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	100%	107%*	109%*	110%*	100%	110%*

* indicates a significant difference ($p<0.05$) compared to the 2005 baseline

Tables 2-2 and 2-3 indicate a drop off in levels of cycling in 2010 compared to 2009, followed by an apparent recovery in 2011. In order to explore whether this was due to the poor weather experienced throughout the UK in late 2009 and early and late 2010 an additional element was added into the regression model to account for periods of heavy snow across the country. Tables 2-4 and 2-5 present the percentage change in cycle counts relative to a 2005 baseline when periods of heavy snow are included in the regression model for all counters and when Mill Way and Vale Park Drive are excluded.

[3] Cope A, Kennedy A and Muller L (2009) Cycling Demonstration Towns Monitoring Project Report 2006 to 2009. Cycling England.

Table 2-4 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2005 baseline including an adjustment for snow (all counters, baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	102%*	109%*	111%*	110%*	103%*	106%*

* indicates a significant difference (p<0.05) compared to the 2005 baseline

Table 2-5 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2005 baseline including an adjustment for snow (excluding Mill Way and Vale Park Drive, baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	100%	107%*	109%*	112%*	106%*	110%*

* indicates a significant difference (p<0.05) compared to the 2005 baseline

When a factor to represent the impact of poor weather on cycle count data is included in the model, growth in cycling in 2010 compared to the baseline remains lower than in the preceding years, although the drop off is less marked than when this factor is excluded from the model.

The analysis reported in Tables 2-6 and 2-7 below relate to the Cycling City and Towns phase of the programme. These compare cycling in 2011 to a 2007 baseline in order to focus on changes occurring during the most recent phase of the programme. This analysis suggests a concentration of growth in the first phase of the programme.

Table 2-6 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2007 baseline (all counters, baseline = 100%)

	2007	2008	2009	2010	2011
Change against 2007 baseline	100%	102%*	99%*	88%*	97%*

*indicates a significant difference (p<0.05) compared to the 2007 baseline

Table 2-7 Change in cycle count in Aylesbury at the end of the Cycling City and Towns period relative to a 2007 baseline (excluding Mill Way and Vale Park Drive, baseline = 100%)

	2007	2008	2009	2010	2011
Change against 2007 baseline	100%	102%*	103%*	93%*	103%*

*indicates a significant difference ($p<0.05$) compared to the 2007 baseline

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 2-8 and alongside more detailed information for each counter in Table 2-9. Sufficient data are available to robustly estimate the annual percentage change in the number of cyclists counted for 14 of the 19 automatic cycle counters. Based on the more limited data available, change over time is negative for three and positive for two of the remaining five count sites.

Table 2-8 Summary of findings of detailed analysis of data from individual count sites

Number of counters for which data are available	19
Number of counters for which sufficient data are available to quantify change over time[4]	14
Number of counters with quantifiable increase	7
Number of counter with no change	1
Number of counter with quantifiable decrease	6

In the following table counters are ordered by their location relative to the centre of Aylesbury, starting with those located closest to the town centre. Map references refer to the accompanying map (section 9).

[4] None of the changes are statistically significant.

Table 2-9 Description of automatic cycle counters in Aylesbury

Map reference	Location	Time period	Annual change[b]	Average daily count in 2010	Comments
1.	Bourg Walk – Thame Road	2010-2011	Negative	Overall: 100 Weekdays: 108 Weekend days: 87	The Bourg Walk is located approximately a quarter of a mile south-west of the centre of Aylesbury. Housing and a school site are located nearby. The bridge provides access to the railway station and links to the town centre. Three counters are located around the bridge. Prior to the completion of the Bourg Walk, cyclists were counted in a single location.
2.	Bourg Walk – College Path	2009-2011	Negative	Overall: 118 Weekdays: 145 Weekend days: 69	
3.	Vale Park Drive	2007-2011	Weekday: -15% Sat/Sun: -14%	Overall: 35 Weekdays: 41 Weekend days: 20	Located on a traffic-free segregated cycle route adjacent to A418 Vale Park Drive. It is in the centre of Aylesbury, retail parks are nearby.
4.	Mill Way	2005-2011[a]	Weekday: -5% Sat/Sun: -5%	Overall: 51 Weekdays: 57 Weekend days: 33	Located on a traffic-free segregated cycle route in a residential area less than half a mile west of the centre of Aylesbury. Weekday counts show 'commuting' peaks.
5.	Bourg Walk – Penn Road	2010-2011	Negative	Overall: 123 Weekdays: 137 Weekend days: 87	The Bourg Walk is located approximately a quarter of a mile south-west of the centre of Aylesbury. Housing and a school site are located nearby. The bridge provides access to the railway station and links to the town centre. Three counters are located around the bridge. Prior to the completion of the Bourg Walk, cyclists were counted in a single location.
6.	Bierton Road	2005-2011[a]	Weekday: +4% Sat/Sun: +5%	Overall: 64 Weekdays: 77 Weekend days: 39	Located on a traffic-free shared use route adjacent to Bierton Road. Half a mile north-east of the centre of Aylesbury, school and hospital sites are nearby. Weekday counts show 'commuting' peaks.

7.	Manor Road	2006-2011	Weekday: -12% Sat/Sun: -21%	Overall: 14 Weekdays: 15 Weekend days: 11	Located on a traffic-free shared use path between houses in the residential area of Manor Park half a mile north of the centre of Aylesbury. A park and school sites are nearby.
8.	Gatehouse Road	2007-2011	Weekday: +7% Sat/Sun: +6%	Overall: 67 Weekdays: 80 Weekend days: 42	Located on a traffic-free shared use path adjacent to A41 Gatehouse Road, separated by a grass verge, approximately three quarters of a mile north-west of the centre of Aylesbury. Business parks and an industrial estate are nearby. Weekday counts show 'school' and 'commuting' peaks.
9.	Old Stoke Road	2008-2011	positive	Overall: 48 Weekdays: 53 Weekend days: 40	Located on a traffic-free link from Old Stoke Road (a residential road) to a railway crossing, approximately three quarters of a mile south of the centre of Aylesbury.
10.	Griffin Lane (East side)	2005-2011[a]	Weekday: +3% Sat/Sun: -5%	Overall: 58 Weekdays: 67 Weekend days: 34	Located on a traffic-free segregated cycle route adjacent to Griffin Lane surrounded by business parks and located approximately one mile north-west of the centre of Aylesbury. Weekday counts show 'commuting' peaks.
11.	Griffin Lane (West side)	2006-2011	Weekday: +3% Sat/Sun: 0%	Overall: 56 Weekdays: 65 Weekend days: 32	Located on a traffic-free segregated cycle route adjacent to Griffin Lane surrounded by business parks and located approximately one mile north-west of the centre of Aylesbury. Weekday counts show 'school' and 'commuting' peaks.
12.	Bicester Road (Southbound footway)	2005-2011[a]	Weekday: 0% Sat/Sun: -1%	Overall: 108 Weekdays: 122 Weekend days: 65	Located on a traffic-free shared use route adjacent to the A41 Bicester Road in Quarrenndon, approximately one mile north-west of the centre of Aylesbury. Schools are located nearby. Weekday counts show 'commuting' peaks.
13.	Bicester Road (Northbound)	2006-2011	Weekday: -3% Sat/Sun: -3%	Overall: 99 Weekdays: 112 Weekend days: 73	

14.	Fairford Leys	2007-2011	Weekday: +3% Sat/Sun: +4%	Overall: 108 Weekdays: 124 Weekend days: 75	Located on an access road usually closed to traffic in a residential area one mile to the west of the centre of Aylesbury. Weekday counts show 'school' and 'commuting' peaks.
15.	Elm Farm Underpass	2006-2011	Weekday: +1% Sat/Sun: +2%	Overall: 126 Weekdays: 147 Weekend days: 95	Located on a traffic-free shared use route on an underpass under a railway approximately one mile south of the centre of Aylesbury. School sites, a sports ground and Stoke Mandeville hospital are nearby. Weekday counts show 'school' and 'commuting' peaks.
16.	Aylesbury Road, Bierton	2007-2011	Weekday: -1% Sat/Sun: -5%	Overall: 52 Weekdays: 63 Weekend days: 35	Located on a traffic-free segregated cycle path adjacent to A418 Aylesbury Road, approximately one mile north-east of the centre of Aylesbury, the road connects Aylesbury with Bierton. Weekday counts show 'commuting' peaks.
17.	Oxford Road - Coldharbour	2005-2011[a]	Weekday: +3% Sat/Sun: +3%	Overall: 83 Weekdays: 83 Weekend days: 85	Located on a traffic-free shared use route adjacent to A418 Oxford Road, approximately one mile south-west of the centre of Aylesbury just outside the limit of the urban area. The route is popular for leisure journeys, particularly in the summer months. Weekday counts show 'commuting' peaks.
18.	Wendover Road cycle path	2006-2011[a]	Weekday: 0% Sat/Sun: -2%	Overall: 98 Weekdays: 105 Weekend days: 73	Located on a traffic-free shared use path adjacent to A413 Wendover Road. Approximately one and a half miles south-east of the centre of Aylesbury, fields and housing are nearby. Weekday counts show 'commuting' peaks.
19.	Oxford Road	2010-2011	Positive	Overall: 30 Weekdays: 29 Weekend days: 34	Located on Oxford Road in Stone on a traffic-free shared use path, two and a quarter miles south-west of the centre of Aylesbury.

[a] data are also available for earlier periods, but to ensure consistency these have not been included in the analysis

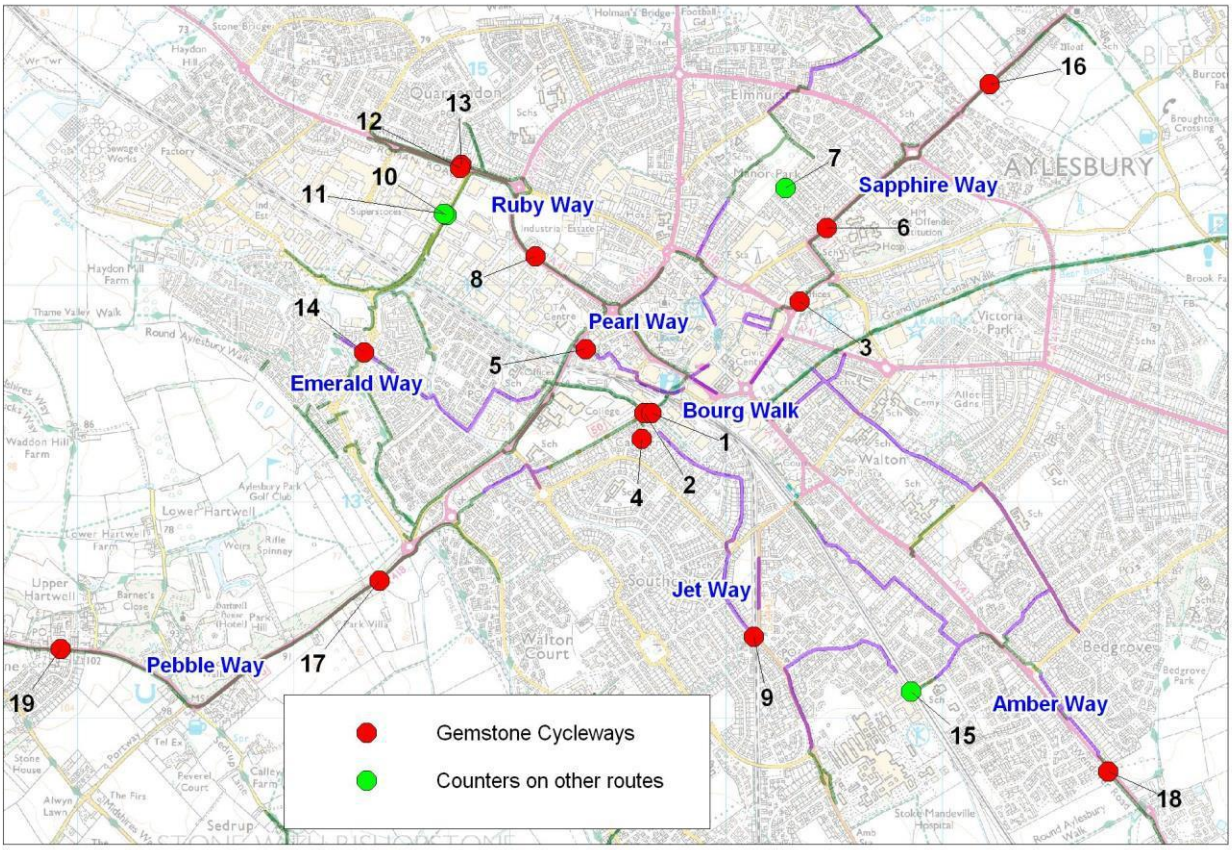
[b] for counters with less than 36 months of data only a tentative indication as to the direction of the change can be reported

2.3 Relationship between programme activity and automatic count data

2.3.1 Gemstone Cycleway Network

The network of Gemstone Cycleways in Aylesbury comprises a series of nine colour coded routes, focused on access to key trip destinations including schools, the town centre and railway station. The routes have colour coded branding and signage, and each has its own, route specific map. Whilst much of the Gemstone Cycleway Network was established during the 2005-2008 phase of the project, two new routes and extensions to two of the existing routes were delivered during 2008-2011. We are interested in whether growth in cycling in Aylesbury was greater on these strongly marketed and branded routes, or whether it has also occurred on other routes. Map 2-1 indicates the location of counters on the Gemstone Cycleway Network and other routes.

Map 2-1 Location of automatic cycle counters on the Gemstone Cycleway Network and other routes in Aylesbury



Fifteen automatic cycle counters are located on the Gemstone Cycleway Network. Table 2-10 below summarises the median daily count and annual average change of cyclists recorded at these locations, grouped by the route upon which they are located.

Table 2-10 Median daily count of cyclists in 2010 and annual average percentage change in the daily count of cyclists at locations on Gemstone Cycleways

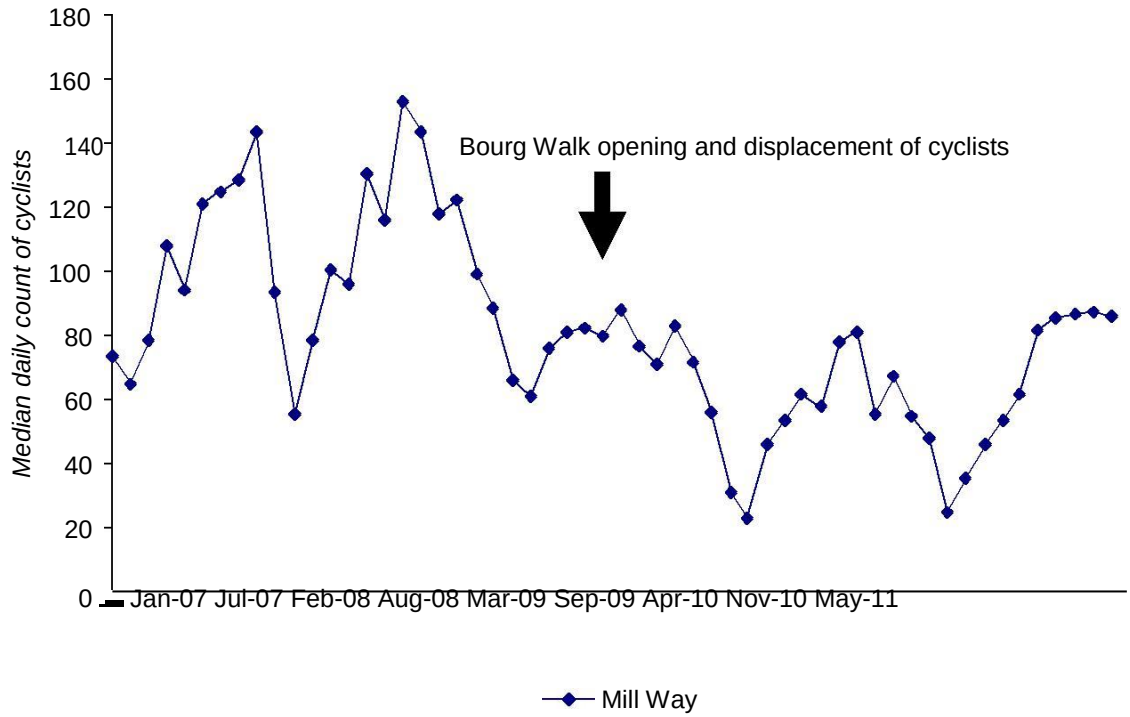
				Annual average % change	
Route	Counter[a]	Map reference	Median daily count	Weekday	Weekend day
Sapphire Way	Vale Park Drive	3	35	-15%	-14%
	Bierton Road	6	64	+4%	+5%
	Aylesbury Road	16	52	-1%	-5%
Ruby Way	Gatehouse Road	8	66.5	+7%	+6%
	Bicester Road southbound footway	12	108	0%	-1%
	Bicester Road northbound	13	99	-3%	-3%
Emerald Way	Fairford Leys	14	108	+3%	+4%
Pearl Way	Mill Way	4	51	-5%	-5%
Pebble Way	Oxford Road, Coldharbour	17	83	+3%	+3%
	Oxford Road	19	30		positive[b]
Amber Way	Wendover Road cycle path	18	98	0%	-2%
Jet Way	Old Stoke Road	9	48		positive[b]
Bourg Walk[c]	Thame Road	1	100		negative[b]
	College Path	2	118		negative[b]
	Penn Road	5	123		negative[b]

[a] where multiple counters are located on one route they are ordered by increasing distance from the town centre
[b] for counters with less than 36 months of data only a tentative indication as to the direction of change can be reported
[c] the Emerald Way, Jet Way, Pebble Way and Topaz Way make use of the Bourg Walk Bridge

Analysis of data from the individual count sites reveals a mixed picture. For routes monitored by more than one automatic cycle counter, some sites have recorded an increase over time, and others a decrease – suggesting that change over time has not been consistent over the whole route length. Notable decreases are recorded at Vale Park Drive on the Sapphire Way, and Mill Way on the Pearl Way. The Vale Park Drive counter is reported to be bypassed by cyclists opting to take alternative routes as they get closer to the town centre. There was a considerable decline in counts recorded at

the Mill Way count site during 2009 (Chart 2-1). This coincides with the opening of the Bourg Walk in the centre of Aylesbury – anecdotal evidence suggests that this may have resulted in displacement of cyclists away from this particular section of the Pearl Way.

Chart 2-1 Volumes of cyclists counted at Mill Way on the Pearl Way



Collective analysis of data from these sites indicates an increase of +5% against a 2006 baseline (Table 2-11), compared to -1% against the same baseline derived from data collected at four counters located on other routes, and +4% for all counters in Aylesbury. Excluding the Mill Way count site (located on the Pearl Way) anticipated to have been impacted by the opening of the Bourg Walk, the growth in counts of cyclists recorded on the Gemstone Cycleways is +9% against a 2006 baseline.

The results of this analysis appear to support the hypothesis that strong marketing, signing and branding of cycle routes is beneficial in increasing use. Whilst some of the increase in cycling observed on the Gemstone Cycleways may have been the result of displacement from other routes, other evidence (such as that from manual counts, discussed in a later section of this report) suggest an absolute increase in cycling on routes towards Aylesbury town centre, indicating that the growth on the Gemstone Cycleways is not the result of displacement alone.

Table 2-11 Change in cycle count on the Gemstone Cycleway Network, non-Gemstone routes and all routes in Aylesbury at the end of the Cycling City and Towns period relative to 2006 baseline

		2006	2007	2008	2009	2010	2011
Change on 2006 baseline[a]	Counters on Gemstone Cycleways	100%	108%*	108%*	105%*	94%*	105%*
	Counters on Gemstone Cycleways (excluding Mill Way)	100%	108%*	107%*	108%*	98%	109%*
	Counters on other cycle routes	100%	104%*	111%*	108%*	95%*	99%
	All counters in Aylesbury	100%	107%*	109%*	106%*	95%*	104%*

[a] A 2006 baseline was selected to enable comparison between counters on Gemstone and other routes as data are available from 2006 onwards for three of the four counters located on non-Gemstone routes
*indicates a significant difference ($p<0.05$) compared to the 2006 baseline

2.3.2 Movement to workplaces

Large industrial and retail areas are located close to Aylesbury town centre. An extensive industrial area is located to the north west of the town centre. Three counters are located in this area:

- On the east and west side of Griffin Lane (map reference 10 and 11)
- Gatehouse Road (map reference 8).

All three show peaks in cyclists at commuting times and, based on 2010 data, approximately double the number of cyclists are counted on weekdays than are on weekend days. The average hourly count recorded at these locations in 2007 and 2011 are compared in the following figures. For all sites, there has been growth in cycling generally over time (+2% per year for the counter located on the east side of Griffin Lane, +4% for both the counter on the west side of Griffin Lane and the counter on Gatehouse Road). The variations in hourly distribution year to year suggest that much of this growth has occurred during commuting times.

Chart 2-2 Median hourly count of cyclists recorded on weekdays at Griffin Lane (east side)

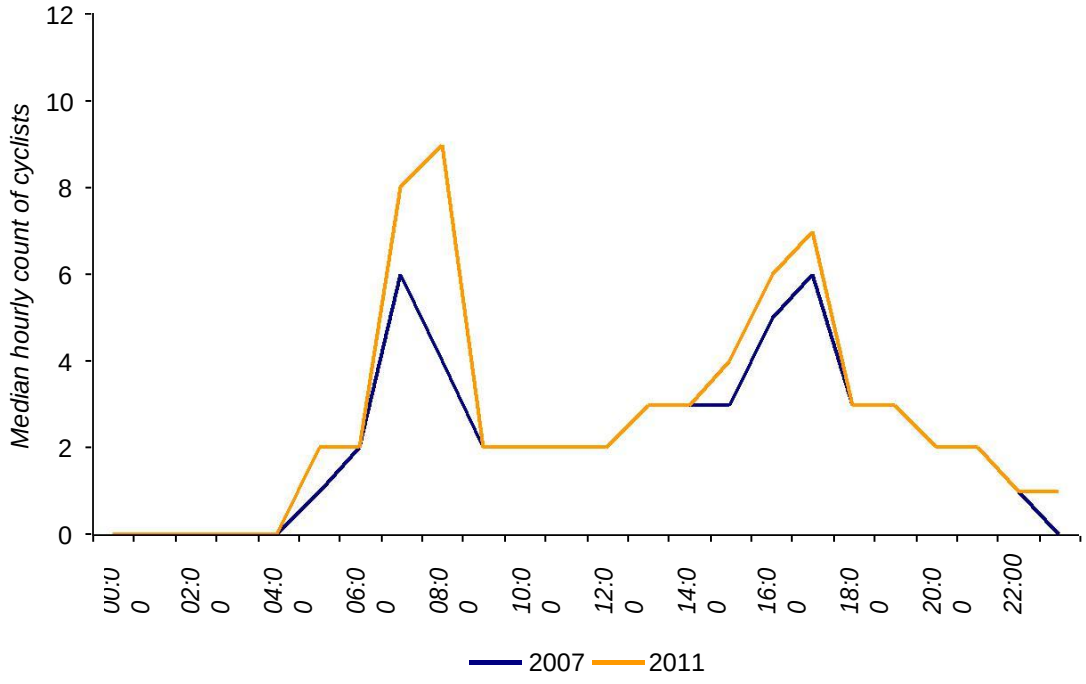


Chart 2-3 : Median hourly count of cyclists recorded on weekdays at Griffin Lane (west side)

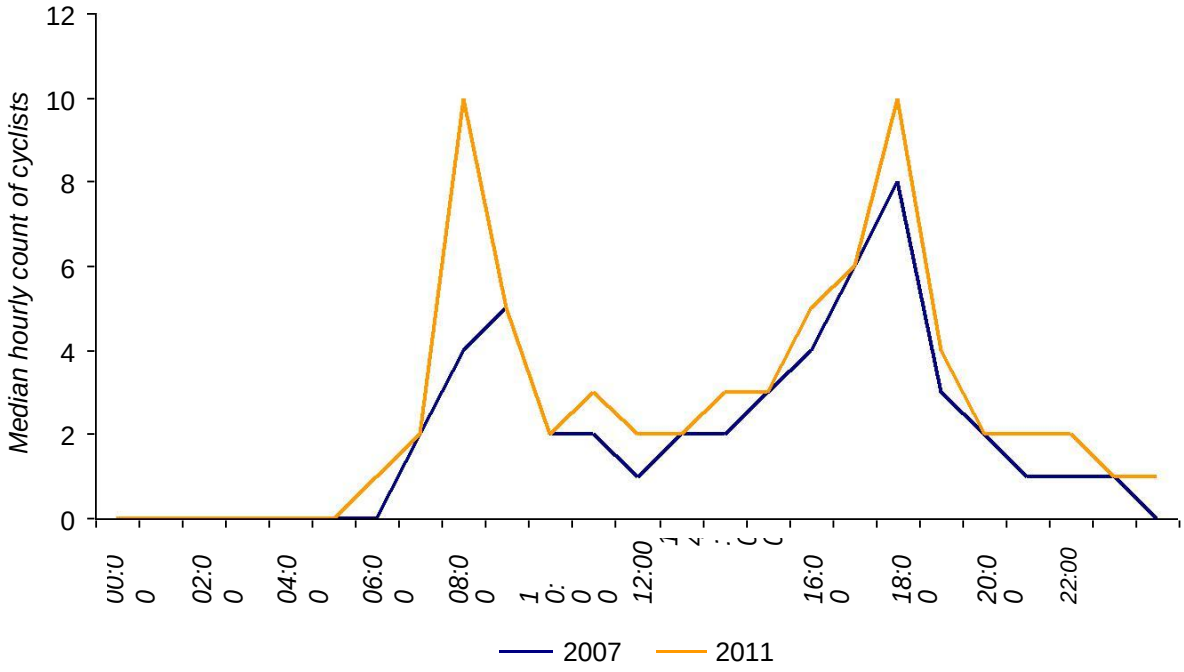
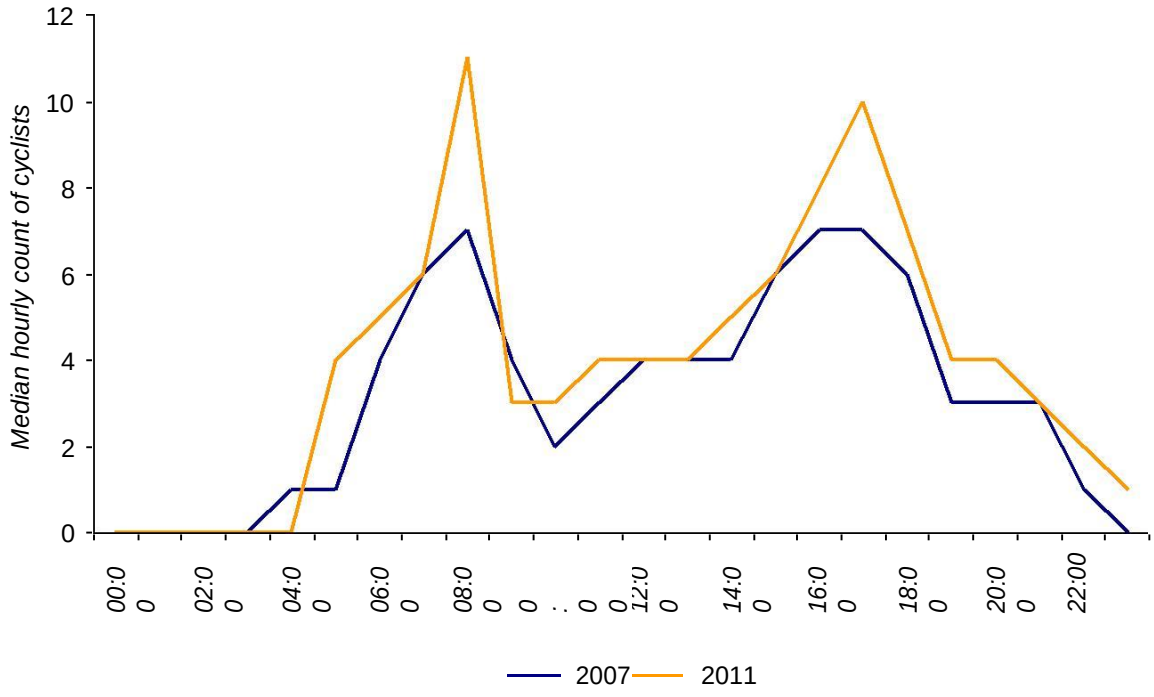


Chart 2-4 Median hourly count of cyclists recorded on weekdays at Gatehouse Road



3 Analysis of manual count data

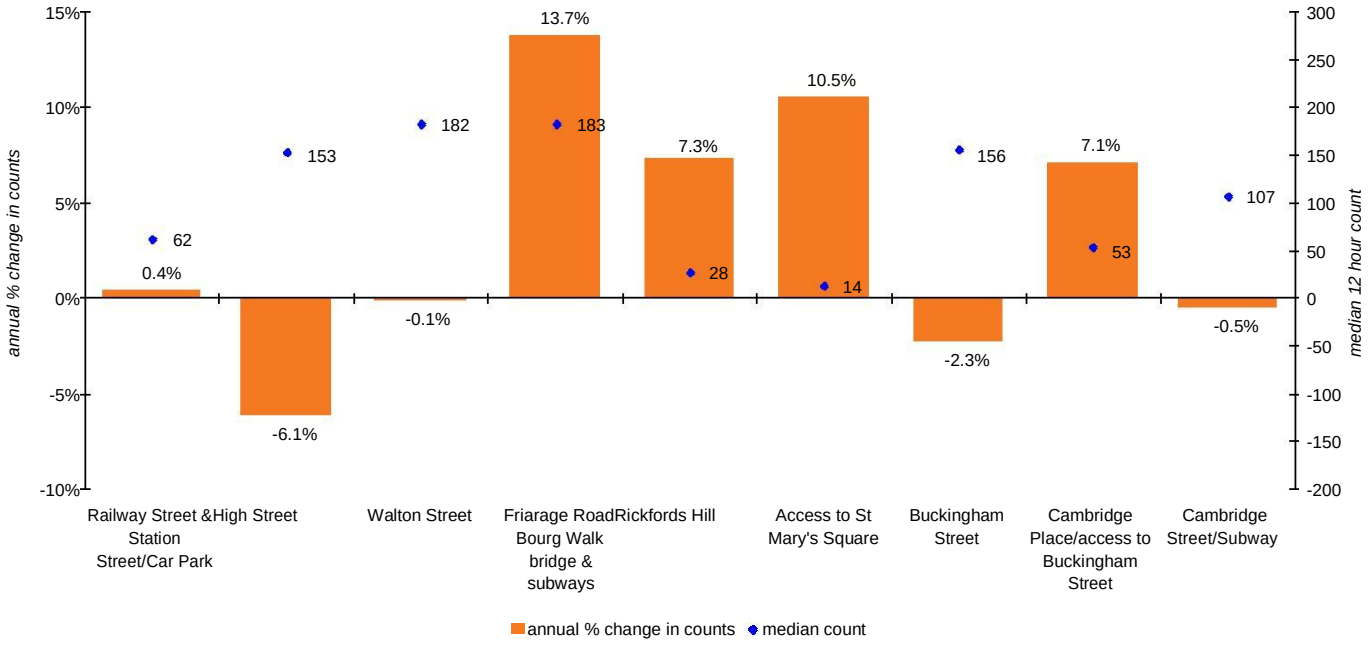
Quarterly 12 hour manual counts have been undertaken at nine locations since quarter 3 of 2006. No counts were undertaken in quarter 1 of 2010, but otherwise the dataset is complete. The sites form a partial cordon around Aylesbury town centre. The locations of the count sites, indicated on the accompanying map (section 9) are:

- Walton Street (map reference A)
- Friarage Road Bourg Walk bridge & subways (map reference B)
- Rickfords Hill (map reference C)
- Cambridge Street/Subway (map reference D)
- Railway Street & Station Street/Car Park (map reference E)
- High Street (map reference F)
- Cambridge Place/access to Buckingham Street (map reference G)
- Access to St Mary's Square (map reference H)
- Buckingham Street (map reference I)

Chart 3-1 below shows the annual percentage change in counts across the period for each of the count sites. Combining the counts from all nine locations gives an annual percentage change in counts of +3% over the same period for Aylesbury[5].

[5] When comparing the total count at each point in time with counts in the same quarter but different years, there are 32 possible comparisons in Aylesbury, 18 of which are significant differences (14 increases and four decreases).

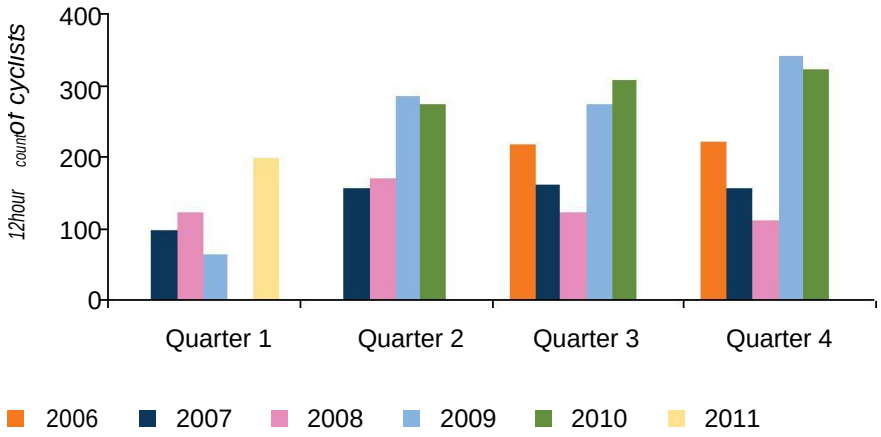
Chart 3-1 Annual average percentage change in 12 hour manual counts of cyclists performed at nine locations around Aylesbury town centre



Access to St. Mary's Square and Cambridge Place are sites which monitor movement through the town centre on traffic free routes. Although these two sites, along with the count on Rickford's Hill, show an increase in counts, these sites also record the three lowest median quarterly counts and therefore increases in the number of cyclists are relatively small. Some of the decrease in counts experienced at the High Street site may have been as a result of displacement to the traffic free routes detailed above. The counts on Walton Street and High Street may have experienced a decrease in counts as these streets have become one way streets during the project period.

The site on Friarage Road recorded an annual percentage change in counts of +14% over the period. This substantial increase is likely to be at least partly due to the opening of the Bourg Walk in April 2009 which has provided a more direct and attractive route into Aylesbury from the West. Chart 3-2 below supports this suggestion, with a notable increase from the second quarter of 2009. The importance of this route is demonstrated by its median quarterly 12 hour count of 183, the highest of all of the manual count sites in Aylesbury.

Chart 3-2 Volumes of cyclists recorded during manual quarterly counts at Friarage Road between 2006 and 2011



4 Analysis of school related data

During the Cycling City and Towns programme, Cycle Aylesbury has actively engaged with schools and young people through Bikeability cycle training, Bike It and Bike Club programmes. Between July 2008 and March 2011, 1,469 children were trained in level 1 Bikeability and 1,427 children in level 2 Bikeability. Approximately 71% of eligible children now receive cycle training to level 2. Through working with Bike It, 230 new cycle spaces have been installed at schools. A total of 23 schools have engaged with Bike It and over 600 children have participated with the Bike Club initiative.

4.1 PLASC

The percentage of pupils surveyed in Aylesbury who stated cycling to be their usual mode of travel to school are summarised in Table 4-1. The proportion of pupils usually cycling to primary schools was relatively static between the 2006/07 and 2009/10 academic years, before increasing in 2010/11. Cycling to secondary schools increased year to year to 2008/09 before declining in 2009/10 and 2010/11.

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

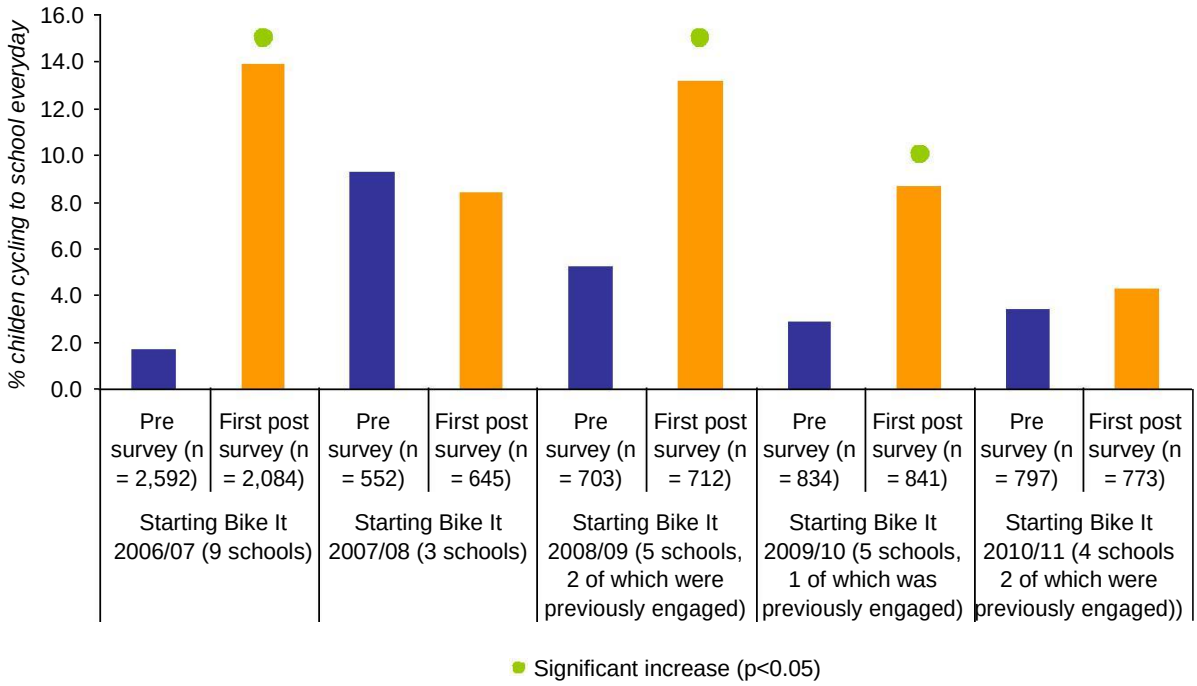
	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	1.1%	1.0%	1.0%	1.1%	1.4%
Secondary	1.9%	2.3%	2.5%	2.2%	2.0%
All schools[a]	1.5%	1.7%	1.8%	1.6%	1.7%

[a] These figures are based on data from 17 primary schools and five secondary schools * significant change between 2007 and 2011 (p<0.05)

4.2 Bike It

Bike It has been delivered in 23 schools in Aylesbury during the Cycling City and Towns programme. 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 21 individual 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 2006/07, 2008/09 and 2009/10 academic years.

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 3.4% to 10.7%[6], whilst the proportion cycling to school regularly (everyday and once or twice a week) increased from 13.8% to 28.1%[7]. The proportion 'never' cycling to school decreased from 75.1% to 54.4%[8]. The proportion of children cycling to school on the day of the survey increased from 4.2% to 11.4%[9].

For five schools in Aylesbury, data are available from hands up surveys performed at the end of the second academic year after initial engagement. The proportion cycling to school everyday, regularly and never are presented in Table 4-2. These data suggest that levels of cycling in schools engaged with Bike It are sustained into the years following initial engagement. However, it should be noted that schools may continue to have the support of Bike It officers beyond the first year of Bike It delivery, with some engagement 'at distance'.

Table 4-2 Proportion of children cycling to school everyday, regularly and never before Bike It and at the end of the first and second academic years of engagement

% Cycling to school	Pre survey [a]	First post survey[b]	Second post survey[c]
Everyday	1.5%	11.3%*	10.4%*
Regularly	7.7%	28.6%*	26.2%*
Never	81.0%	54.6%*	58.9%*

[a] pre-Bike It survey (in September of the first academic year of engagement
[b] first Bike It survey performed at the end of the first academic year of engagement
[c] second Bike It survey performed at the end of the second academic year of engagement
* results are significantly different to the pre-intervention survey results (p<0.05)

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.

[6] Significant increase (p<0.05)
[7] Significant increase (p<0.05)
[8] Significant decrease (p<0.05)
[9] 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 Aylesbury

	2007	2008	2009	2010	2011
Non-Bike It schools [a]	2.1%	2.4%	2.4%	1.9%	1.6%
Bike It in 2006 [b,g]	1.4%	1.6%	1.5%	1.3%	1.3%
Bike It in 2007 [c,g]	0.0%	2.3%	4.6%	3.5%	3.9%
Bike It in 2008 [d,g]	0.7%	0.6%	0.7%	0.7%	0.8%
Bike It in 2009 [e,g]	1.4%	0.9%	0.7%	2.0%	2.6%
Bike It in 2010 [f,g]	1.3%	1.6%	1.9%	1.9%	2.2%

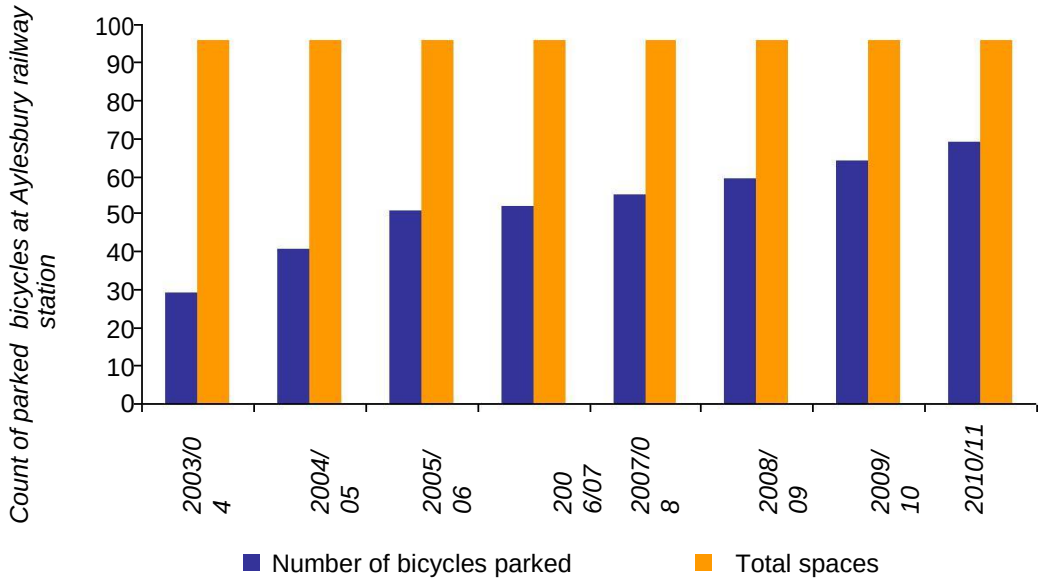
[a] Data for three primary schools and two secondary schools that were not engaged in Bike It
[b] Data for seven primary schools initially engaged in Bike It in 2006
[c] Data for one primary school initially engaged in Bike It in 2007
[d] Data for one primary school and one secondary school initially engaged in Bike It in 2008
[e] Data for four primary schools initially engaged in Bike It in 2009
[f] Data for one primary schools and two secondary schools initially engaged in Bike It in 2010
[g] 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 Analysis of counts of parked bicycles

5.1 Counts of parked bicycles at Aylesbury station

Counts of bicycles parked at the railway station have been performed since 2003/04. Counts are performed on a single day and indicate a consistent increase year to year in the number of bicycles counted at the station. The number of parked bicycles on the count day has increased by +35% between 2003/04 and 2010/11.

Chart 5-1 Counts of parked bicycles at Aylesbury railway station



6 Workplace travel data

Data on mode of travel to work in Aylesbury is available through the iTRACE online monitoring system. Businesses voluntarily provide data through this system, and as such the number of businesses participating each year is variable and the sample for each year does not necessarily comprise the same businesses as in previous years. The percentage of respondents travelling to work by bicycle are summarised in Table 6-1 for businesses located in Aylesbury.

Table 6-1 Percentage of respondents to iTRACE survey reporting to cycle to work

	2008/09	2009/10	2010/2011
Number of workplaces	1	7	4
% cycling to work	10.1%	3.8%	6.1%

7 Analysis of casualty data

Cycle user casualty data were derived for Aylesbury Vale from STATS19 collision data. The average number of killed, seriously injured and slightly injured in each year prior to the Cycling Demonstration Towns/Cycling City and Towns programme (2003-2005) are compared to those occurring during the programme (2006-2010) in Table 7-1. Considering all accidents, the difference between the time periods compared is not significant.

Table 7-1 Annual average number of cyclists killed or injured in Aylesbury before (2003-2005) and during (2006-2010) the Cycling Demonstration Towns/Cycling City and Towns programme

	Annual average number of casualties			
	Killed	Seriously injured	Slightly injured	Total
Pre-programme	0.3	3.7	27.7	31.7
During programme	0.2	5.8	31.2	37.2

* significant change between the pre-programme and during programme figures ($p<0.05$)

8 Analysis of physical activity data

8.1 Household level surveys of physical activity

Household level surveys of physical activity were performed in Aylesbury in 2006, 2009 and 2011. A representative quota sample of residents were surveyed by telephone in March/early April each year. The core of the questionnaire was the physical activity measure taken from the European Prospective Investigation into Cancer (EPIC) study[10] , the responses to which are used to create four categories: inactive, moderately inactive, moderately active and active. Those respondents stating that they had done some cycling in the past year were asked more detailed questions about their cycling frequency, duration and purpose. In the 2009 survey, additional questions were added asking about awareness of publicity about cycling in general (unprompted awareness) and the Cycling Demonstration Towns programme in particular (prompted recall).

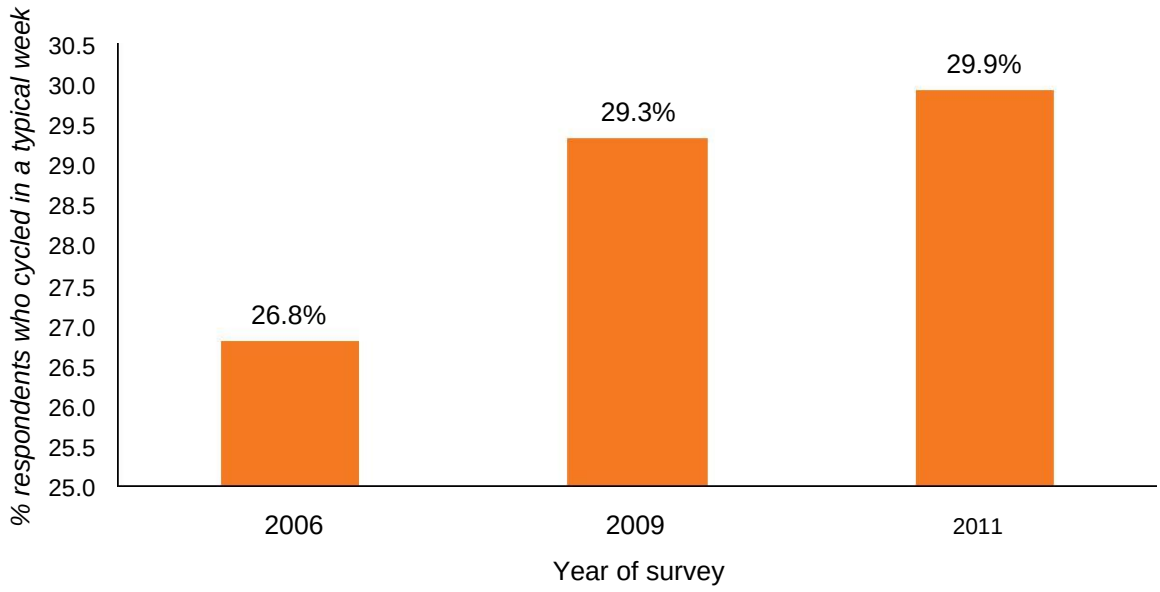
8.1.1 Any cycling in a typical week

The proportion of respondents doing any cycling in a typical week was obtained from the EPIC question, in which respondents were asked about cycling in a typical week, alongside other types of activity. In 2006, 26.8% of respondents said they cycled in a typical week. By 2009 this figure was 29.3% and by 2011 it was 29.9%. These changes were not statistically significant[11].

[10] Wareham NJ, Jakes RW, Rennie KL, Schuit J, Mitchell J, HenningsS and Day NE. Validity and repeatability of a simple index derived from the short physical activity questionnaire used in the European Prospective Investigation into Cancer and Nutrition (EPIC) study. Public Health Nutr. 2003 Jun;6(4):407-13.

[11] $p>0.05$ in both cases

Chart 8-1 Percentage of respondents who reported cycling in a typical week



8.1.2 Self-assessment

Respondents were asked 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”. In 2006, 25.3% said they were a cyclist (of some type); by 2009 this figure had increased to 28.8% ($p<0.05$) and by 2011 it was 29.7%. In each survey year, around 2% of cyclists said they were “new to cycling”.

8.1.3 Levels of physical activity

The EPIC questionnaire was used to place people into categories of overall physical activity (including cycling). The key indicator of interest for physical activity is the proportion in the ‘inactive’ category, as this is the category with the highest risk of premature mortality. Increasing cycling in this population (and reducing the proportion classed as inactive) would have tangible public health benefits. In 2006, 21.1% were classed as inactive. By 2009 this decreased to 19.5%, increasing again to 23.0% in 2011. None of these changes were statistically significant[12].

8.1.4 Awareness of campaign activity

In research carried out to understand the success of the campaign, 35% of respondents said they had seen or heard some publicity in the town about a programme promoting cycling. In 2011, 44% of respondents recalled the name of the programme (Cycle Aylesbury) when prompted; this was recalled by 40% in 2009.

Those who were aware of the Cycling Demonstration Towns/Cycling City and Towns programme were asked what they thought about it, using a set of statements. A number of the statements presented positive views about the programme. Table 8-1 shows the proportion of people who agreed with these positive statements.

[12] in both cases $p>0.05$

Table 8-1 Percentage of people who agreed with the following statements

	% agree strongly or tend to agree
The campaign made me think about cycling	52%
The campaign made me want to cycle more	32%
The campaign made me give cycling a try	22%
The campaign helped me see cyclists' point of view rather than drivers'	44%

This shows that around half of the respondents thought the 'campaign' had helped them think about cycling, but only 22-32% considered converting this into action.

A number of the statements presented more negative views about Cycling Demonstration Towns/Cycling City and Towns programme. Table 8-2 shows the proportion of people who disagreed with these negative statements (and so can be compared with Table 8-1 above). This showed high levels of support for local authority spending on the Cycling Demonstration Towns/Cycling City and Towns programme in Aylesbury.

Table 8-2 Percentage of people who disagreed with the following statements

	% disagree strongly or tend to disagree
The campaign didn't tell me anything new	30%
I didn't take much notice of the campaign	30%
The local authority should not be spending money on cycling	71%

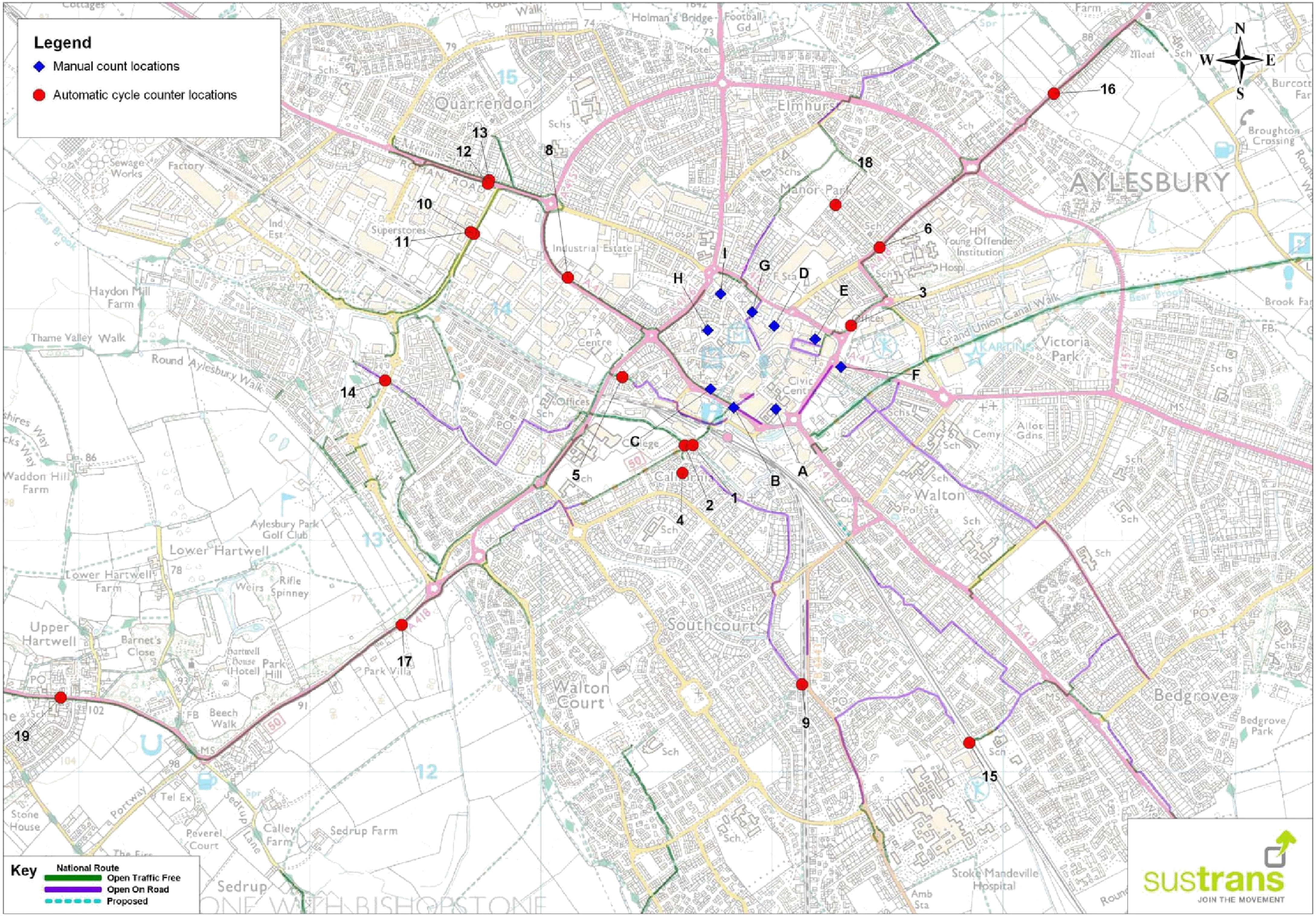
8.2 Active People Survey

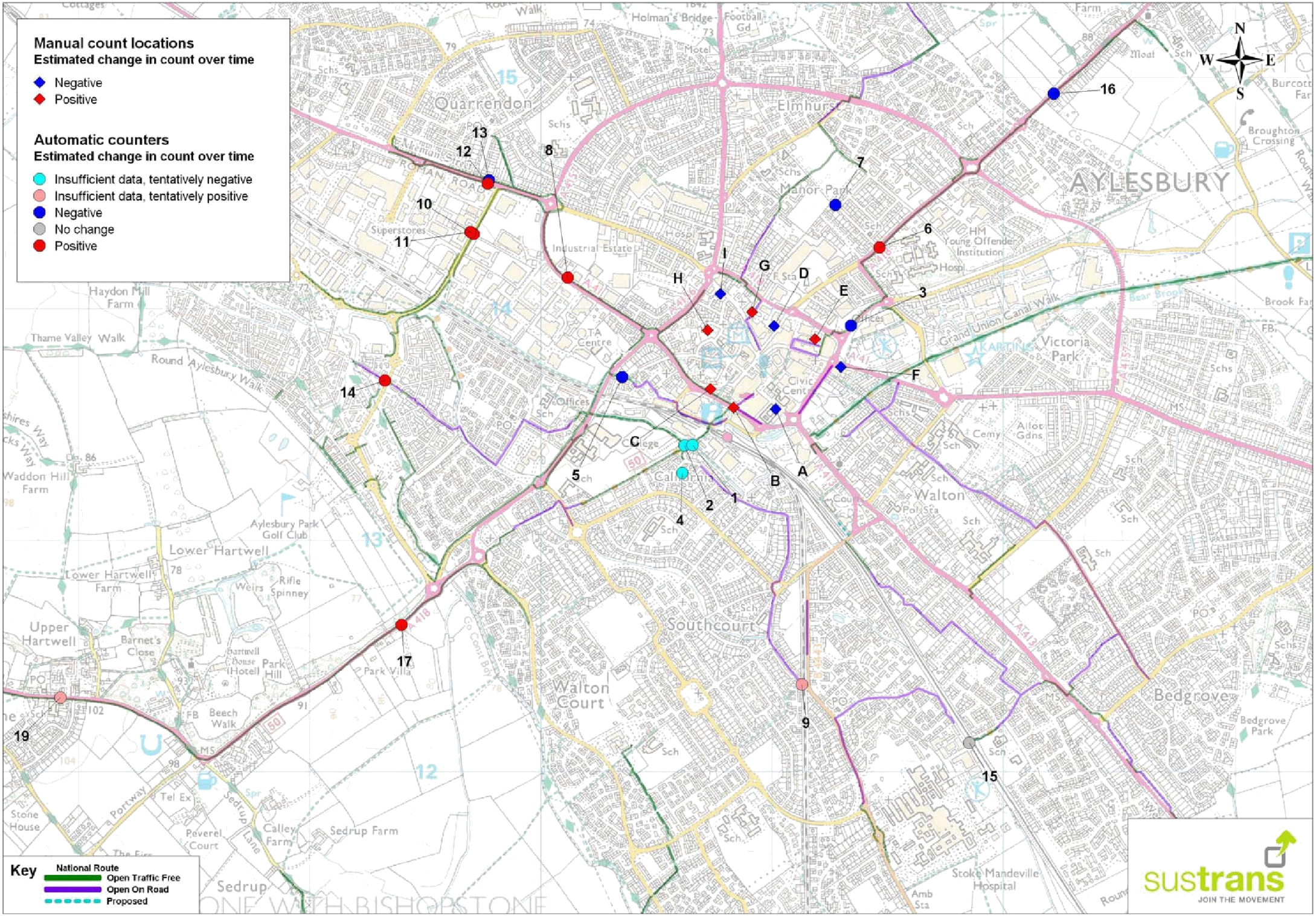
In Aylesbury there was an increase in the proportion of respondents cycling once or more per month between 2005/6 and 2010/11 from 11.5% to 11.9%. The three surveys undertaken between these points all showed an increase in the proportion of respondents cycling once or more per month from 2005/6 (2007/08: 13.8%; 2008/09: 12.6%; 2009/10: 13.2%)[13]. A significant increase was observed in the proportion cycling 12 or more times per month which rose 2.3%-points (from 0.7% to 3.0%) over the same period[14].

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.

[13] Not a significant change between 2005/6 and 2010/11, p=0.83
[14] $p<0.05$


Legend
Manual count locations
Automatic cycle counter locations
Key
National Route
Open Traffic Free
Open On Road
Proposed
AYLESBURY
sustrans
JOIN THE MOVEMENT
1 2 3 4 5 6 8 9 10 11 12 13 14 15 16 17 18 19
A B C D E F G H I


Manual count locations
Estimated change in count over time
Negative
Positive
Automatic counters
Estimated change in count over time
Insufficient data, tentatively negative
Insufficient data, tentatively positive
Negative
No change
Positive
Key
National Route
Open Traffic Free
Open On Road
Proposed
N
W
E
S
AYLESBURY
Quarrendon
Elmhurst
Manor Park
Walton
Southcourt
Walton Court
Bedgrove
Victoria Park
Lower Hartwell
Upper Hartwell
Sedrup
Sedrup Farm
Haydon Hill Farm
Waddon Hill Farm
Lower Hartwell Farm
Aylesbury Park Golf Club
Thame Valley Walk
Round Aylesbury Walk
Grand Union Canal Walk
Broughton Crossing
Stoke Mandeville Hospital
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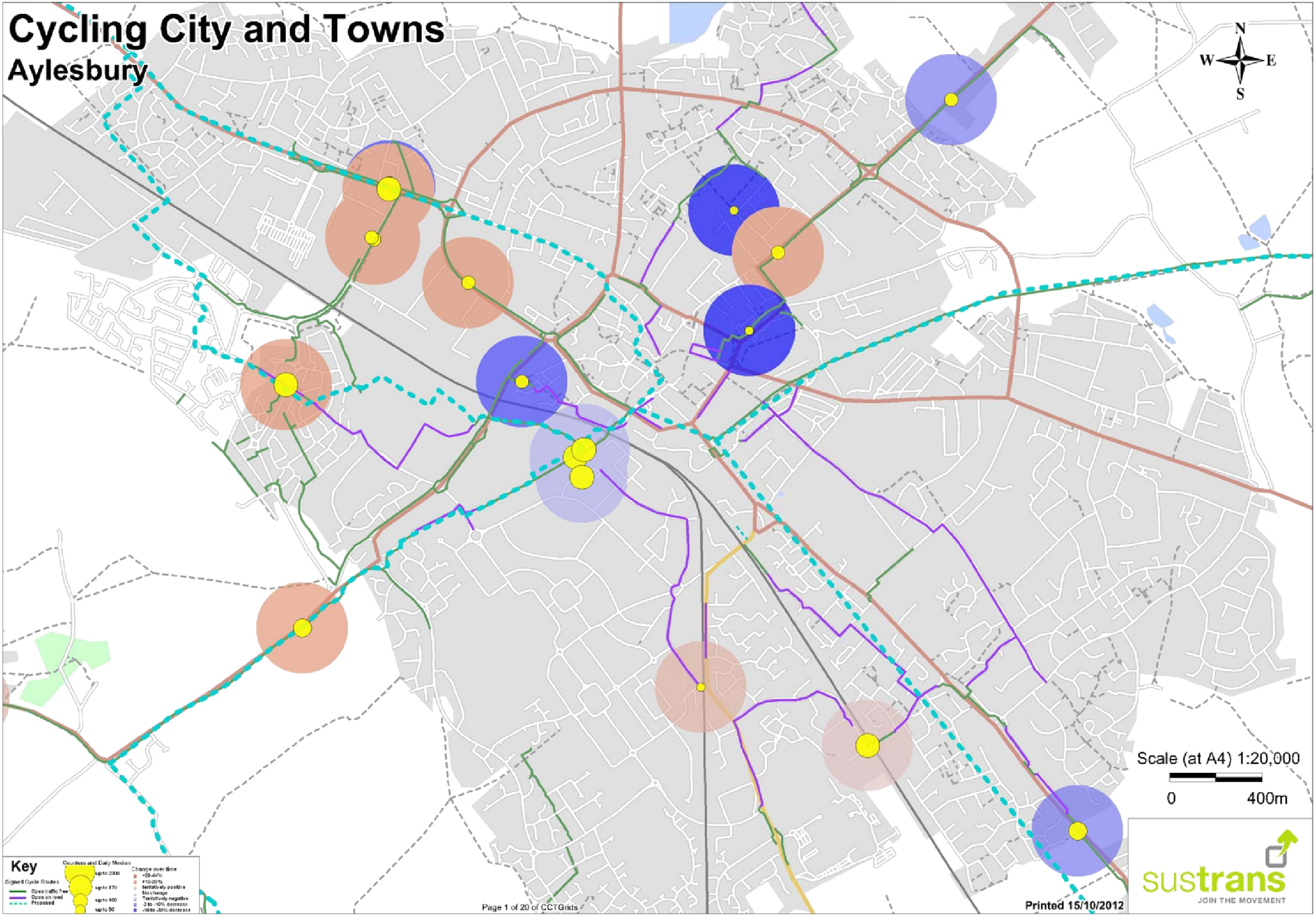
JOIN THE MOVEMENT

Cycling City and Towns

Aylesbury



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