Outcomes of the Cycling Demonstration Towns programme: monitoring project report

Individual town results: Lancaster with Morecambe

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1 Introduction

1.1 Description of the Cycling City and Towns programme in Lancaster with Morecambe

Lancaster with Morecambe was one of six areas initially engaged in the Cycling Demonstration Towns programme between 2005 and 2008. During this time, the emphasis of 'Celebrating Cycling', as the programme is branded, was on improving cycling infrastructure in the area, primarily filling gaps in the cycle network, and legislating to allow cycling on Morecambe Promenade. Route signage also featured.

During the subsequent Cycling City and Towns programme delivered in Lancaster and Morecambe during 2008-2011, the focus was on delivering a combination of hard and soft measures to enable more people to cycle to work and school.

Between 2008 and 2011 the programme of infrastructure improvements in the area continued to focus on filling in missing links in the network, particularly around Lancaster where the gyratory system around the city centre was seen as a major barrier to cycling to the central area[1]. The addition of four contraflow lanes and 10 toucan crossings on cross town routes and cycle lanes improved accessibility and safety. In addition, permitting cycling on a third of the pedestrianised areas in the centre of town has provided greater permeability. New routes to schools and employment centres have further supported cycling for utility purposes. Other measures adopted include the addition of 18 advanced stop lines and the construction of 5.4km of on-road and 5km of traffic-free routes. Awareness of new and existing cycle routes has been raised through bespoke signage at 93 key access points on and along the principle off-road routes. Cycle parking has also seen considerable investment over the time which the Cycling Town Project has been running: 1,176 spaces have been added (the majority at schools) representing a 51% increase in the availability of cycle parking.

Smarter measures have involved a variety of approaches within the Lancaster and Morecambe area. Sixty-four workplaces covering 15% of the districts workforce were engaged with a variety of events and projects to promote cycling between 2008 and 2011. More widely, a range of promotional activities were delivered, engaging approximately 25,000 people. Young people benefited from Bikeability training (1,720 children took part) and 29 schools in the area were engaged in a Bike It project. Other school and extra-curricular cycling clubs have also been delivered.

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 Lancaster with Morecambe during the Cycling Demonstration Town and Cycling City and towns programme are summarised in Table 1-1

[1] Lancaster with Morecambe Cycling Town (2011) Celebrating Cycling: Lancaster and Morecambe Cycling Town, Lancaster with Morecambe Cycling Town. 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 Lancaster with Morecambe

	2005-2008 revenue	2005-2008 capital	2008-2011 revenue	2008-2011 capital
Total	£690,406	£2,789,578	£579,076	£2,755,319

1.3 Summary of available monitoring data

The following data sources are available:

- Data from 26 automatic cycle counters
- 12 hour manual counts performed quarterly at four locations in Lancaster and four location in Morecambe since 2006, a further seven sites in Lancaster since 2009 and an additional site in Lancaster since 2010
- Pupil Level Annual School Census (PLASC) travel data and monitoring data from Bike It
- University of Cumbria travel data
- Links to Schools report for Westgate school
- counts of parked bicycles in Lancaster and in Morecambe
- behaviour and attitude survey data
- workplace travel data
- STATS19 cycling casualty data
- household survey of physical activity and campaign awareness
- Active People Survey (APS) data.

1.4 Summary of headline findings

Strong evidence of continued growth in levels of cycling from a moderate initial baseline

The most complete data sets, time series data from automatic cycle counters located predominantly on traffic-free cycle routes, indicate an increase in levels of cycling over time, building upon the growth achieved within the first phase of the programme. This is corroborated by growth in manual counts of cyclists across the programme period. Increases in cycle volumes have been observed on cordons around both Lancaster and Morecambe town centres. Notwithstanding the limitations of the data source, levels of cycling to secondary schools appear to have increased over the course of the programme. Levels of cycling to primary schools, however, fluctuate throughout the programme period, being the same at the end as in the first year of the programme. This makes it difficult to draw certain conclusions around the impact of the programme on levels of cycling to school overall. Schools engaged with Bike It report a significant increase in the numbers of children cycling to school everyday

- Automatic cycle counter data indicate an increase in volumes of cycles counted of +29% against a 2005 baseline. Based on data from the 26 automatic cycle counters, this estimated growth corresponds to an increase 4,429 trips per day counted in 2005 to 5,709 in 2011
- An increase was observed at 22 of the automatic cycle count sites, a decrease at three locations and no change at one location

- Analysis of manual count data collected across four locations in Lancaster since 2006 indicates an annual average increase of +6%
- Analysis of manual count data collected across four locations in Morecambe since 2006 indicates an annual average increase of +7%
- Across all schools, the percentage of children cycling to school as measured by PLASC was 2.2% in 2010/11 compared to 1.4% in 2006/07
- Bike It data indicate an increase in children cycling to school on the day of the survey from 4.0% in pre surveys to 9.3% in post surveys, and an increase in children cycling to school every day from 3.2% in pre surveys to 7.1% in post surveys
- Although counts of parked bicycles data show a decrease in Lancaster since 2006 and an increase in Morecambe since 2006, little reliance can be placed on these findings due to difficulties in selecting periods for comparison
- Behaviour and attitude surveys of people who already have an interest in cycling suggest that improved routes and increased volumes of cyclists are visible and as half of the respondents expect to be cycling more in a year's time, there is the potential for cycle volumes to increase further
- Workplace travel surveys indicate that 15% of employees cycle to work, although this varies greatly between employers
- Compared to pre-programme data, the overall number of cycling casualties was not significantly different during the Cycling City and Towns programme
- Household physical activity surveys indicate that in 2006, 25.9% of respondents cycled in a typical week. This increased to 30.1% in 2009 and by 2011 it was 31.0%
- Active People Survey data indicate a significant increase in Lancaster and Morecambe in the proportion of respondents cycling once or more per month and an increase in the proportion cycling 12 or more times per month between 2005/6 and 2010/11

2 Analysis of automatic cycle counter data

Data are available from 26 counters in Lancaster and Morecambe. In the following sections information regarding the location, volumes of cyclists recorded and change in volumes of cyclists recorded over time are presented for each count site. The cycle counters are located across both Lancaster and Morecambe, providing coverage of a number of access routes to each centre, routes connecting the towns, and other routes. Of the 26 sites, 12 were installed in 2002, three in 2005, nine in 2006, one in 2007 and one in 2008. In order to be consistent across the Cycling Demonstration Towns, data from 2005 onwards are included in the analysis.

Two distinct sets of analysis have been undertaken using cycle counter data in Lancaster and Morecambe. 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 set of analysis, data from individual sites were analysed in order to determine the average volumes of cyclists 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 +25% 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 Lancaster with Morecambe at the end of the Cycling Demonstration Towns period (2009) relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009
Change against 2005 baseline	100%	105%*	107%*	113%*	125%*

* 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 Lancaster with Morecambe at the end of the Cycling City and Towns period (2011) relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	99%	102%*	108%*	110%*	115%*	129%*

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

The figures in Table 2-1 differ from the 2005 to 2009 figures in Table 2-2 for three reasons. Firstly, the analysis performed at the end of the Cycling Demonstration Towns period only included data up to the end of March 2009. Many of the counters experienced lower counts at the end of 2009 than they had at the end of subsequent years due to the poor weather conditions. Also, some of the individual counters experienced conditions which resulted in their counts not maintaining the growth they had recorded up to the end of March through the rest of the year.

Secondly, two of the counters which were used in the original Cycling Demonstration Town period analysis were not used in the analysis up to September 2011. In one case this was because the counter did not have data beyond April 2008 and therefore would not contribute to the understanding of the change in cyclists up to 2011. In the other case the counter had malfunctioned during 2009 and therefore due to concerns about the reliability of the data, this counter was removed from the analysis after discussions with programme staff.

Thirdly, data from the first six months of 2005 for the counter on the River Lune Millennium Path (RLMP) Cycletrack west of Crook O'Lune was identified as being unreliable and has therefore been removed from the analysis. Table 2-3 includes the percentage change in cycle counts in Lancaster with Morecambe relative to a 2005 baseline including data from all counters to the end of September 2011 had this data not been removed.

Table 2-3 Change in cycle count in Lancaster with Morecambe at the end of the Cycling City and Towns period relative to a 2005 baseline if additional data for River Lune Millennium Path Cycletrack west of Crook O'Lune had been included (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	104%*	108%*	113%*	116%*	121%*	135%*

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

The same analysis as reported in Table 2-2 is presented in Table 2-4 for the Cycling City and Towns period, comparing cycling levels in 2011 to a 2007 baseline.

Table 2-4 Change in cycle count in Lancaster with Morecambe at the end of the Cycling City and Towns period relative to a 2007 baseline (baseline = 100%)

	2007	2008	2009	2010	2011
Change against 2007 baseline	100%	105%*	107%*	112%*	125%*

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

In order to explore the impact of the periods of poor weather nationally in late 2009 and early and late 2010, an additional element was added into the regression model. Table 2-5 presents the findings of this analysis. When adjusting the model for poor weather conditions, the most prominent affect is an increased percentage change between 2009 and 2010.

Table 2-5 Change in cycle count in Lancaster with Morecambe at the end of the Cycling City and Towns period relative to a 2005 baseline including an adjustment for snow (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	99%	102%*	107%*	111%*	123%*	128%*

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

With the exception of a small decrease in 2006, there has been a gradual growth in cycling levels in Lancaster with Morecambe, both during the Cycling Demonstration Towns period and since. The largest increase was observed between 2010 and 2011 in the standard analysis although an adjustment for periods of severe weather suggests that more of the overall growth may have occurred between 2009 and 2010.

2.2 Analysis of data from individual count 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 2-6 and alongside more detailed information for each counter in Table 2-7. Change over time could be robustly estimated for 23 of the 26 count sites. For the remaining 2 count sites, based on the limited available data only, change over time was positive.

Table 2-6 Summary of findings of detailed analysis of data from individual count sites

Number of counters for which data are available	26
Number of counters for which sufficient data are available to quantify change over time[2]	24
Number of counters with quantifiable increase	20
Number of counters with no change	1
Number of counters with quantifiable decrease	3

In the following table counters are ordered by their location from west to east. Map references refer to the accompanying map (section 13).

[2] None of the changes are statistically significant.

Table 2-7 Description of automatic cycle counters in Lancaster and Morecambe

Map Reference	Location	Time period	Annual change[b]	Average daily count in 2010	Comments
1.	Promenade Cycletrack, north of B5274	2006-2011	Weekday: +10% Sat/Sun: +5%	Overall: 204 Weekdays: 205 Weekend days: 193	Located on National Route 69 of the National Cycle Network, a traffic-free shared use seaside promenade west of the centre of Morecambe. A hotel and a market are nearby.
2.	Lancaster to Morecambe Greenway end, near Hillmore Road	2005-2011 [a]	Weekday: +6% Sat/Sun: +1%	Overall: 178 Weekdays: 175 Weekend days: 183	Located on National Route 69 of the National Cycle Network, a traffic-free shared use path in the centre of Morecambe. A residential area, superstores, a market and a train station are nearby.
3.	Out Moss Lane Cycletrack, north of Langridge Way	2005-2011 [a]	Weekday: -8% Sat/Sun: -10%	Overall: 137 Weekdays: 152 Weekend days: 111	Located on a traffic-free shared use path between a caravan park and a residential area. A school site is nearby. The site is three quarters of a mile south-east of the centre of Morecambe. Weekday counts show 'commuting' peaks.
4.	Promenade, east of Lord Street	2005-2011 [a]	Weekday: +13% Sat/Sun: +11%	Overall: 226 Weekdays: 226 Weekend days: 230	Located on National Route 69 of the National Cycle Network, a traffic-free shared use seaside promenade adjacent to Marine Road East, half a mile north-east of the centre of Morecambe.
5.	Greenway, east of Out Moss Lane spur	2005-2011	Weekday: -1% Sat/Sun: -1%	Overall: 389 Weekdays: 414 Weekend days: 327	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path three quarters of a mile south-east of the centre of Morecambe. A school, residential housing, playing fields and a football ground area are nearby. Weekday counts show 'commuting' peaks.

6.	Cycletrack, west of St Andrews Grove	2006-2011	Weekday: +5% Sat/Sun: +3%	Overall: 57 Weekdays: 64 Weekend days: 40	Located on a traffic-free shared use path between two schools, approximately one mile east of the centre of Morecambe. Weekday counts show school 'commuting' peaks.
7.	Cycletrack, east of Glenworth Road East	2006-2011	Weekday: +9% Sat/Sun: +9%	Overall: 215 Weekdays: 257 Weekend days: 130	Located on a traffic-free shared use path that links to National Route 69 of the National Cycle Network. A residential area is to the west, a trading estate to the east. It is approximately one mile east, south-east of the centre of Morecambe. Weekday counts show 'commuting' peaks.
8.	Cycletrack, east of Lancaster Road, Snatchems, Salt Ayre	2006-2011	Weekday: +3% Sat/Sun: +5%	Overall: 10 Weekdays: 8 Weekend days: 13	Located on a traffic-free shared use path near the River Lune estuary, two miles south-east of the centre of Morecambe and one and a half miles west of the centre of Lancaster.
9.	Glasson cycle track, south of New Quay Road	2008-2011 [a]	Weekday: +9% Sat/Sun: +17%	Overall: 71 Weekdays: 57 Weekend days: 124	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path one mile west of the centre of Lancaster at the edge of the city.
10.	Lancaster to Morecambe Greenway, near to Asda access, Scale Hall	2006-2011	Weekday: +1% Sat/Sun: +1%	Overall: 532 Weekdays: 600 Weekend days: 370	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path in Scale Hall, approximately one mile north-west of the centre of Lancaster. Schools and a superstore are nearby. Weekday counts show 'commuting' peaks.
11.	Cycletrack, Giant Axe field off Long Marsh Lane	2006-2011	Weekday: +5% Sat/Sun: +5%	Overall: 138 Weekdays: 149 Weekend days: 102	Located on a traffic-free shared use cycle track adjacent to railway lines to the west of the centre of Lancaster. A railway station, football ground and sports grounds are nearby. Weekday counts show 'commuting' peaks.

12.	Ryelands park access from Torrisholme Road	2008-2011	Weekday: 0% Sat/Sun: +4%	Overall: 99 Weekdays: 109 Weekend days: 75	Located on a link to National Route 6 of the National Cycle Network, a traffic-free shared use path around a park in Ryelands, approximately three quarters of a mile north, north-west of the centre of Lancaster.
13.	Canal Towpath, north of Hammerton Hall Lane	2006-2011	Weekday: +11% Sat/Sun: +5%	Overall: 68 Weekdays: 63 Weekend days: 84	Located on National Route 6 of the National Cycle Network, a traffic-free shared use path alongside the Lancaster Canal, approximately one mile north of the centre of Lancaster at the edge of the town.
14.	Vicarage Meadow, west of Millennium Bridge	2008-2011	Weekday: -4% Sat/Sun: +1%	Overall: 135 Weekdays: 143 Weekend days: 113	Located on a traffic-free shared use path in a park north-east of the centre of Lancaster. A sports ground, the River Lune and historic attractions are nearby. Weekday counts show 'commuting' peaks.
15.	St Georges Quay, west of Millennium Bridge	2005-2011 [a]	Weekday: -1% Sat/Sun: +5%	Overall: 151 Weekdays: 146 Weekend days: 184	Located on National Route 6 of the National Cycle Network, a traffic-free shared use path beside the River Lune, north of the centre of Lancaster. Weekday counts show 'commuting' peaks.
16.	Damside Street, south of Millennium Bridge	2006-2011	Weekday: +3% Sat/Sun: +2%	Overall: 202 Weekdays: 237 Weekend days: 122	Located on a traffic-free shared use path adjacent to Damside Street and the River Lune, north of the centre of Lancaster. Weekday counts show 'commuting' peaks.
17.	Aldcliffe Road link to Ashton Road via hospital	2009-2011	Positive	Overall: 42 Weekdays: 50 Weekend days: 20	Located on a traffic-free shared use path between the Lancaster Canal and a hospital site, approximately half a mile south of the centre of Lancaster. Weekday counts show 'commuting' peaks.

18.	Lancaster to Morecambe Greenway, north west of Millennium Bridge	2005-2011 [a]	Weekday: +3% Sat/Sun: +4%	Overall: 632 Weekdays: 677 Weekend days: 410	Located on National Route 69 of the National Cycle Network, a traffic-free shared use greenway next to the River Lune, approximately a quarter of a mile north of the centre of Lancaster. A school site is nearby. Weekday counts show 'commuting' peaks.
19.	Old Railtrack east of Millennium Bridge	2005-2011 [a]	Weekday: +4% Sat/Sun: +4%	Overall: 652 Weekdays: 712 Weekend days: 493	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path beside the River Lune, north of the centre of Lancaster. Weekday counts show 'commuting' peaks.
20.	Lune Street (underpass), north east of Millennium Bridge	2006-2011	Weekday: +2% Sat/Sun: +1%	Overall: 229 Weekdays: 261 Weekend days: 166	Located on National Route 6 of the National Cycle Network, a traffic-free shared use path under Greyhound Bridge Road by the River Lune, approximately a quarter of a mile north of the centre of Lancaster. A school site is nearby. Weekday counts show 'commuting' peaks.
21.	Cycletrack, north of Piccadilly Scotforth	2008-2011	Positive	Overall: 47 Weekdays: 56 Weekend days: 29	Located on a traffic-free shared use path near a sports ground, approximately one and a half miles south of the centre of Lancaster.
22.	Canal Towpath, north/east of Moor Lane	2006-2011	Weekday: +7% Sat/Sun: +6%	Overall: 104 Weekdays: 109 Weekend days: 89	Located on a traffic-free shared use path alongside the Lancaster Canal, approximately a quarter of a mile east of the centre of Lancaster. Weekday counts show 'commuting' peaks.
23.	River Lune Millennium Path Cycletrack, east of Skerton Bridge	2005-2011 [a]	Weekday: +2% Sat/Sun: +2%	Overall: 211 Weekdays: 215 Weekend days: 200	Located on National Route 69 of the National Cycle Network, a traffic-free shared use riverside path in Newton, half a mile north-east of the centre of Lancaster. Weekday counts show 'commuting' peaks.

24.	University Cycletrack, north of Bailrigg Lane	2005-2011 [a]	Weekday: +5% Sat/Sun: +2%	Overall: 394 Weekdays: 459 Weekend days: 121	Located on a traffic-free shared use path two miles south of the centre of Lancaster. The path links Lancaster with the University of Lancaster site to the south. Weekday counts show high 'commuting' peaks.
25.	River Lune Millennium Path Cycletrack, west of Denny Beck Lane	2005-2011 [a]	Weekday: +7% Sat/Sun: +4%	Overall: 193 Weekdays: 184 Weekend days: 205	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path next to the River Lune. The site is two and a half miles north-east of the centre of Lancaster, south of Halton. Weekday counts show 'commuting' peaks.
26.	RLMP Cycletrack, west of Crook O'Lune	2005-2011 [a]	Weekday: +3% Sat/Sun: +1%	Overall: 143 Weekdays: 131 Weekend days: 189	Located on National Route 69 of the National Cycle Network, a traffic-free shared use railway path near to the River Lune. The site, surrounded by fields, is three miles north-east of the centre of Lancaster and south-east of Halton.

[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

2.3 Relationship between programme activity and automatic count data

2.3.1 Cycling to schools

The Cycling City and Towns programme delivered in Lancaster and Morecambe has primarily focused on utility trips including journeys to school. Three automatic cycle counters have been identified as monitoring routes directly to schools (Map 2-1):

- Out Moss Lane Cycletrack north of Langridge Way (map reference 3)
- Cycletrack, west of St Andrews Grove (map reference 6)
- Ryelands Park Access from Torrisholme Road (map reference 12)

Map 2-1 automatic cycle counters located close to schools (site numbers refer to Table 2-7)

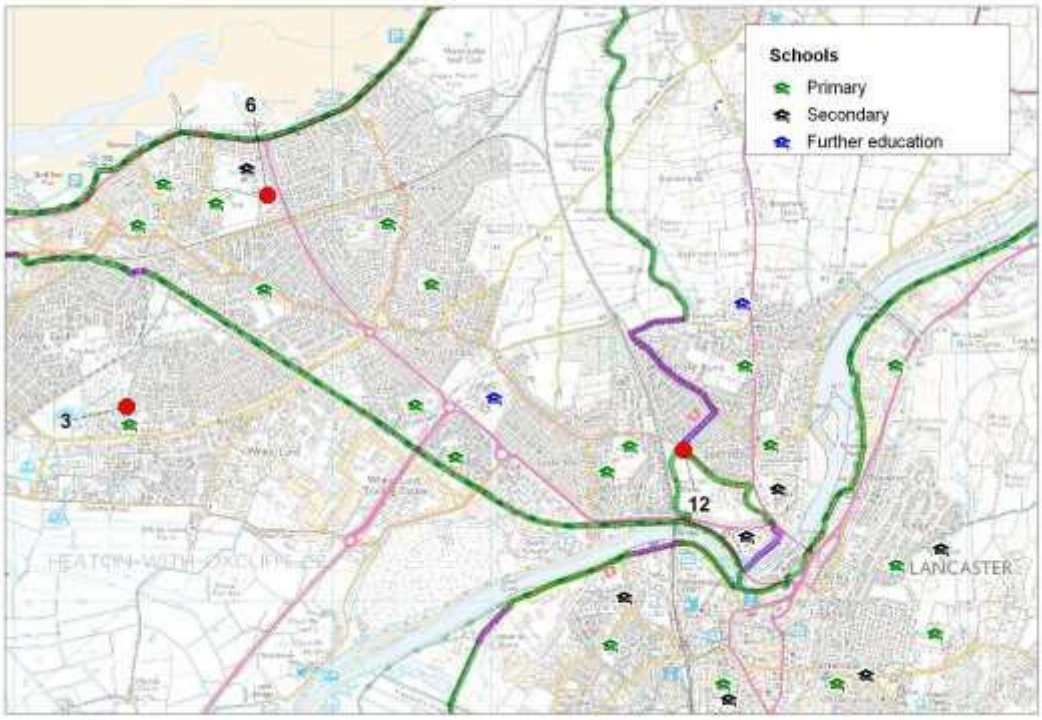


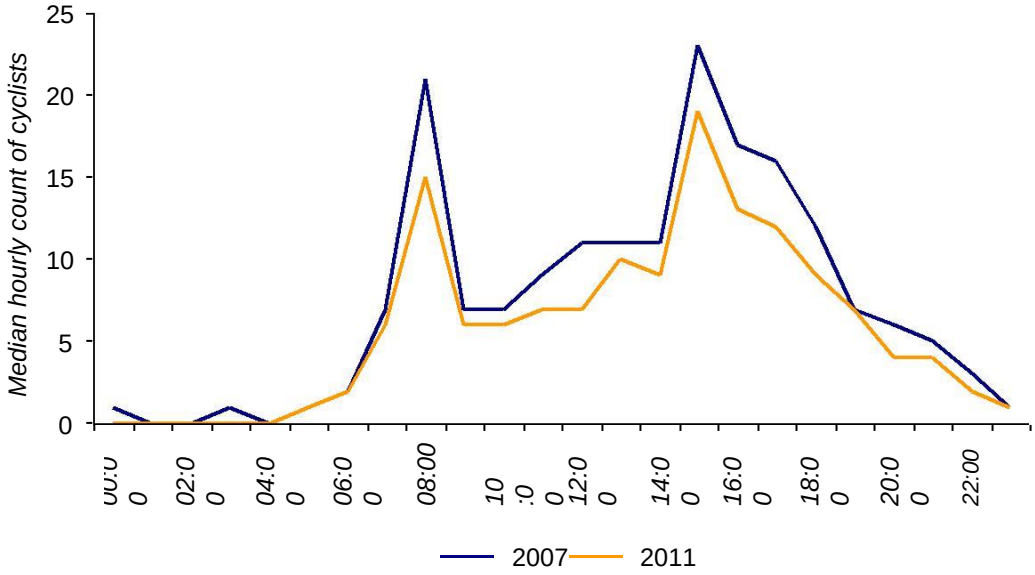
Table 2-8 presents the average annual change at each site based on the data available.

Table 2-8 Average annual percentage change in counts recorded at locations close to schools in Lancaster and Morecambe

Counter	Average annual % change in daily count
Out Moss Lane Cycletrack north of Langridge Way	-6%
Cycletrack, west of St Andrews Grove	+5%
Ryelands Park Access from Torrisholme Road	+2%

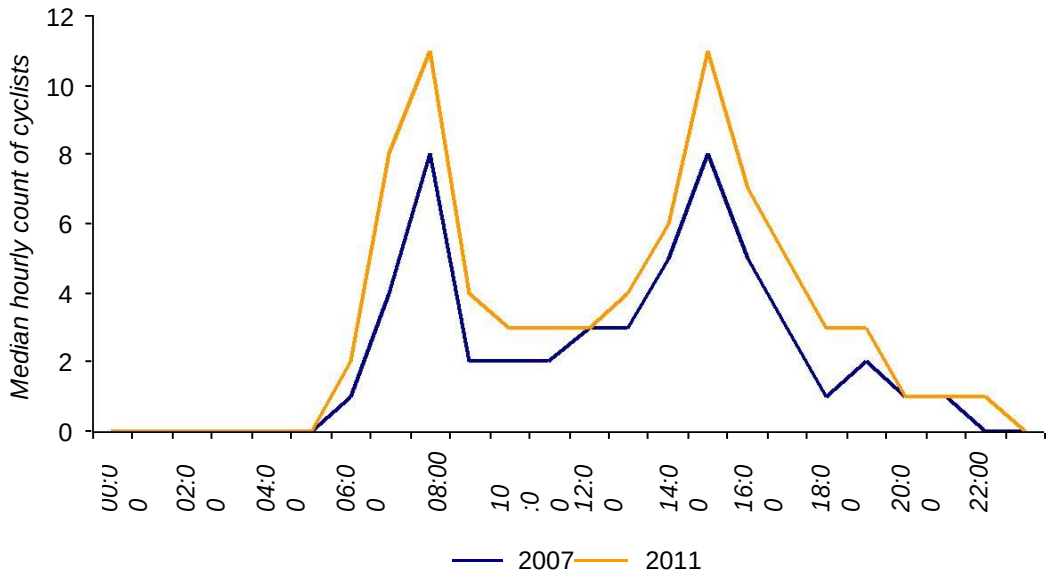
Analysing data from these three count sites indicates a +1% increase against a 2007 baseline. The hourly distribution of counts for all locations show peaks at school commuting times, with the afternoon peak in counts beginning from 3pm. Charts 2-1 to 2-3 compare hourly distributions between 2007 and 2011 for the first two counters and between 2008 and 2011 for the Ryelands Park counter as no data were available for 2007.

Chart 2-1 Median count per hour on weekdays in 2007 and 2011 – Out Moss Lane Cycletrack north of Langridge Way



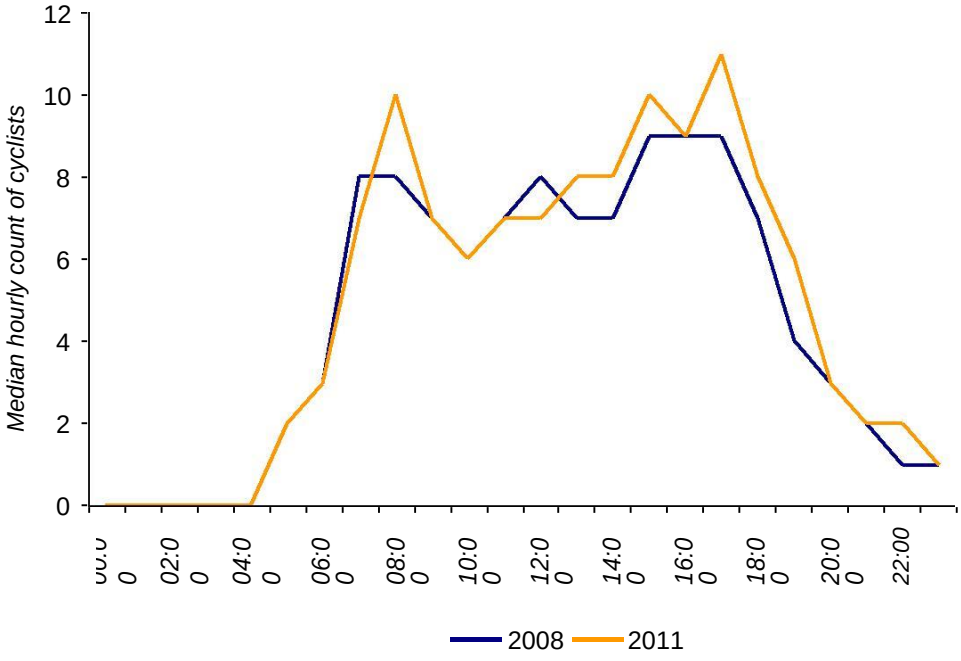
The counter on Out Moss Lane monitors access to Westgate School. This was a Bike It school in the 2006/07 academic year. The hourly distributions show a decrease in cyclists at commuting times. The nearby counter on the cycle track east of Glenworth Road East has seen an 8% annual increase in counts and there is anecdotal evidence to suggest that this is due to cyclists choosing to use this route due to the improvements that have been made here, rather than taking other routes in this area. This displacement of cyclists may have contributed to the decline in counts at the Out Moss Lane site.

Chart 2-2 Median count per hour on weekdays in 2007 and 2011 – Cycletrack, west of St Andrews Grove



The counter west of St Andrews Grove (Chart 2-2) monitors access to two schools which were engaged with the Bike It programme in the 2008/09 academic year.

Chart 2-3 Median count per hour on weekdays in 2008 and 2011 – Ryelands Park access from Torrisholme Road



The counter in Ryelands Park is near to Ryelands primary school. This school was engaged in the Bike It programme in 2008/09. Chart 2-3 suggests that this counter records cyclists travelling throughout the day, with less prominent school time peaks than at other counters located close to schools.

2.3.2 Morecambe promenade

Cycling on the promenade in Morecambe was legitimised in 2007. As well as providing a pleasant route for leisure cycling, the promenade is perceived to be an important route for utility trips in the area. In 2009 this route was also connected to the Lancaster Canal at Hest Bank. The cycle route on the promenade is monitored by two automatic cycle counters (Map 2-2):

- Promenade, east of Lord Street (map reference 4)
- Promenade Cycletrack north of B5274 (map reference 1)

Map 2-2 automatic cycle counters located on the Morecambe Promenade cycle route (site numbers refer to Table 2-7)

Both of the count sites have seen a growth in volumes of cyclist recorded over time. Table 2-9 presents the average annual change at each site based on the data available.

Table 2-9 Average annual percentage change in counts recorded at locations on the promenade in Morecambe

Counter	Average annual % change in daily count
Promenade, east of Lord Street	+12%
Promenade Cycletrack north of B5274	+11%

Analysing combined data from these count sites indicates a +93%[3] increase against a 2005 baseline. The hourly distribution of counts on weekdays for both counters show peaks at commuting times, with the afternoon peak in counts beginning from 3pm; comparing hourly distributions between 2007 and 2011 indicates growth at all times of day, particularly at school and work commuting times (Charts 2-4 to 2-5).

[3] Significant increase ($p<0.05$)

Chart 2-4 Median count per hour on weekdays in 2007 and 2011 – Promenade, East of Lord Street

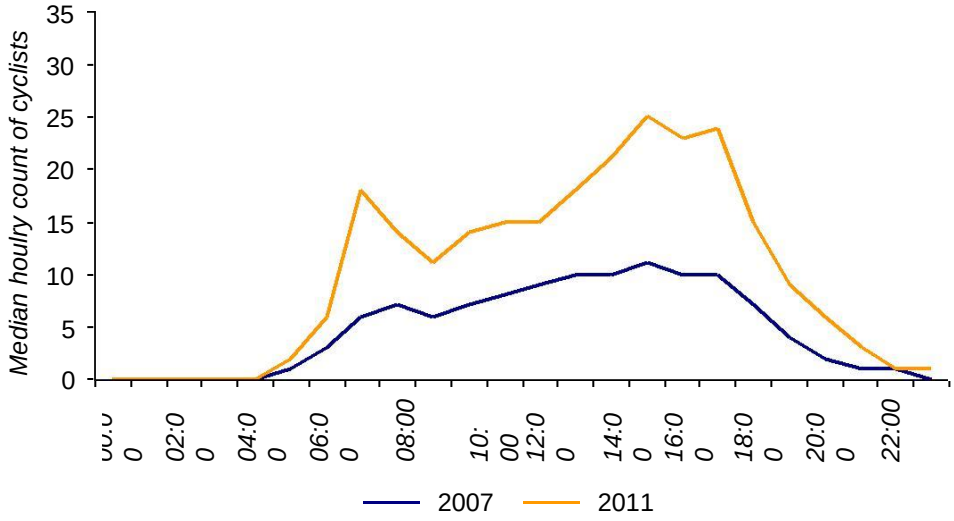
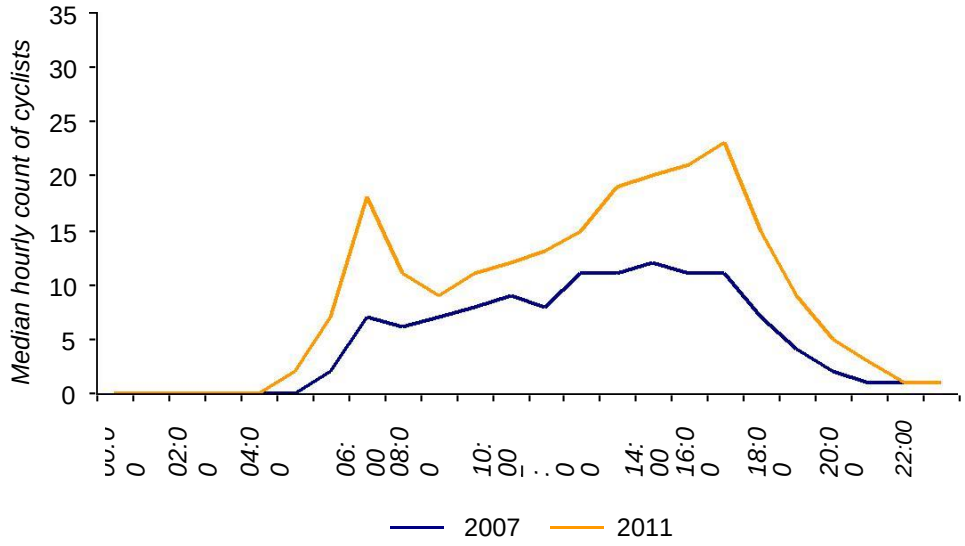


Chart 2-5 Median count per hour on weekdays in 2007 and 2011 – Promenade Cycletrack north of B5274



The corresponding figures for weekend day counts are presented in Charts 2-6 and 2-7 below. These graphs indicate a substantial increase since cycling was legitimised on the promenade route in 2007.

Chart 2-6 Median count per hour on weekend days in 2007 and 2011 – Promenade, East of Lord Street

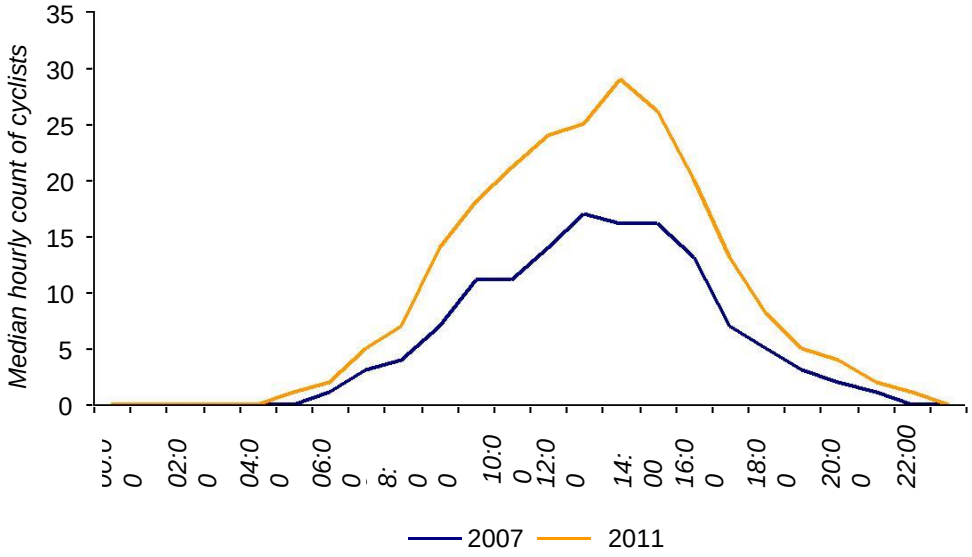
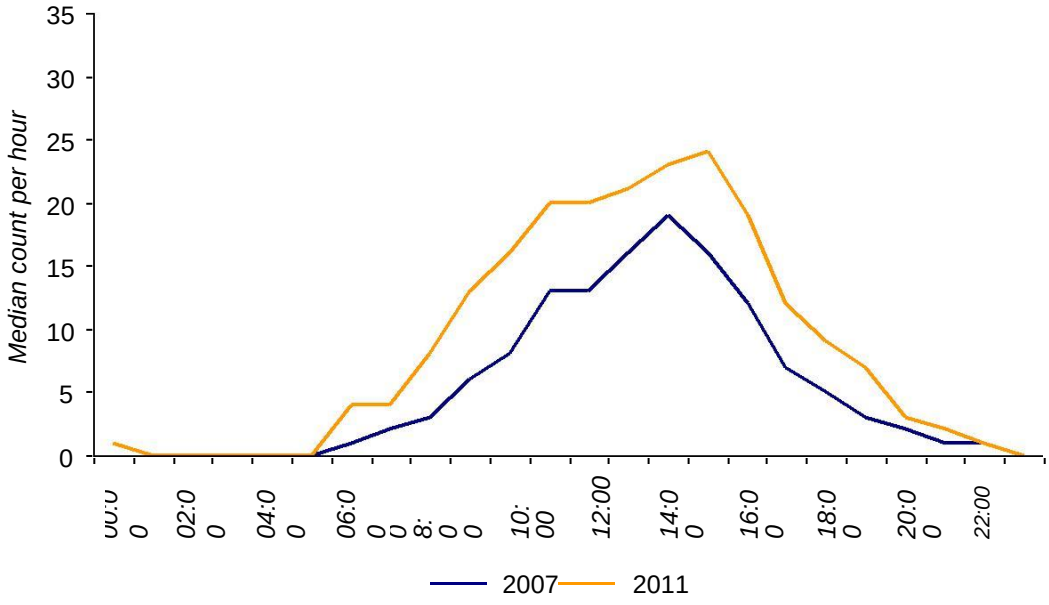


Chart 2-7 Median count per hour on weekend days in 2007 and 2011 – Promenade Cycletrack north of B5274



3 Analysis of manual count data

Quarterly 12 hour manual counts have been undertaken at four sites in Lancaster and four sites in Morecambe since 2006. In order to provide more comprehensive coverage of cycling in Lancaster during the Cycling City and Towns programme, an additional eight sites were introduced in Lancaster, seven in quarter 3 of 2009 and a further site in quarter 1 of 2010.

3.1 Lancaster

3.1.1 Analysis of data from original count sites

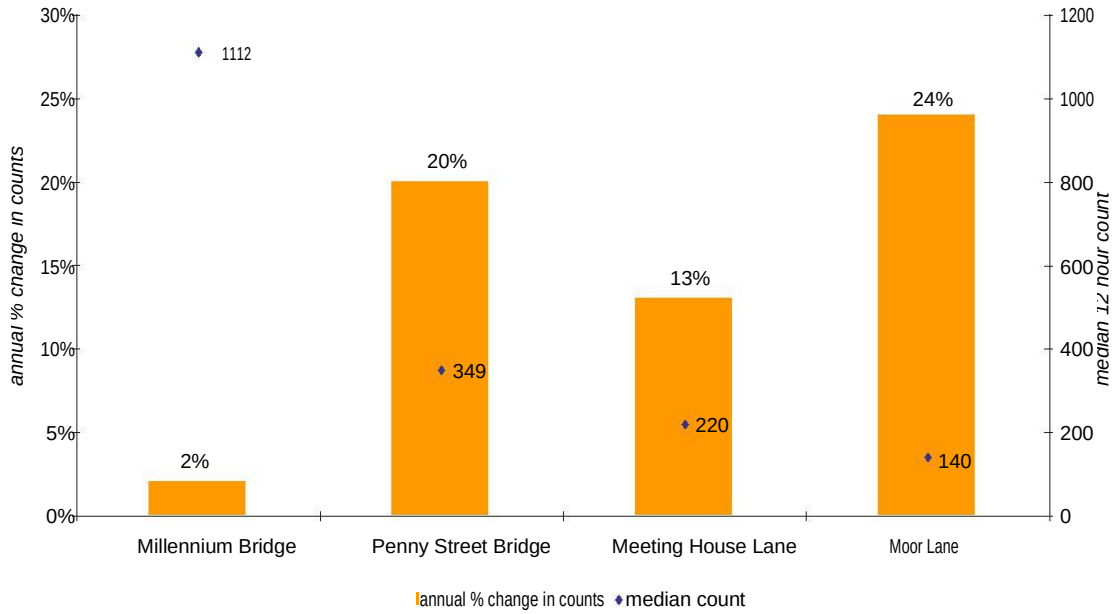
The original four sites were located around Lancaster at key points of entry into the city. Quarterly data is available between quarter 4 of 2006 and quarter 2 of 2011 with the exception of quarter 2 2009 and quarter 1 2011. The locations of the sites, indicated on the accompanying map (section 13), are as follows:

- Millennium Bridge (map reference A)
- Penny Street/South Road (map reference B)
- Meeting House Lane (map reference C)
- Moor Lane (map reference D)

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 four locations gives an annual percentage change of +6% over the same period for Lancaster[4].

[4] When comparing the total count at each point in time with counts in the same quarter but different years, there are 28 possible comparisons in Lancaster, 19 of which are significant differences (16 increases and three decreases).

Chart 3-1 Annual average percentage change in 12 hour manual counts of cyclists performed at four locations around Lancaster city centre[5]

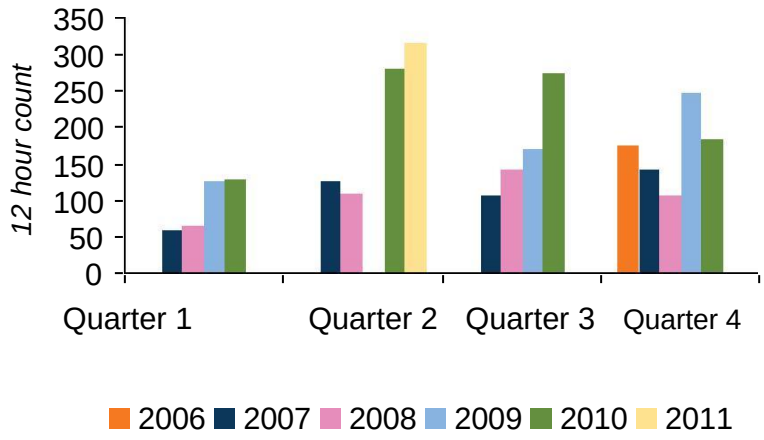


The Millennium Bridge and Penny Street Bridge constitute key access routes to and from the city to the north and south, respectively. The increase in cyclists at the Penny Street Bridge site is likely to be due to increased permeability as this has been a key area of work for the Cycling City and Towns programme. Although the increase at the Millennium Bridge site is a more modest percentage, this was already a popular route into the city and so the absolute increase in the number of cyclists at this site is comparable to that seen at the Meeting House Lane and Moor Lane sites.

Although Moor Lane has experienced the greatest percentage increase in cyclists, this has not been a steady increase, but appears to have occurred around the autumn of 2009. Chart 3-2 below shows all of the quarterly counts undertaken at the Moor Lane site.

[5] Average annual percentage change is calculated for period between Q4 2006 and Q2 2011. Note that at the Millennium Bridge site, some additional manual counts were carried out from Q3 2009 onwards, covering Water Street and Damside. These are not included in the analysis for Chart 8, to ensure consistency across the whole time period from Q4 2006.

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



3.1.2 Additional count sites added to Lancaster manual count programme

The eight new count sites in Lancaster are as follows:

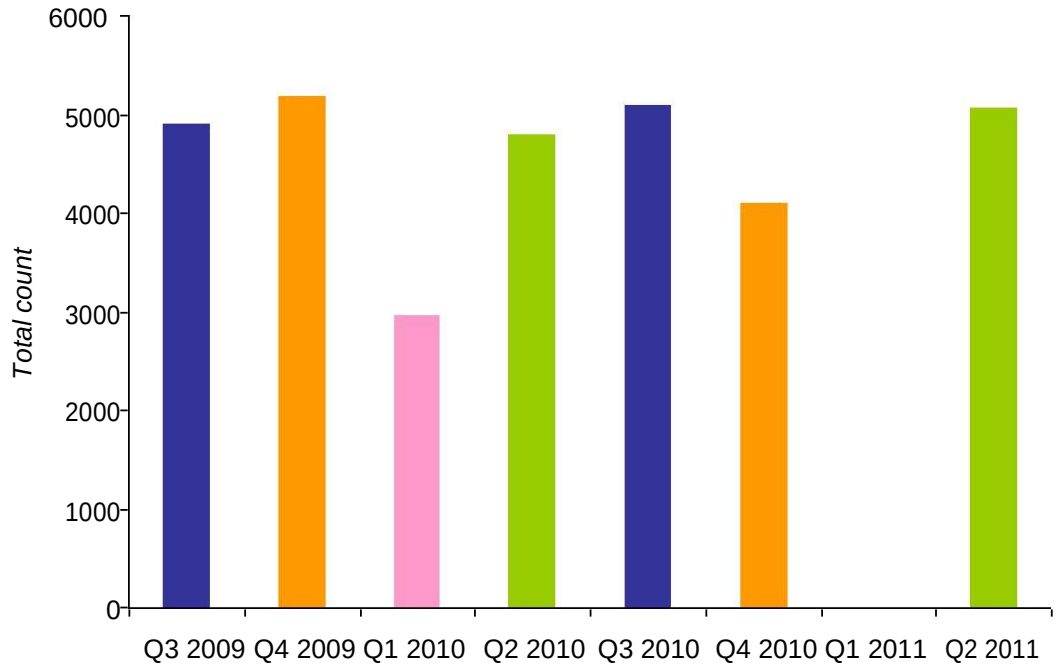
- Aldcliffe Road (map reference E)
- Cable Street / North Road (map reference F)
- St Leonards Gate / Alfred Street (map reference G)
- Quarry Road (map reference H)
- Nelson Street (map reference I)
- Castle Park (map reference J)
- St George's Quay (map reference K)
- Long Marsh Lane (map reference L)

Counts began at these sites in quarter 3 2009, with the exception of the Long Marsh Lane site where counts began in quarter 1 2010. These sites, combined with the original four sites in Lancaster, form a cordon around the city centre.

As the following analysis only includes data from quarter 3 2009, it is possible to include counts from Water Street and Damside at the Millennium Bridge count site, which were excluded from the analysis for 2006-2011 shown in Chart 3-1.

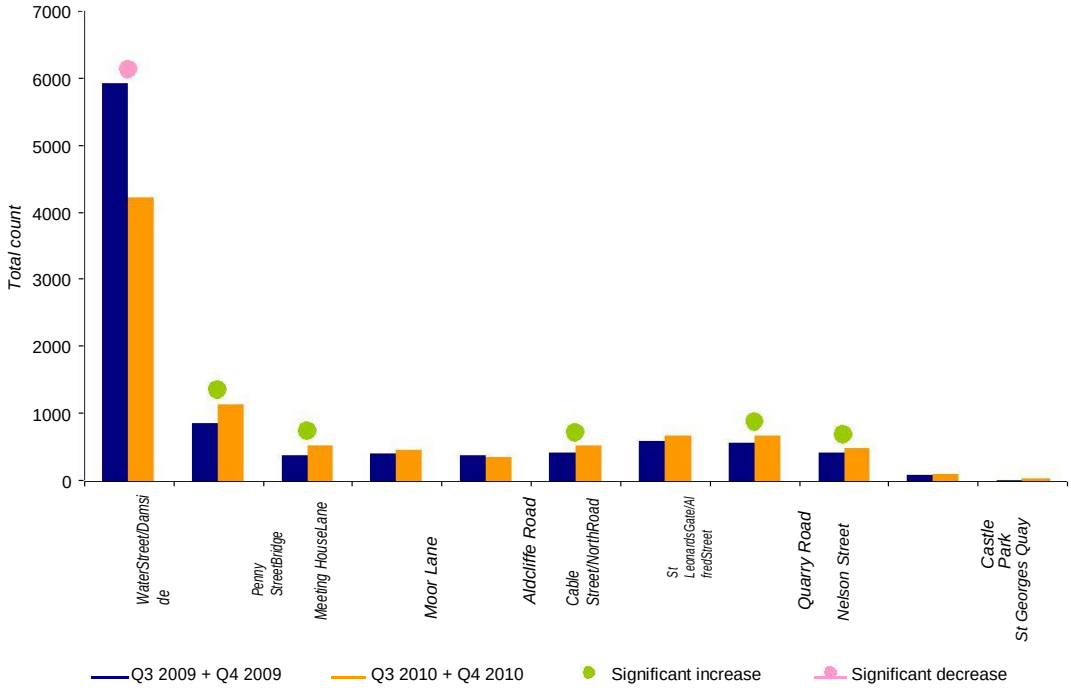
Chart 3-3 presents the total counts for each quarter since quarter 3 2009 for the eleven sites in Lancaster which have data for this period. This includes the four older sites and excludes the Long Marsh Lane site as data are not available for 2009.

Chart 3-3 Total counts for 11 manual count sites in Lancaster



In order to include as much of the data as possible, whilst also ensuring that only comparable periods are included, Chart 3-4 compares combined quarters 3 and 4 2009 with combined quarters 3 and 4 2010.

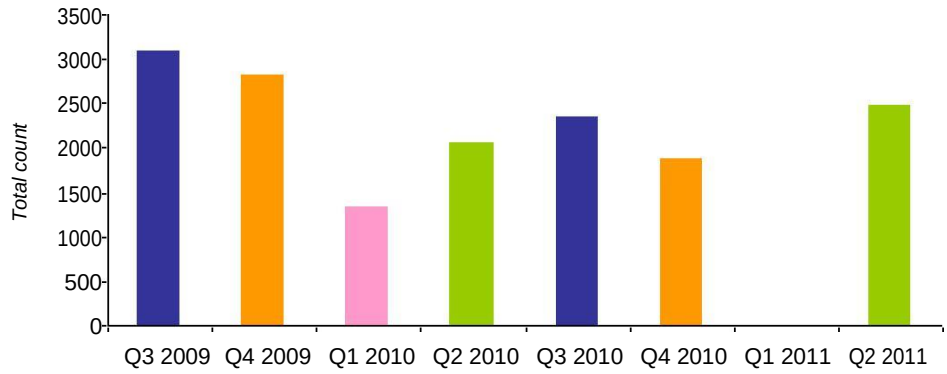
Chart 3-4 Comparison of manual count data collected in Lancaster in quarter 3 and quarter 4 2009 with data collected in quarter 3 and quarter 4 2010[6]



[6] Significant if p<0.05

Significant changes have been observed at six of the sites. Five of these are significant increases and one (Water Street/Damside), is a significant decrease. This site has by far the highest volume of counts and therefore has had a significant impact on the overall figures. Chart 3-5 shows the Water Street/Damside counts from quarter 3 2009 onwards, indicating the larger volumes of cyclists recorded at this site earlier in the programme.

Chart 3-5 Quarterly counts at Water Street / Damside in Lancaster



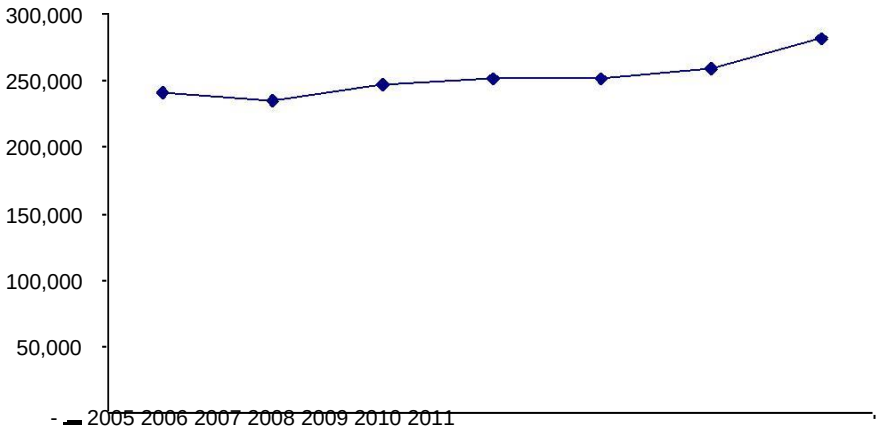
In order to explore whether it is reasonable to exclude the Water Street manual count site from the analysis, automatic cycle counter data from the six counters on access routes to and from the Millennium Bridge were analysed in detail. These automatic count sites are considered in combination for comparison to the manual count at Water Street/Damside because the configuration of the manual count site records all movements all cyclists crossing the bridge.

In analysing the combined data from automatic count sites around the Millennium Bridge, we assume that all cyclists passing the counters to the north of the bridge will go on to cross the bridge itself. Although it is possible that a cyclist may pass both the counter located on Lune Street and on the Lancaster to Morecambe Greenway without crossing the bridge, the similar volume of use recorded by the counter on the Greenway and that on Water Street suggest that this scenario would apply to only a small proportion of journeys (see Map 3-1). Based on all available data, counters to the south of the bridge count on average 1.3 times more cyclists than those to the north. Based on this, we estimate that 43% of cyclists counted by the six automatic cycle counters around the Millennium Bridge will be crossing the bridge. Chart 3-6 shows the estimates of the number of crossing of the Millennium Bridge over the programme period, using this assumption.

This analysis indicates a steady growth in volumes of cyclists crossing the Millennium Bridge over time, suggesting that the substantial decrease in the Water Street manual counts between 2009 and 2010 are not representative of flows at this site.

Map 3-1 Automatic cycle counters at the Millennium Bridge (site numbers refer to Table 2-7)

Chart 3-6 Estimate of the number of cycling journeys crossing the Millennium Bridge per annum



Exclusion of the Water Street/Damside site results in a significant increase overall for this set of manual count sites when comparing combined quarters 3 and 4 2009 with combined quarters 3 and 4 2010. Table 3-1 below explores the impact of comparing counts from different periods of time. This analysis reveals that whilst comparing counts performed in the third quarter of 2009 and 2010 indicates a predominant increase between the two periods of time, the reverse is the case when compared the fourth quarter for these years.

Table 3-1 Comparison of manual count data collected in Lancaster between different periods of time

	Comparison of quarter 3 2009 with quarter 3 2010	Comparison of quarter 4 2009 with quarter 4 2010	Comparison of quarters 3 and 4 2009 with quarters 3 and 4 2010
Water Street / Damside	-*	-*	-*
Penny Street / South Road	+*	+	+*
Meeting House Lane	+*	+	+*
Moor Lane	+*	-*	+
Aldcliffe Road	+	-*	-
Cable Street / North Road	+*	+	+*
St Leonards Gate / Alfred Street	+*	-	+
Quarry Road	+*	-	+*
Nelson Street	+*	-*	+*
Castle Park	+*	-	+
St Georges Quay	+*	-	+
Number of count sites showing growth [a]	10 (9)	3 (0)	9 (5)
Number of count sites showing decrease [a]	1 (1)	8 (4)	2 (1)

*indicates significant change between count periods ($p<0.05$)

[a] Figure in brackets gives the number of sites where the change is statistically significant

Table 3-1 suggests that the majority of the increase observed when comparing data collected in quarters 3 and 4 between 2009 and 2010 is due to the increase in the summer count. Significant changes were observed at just three of the sites when comparing quarter 4 2009 and quarter 4 2010. All of these were decreases.

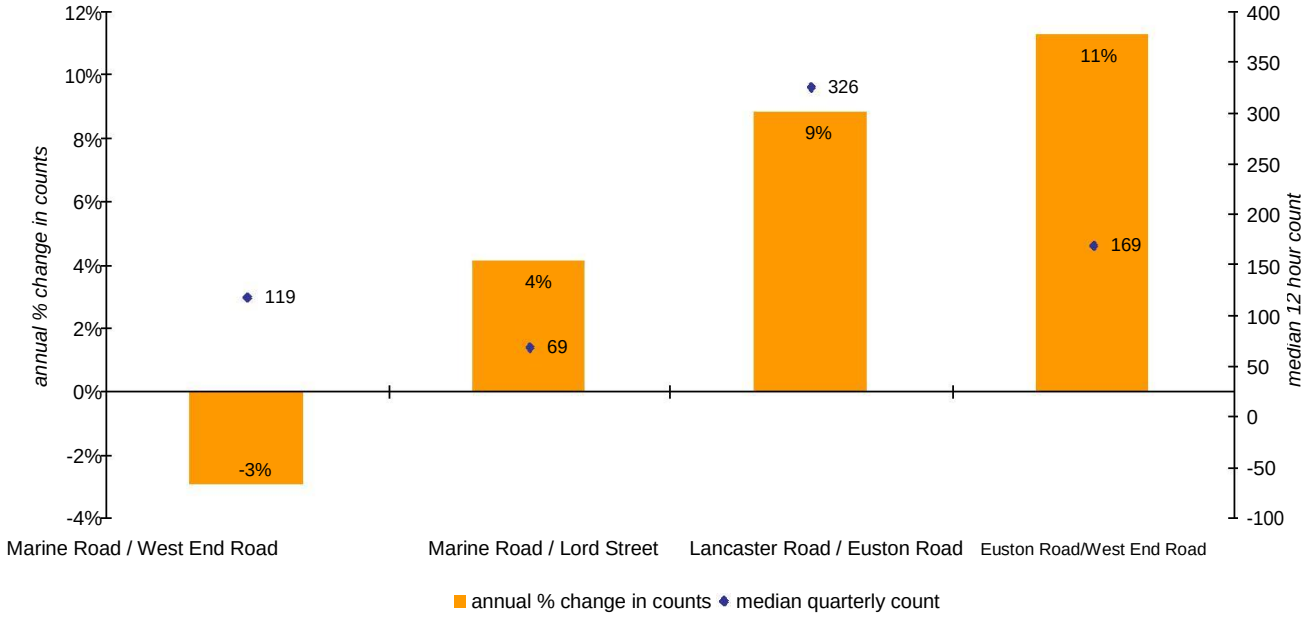
3.2 Morecambe

Two of the four sites in Morecambe are on Marine Road which runs along the coast. The other sites are within the town itself. Quarterly counts have been undertaken at the four sites since quarter 4 of 2006, with the exception of quarter 1 of 2011. The locations of the sites, indicated in the accompanying map (section 13), are as follows:

- Marine Road / West End Road (map reference M)
- Marine Road / Lord Street (map reference N)
- Euston Road / West End Road (map reference P)
- Lancaster Road / Euston Road (map reference O)

Chart 3-7 below shows the annual percentage change in counts across the period for each of the count sites. Combining the counts from all four locations gives an annual percentage change in counts of +7% over the same period for Morecambe[7].

Chart 3-7 Annual average percentage change in 12 hour manual counts of cyclists performed at four locations in Morecambe



The two sites where the greatest increases in counts have been observed are those within the town, rather than those on the seafront. Of the two sites on the seafront, the site to the east of the town has seen a modest increase in counts (Marine Road / Lord Street), whereas the site to the west of the town (Marine Road / West End Road) has seen a decrease in counts. The counts on Marine Road are likely to have been influenced by the legitimisation of cycling on the promenade in 2007 as cyclists may now choose to use the traffic free route as opposed to cycling along the road. However, the absolute reduction in number of cyclists recorded by the manual counts at Marine Road/West End Road is small (of the order of 4 per day per year) compared to the absolute increase in number of cyclists recorded by automatic counters on the Morecambe Promenade (of the order of 22-25 per day per year).

4 Combined manual and automatic count data

4.1 Lancaster city centre

Improving access to and permeability through Lancaster city centre was a key priority of the programme in Lancaster with Morecambe. This section will examine a cordon surrounding the city centre in order to assess the impact more widely.

The cordon around the centre of Lancaster includes the 11 manual count sites in the analysis above and the following automatic cycle counters:

[7] 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 Morecambe, 24 of which are significant differences (16 increases and eight decreases).

- Lancaster to Morecambe Greenway, north west of Millennium Bridge (map reference 18)
- Cycletrack, Giant Axe field off Long Marsh Lane (map reference 11)
- Lune Street (underpass) north east of Millennium Bridge (map reference 20)
- Canal Towpath, north/east of Moor Lane (map reference 22)

Considering all manual count and automatic count data on the cordon allows for only one possible comparison – between July 2009 and July 2010. This comparison indicates a significant increase ($p<0.05$) in the volumes of cyclists recorded across the Lancaster cordon (from 5,963 to 6,383 in a 12 hour period).

In order to explore comparisons between different time periods, the counter to the north west of Millennium Bridge was removed from the analysis as fewer data were available for this site. This does not reduce the effectiveness of the cordon as other counts around the Millennium Bridge are included.

Comparing combined data from July and October 2009 with combined data from July and October 2010 indicates a significant increase[8] in counts crossing the cordon (following the exclusion of the Water Street/Damside site, as detailed above).

4.2 Morecambe town centre

Although much of the infrastructure work delivered during the programme was concentrated in Lancaster, other elements including workplace engagement and the installation of cycle parking are likely to have had an impact on the volumes of cyclists into the centre of Morecambe.

The cordon around Morecambe town centre includes the four manual count sites in Morecambe and the following automatic cycle counters:

- Lancaster to Morecambe Greenway end, near Hilmore Road (map reference 2)
- Promenade, East of Lord Street (map reference 4)
- Promenade Cycletrack north of B5274 (map reference 1)
- Cycletrack, west of St Andrews Grove (map reference 6)

The following comparisons (Table 4-1) were made in order to include as much of the data as possible whilst ensuring that only comparable quarters are compared:

Table 4-1 Morecambe town centre cordon analysis

Period 1	Period 2	Findings[9]
All quarters in 2007	All quarters in 2010	Significant increase
Quarter 4 in 2007 and all quarters in 2008	Quarter 4 in 2009 and all quarters in 2010	Significant increase
All quarters in 2007 and quarter 2 of 2008	All quarters in 2010 and quarter 2 of 2011	Significant increase

As previously described, automatic cycle counters on Morecambe promenade have recorded a substantial increase in cyclists over the programme period. If these

[8] $p<0.05$
[9] significant change where $p<0.05$

counters are excluded from the analysis, all comparisons summarised in Table 4-1 show a significant increase, suggesting that growth does not relate solely to the Promenade route. The programme therefore appears to also have been successful in encouraging more trips by bicycle in Morecambe where relatively little infrastructure work has been undertaken during this part of the programme.

5 Analysis of school related data

The smarter measures programme in Lancaster and Morecambe included working closely with schools with the aim of changing travel behaviour. Bikeabilty was delivered throughout the area and school cycle parking was installed. Bike It has been delivered in 29 schools since 2006, and 11 Bike Clubs have been established in the area as a consequence of the programme.

5.1 PLASC

The percentage of pupils in Lancaster with Morecambe reporting cycling to be their usual mode of travel to school are summarised in Table 5-1. The proportion of pupils usually cycling to school has increased between 2006/07 and 2010/11 (from 1.4% to 2.2%). The proportion of primary school pupils usually cycling to school was the same at the beginning and the end of the programme period (at 1.9%), whereas the proportion of secondary school pupils usually cycling to school has increased significantly (from 0.8% to 2.5%).

Table 5-1 Percentage of pupils surveyed reporting cycling to be their usual mode of travel to school in Lancaster with Morecambe

	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	1.9%	1.5%	1.3%	2.5%	1.9%
Secondary	0.8%	1.8%	2.6%	2.6%	2.5%*
All schools[a]	1.4%	1.7%	1.9%	2.5%	2.2%*

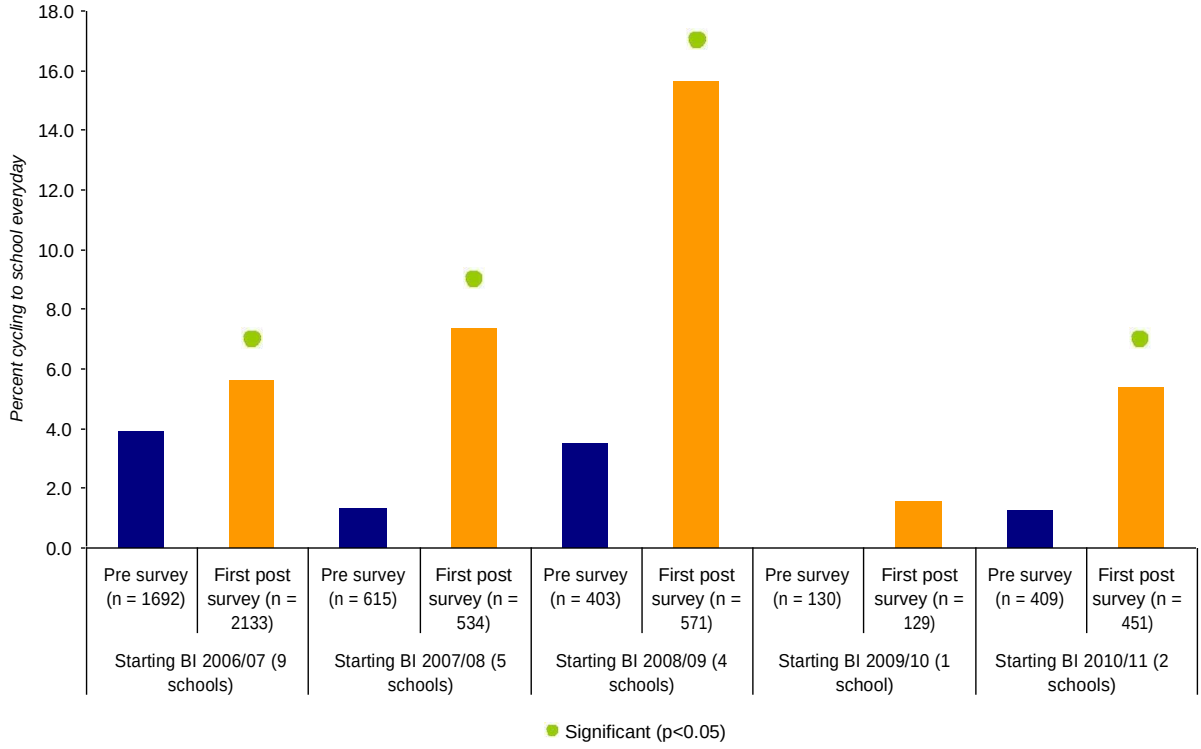
* indicates a significant change in cycling in the 2010/2011 academic year compared to the 2006/07 academic year ($p<0.05$)

[a] based on data from 26 primary and seven secondary schools

5.2 Bike It

Bike It has been delivered in 29 schools in Lancaster and Morecambe since September 2006. 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 schools. Aggregated percentages of children cycling everyday for schools starting Bike It in each academic year during the programme are presented in Chart 5-1. 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 four of the five academic years for which we have pre and post survey data (2006/07, 2007/08, 2008/09 and 2010/11).

Chart 5-1 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 3.2% to 7.1%[10], whilst the proportion cycling to school regularly increased from 11.0% to 23.9%[11]. The proportion 'never' cycling decreased from 96.3% to 63.6%[12]. The proportion of children cycling to school on the day of the survey increased from 4.0% to 9.3%[13].

For five schools in Lancaster, 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 5-2. 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'.

[10] Significant increase (p<0.05)
[11] Significant increase (p<0.05)
[12] Significant decrease (p<0.05)
[13] Significant increase (p<0.05)

Table 5-2 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	3.5%	9.0%*	6.4%*
Regularly	11.4%	27.2%*	22.2%*
Never	75.3%	51.6%*	52.7%*

[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 5-3 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.Given the very small sample size in some years, the data should be interpreted with caution.

Table 5-3 : Comparison of PLASC data from non-Bike It schools and Bike It schools grouped by year of first engagement in Lancaster with Morecambe

	2007	2008	2009	2010	2011
Non-Bike It schools [a]	1.4%	1.5%	1.6%	2.1%	2.1%
Bike It in 2006 [b,g]	1.9%	1.6%	2.2%	2.1%	1.9%
Bike It in 2007[c,g]	1.1%	3.1%	2.7%	5.3%	3.9%
Bike It in 2008 [d,g]	0.0%	0.0%	0.5%	1.7%	1.2%
Bike It in 2009 [e,g]	0.0%	0.0%	3.6%	3.0%	2.2%
Bike It in 2010 [f,g]	0.6%	1.6%	1.6%	1.5%	1.0%

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

6 University data

The University of Cumbria gathers travel data periodically on the main campuses, one of which is based in Lancaster, to the south of the city centre. The first survey was undertaken in March 2009 on a dry day and it was repeated in March 2011 on a day which was recorded as being wet.

Direct comparison between the 2009 and 2011 data is not straightforward as since 2009, the proportion of staff and students travelling long distances to get to Lancaster has increased due to the relocation of some activities from Ambleside. This has resulted in the percentage of car drivers increasing from 30% to 41% and the percentage of people travelling on foot falling from 42% to 31%. The percentage of people cycling to the Lancaster site has, however, increased from 1% to 2%.

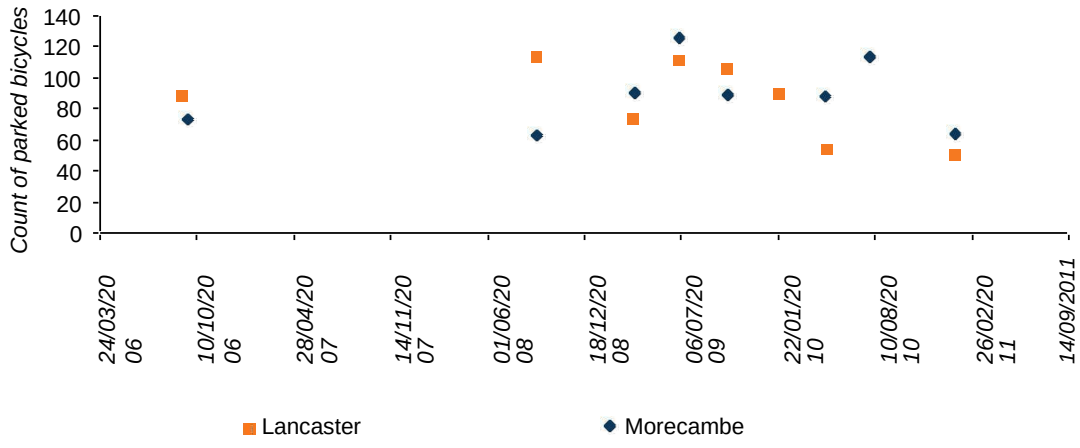
7 Route user intercept survey

A 4-day route user survey was carried out at one location, close to Westgate County Primary School in Morecambe. The site was improved by construction of a shared footway / cycle track in 2008, funded by the Links to Schools Programme. Surveys took place before construction (October 2007) and afterwards (July 2008 and October 2010). Over the four day survey period a total of 324 cyclists were counted in 2007, 463 in 2008 and 304 in 2010. The number of children cycling counted in increased in each survey iteration: 86 children were counted cycling in 2007, 92 in 2008 and 172 in 2010.

8 Analysis of counts of parked bicycles

A total of 1,176 cycle parking spaces have been installed in the area since 2008. Although many of these have been in schools, 80 new spaces have been installed in Lancaster city centre and 32 at Lancaster and Morecambe railway stations. Counts of parked bicycles have been undertaken at 20 locations in the centre of Lancaster and nine locations in Morecambe since September 2006. The distribution of the counts across this period has not been consistent, nor has the day of the week of counts. Chart 8-1 shows all of the counts of bicycles undertaken in Lancaster and Morecambe between 2006 and 2011.

Chart 8-1 Total bicycles counted on beats in Lancaster and Morecambe



In performing an analysis of change in volumes of bicycles parked in Lancaster and Morecambe over time, data collected in neutral months in 2006 and 2008 have been aggregated and then compared with data collected in neutral months in 2009 and

2010. Comparison of these two periods indicates a decrease in counts of 22% in Lancaster and an increase in counts of 30% in Morecambe. The difficulty in selecting periods for comparison does suggest, however, that little reliance may be placed on findings from this data source.

9 Analysis of travel behaviour and attitude survey data

In order to provide additional data on the impact of the Cycling Demonstration Town programme, travel and behaviour surveys were conducted in Lancaster and Morecambe in 2006, 2007, 2008 and 2009. The way in which the survey was conducted varied over the years. Paper based surveys were distributed to council friendly contacts and cycling groups in 2006 and 2007 whereas in 2008 and 2009 the surveys were conducted online through a link on the Celebrating Cycling website. The survey results therefore cannot be considered to represent the residents of Lancaster and Morecambe in general, but a subset who already have an interest in cycling. Fewer responses were obtained in 2009 (264) than in previous years (306 responses in 2006, 313 in 2007 and 312 in 2009)

Of those surveyed in 2009, 51% cycled to work several times per week or more, a slight increase on previous years (2006: 40%, 2007: 49%, 2008: 41%). The percentage of respondents who stated to have seen an increase in the number of people cycling was 78% in 2009, a lower proportion that in 2008 but greater than in the earlier years of the survey.

Over a third of respondents in 2009 were cycling more than they were a year ago and half of the respondents expected to be cycling more in a year's time. A higher percentage of respondents stated that the standard of cycling routes (78%) and the amount of cycling routes (83%) have improved than in the previous three surveys. The percentage of respondents who feel safe cycling in Lancaster in terms of exposure to traffic has remained relatively low and the 2009/10 figure of 30% is the same as the 2007 percentage, although slightly higher than in the other two years of the survey.

10 Analysis of workplace travel survey data

A survey of travel behaviour at nine large employers and a number of small organisations was conducted in 2009. A total of 1,618 employees responded to the survey. The majority of the employees (59%) travelled to work on the day of the survey by car, 16% walked and 15% cycled. Of the eight employers where more than 20 employees completed the survey, the percentage of employees who cycled to work ranged from 6% to 22%.

Although 64% of survey respondents were female, only 41% of those cycling to work were female. Respondents who cycled to work were more likely to live closer to their workplace, with 77% living within 5 miles of their workplace as opposed to 56% of respondents who did not cycle on the day of the survey.

11 Analysis of casualty data

Cycle user casualty data were derived for Lancaster with Morecambe 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 (2003-2005) are compared to those occurring during the programme in Table 11-1. Considering all accidents and accidents of each level of severity, the difference between the time periods compared is not significant.

Table 11-1 Annual average number of cyclists killed or injured in Lancaster and Morecambe before (2003-2005) and during (2006-2010) the Cycling City and Towns programme

	Annual average number of casualties			
	Killed	Seriously injured	Slightly injured	Total
Pre-programme	0.7	9.0	48.7	58.3
During programme	0.4	9.2	40.4	50.0

* indicates a significant change in the average number of casualties per year before and during the Cycling City and Towns programme

12 Analysis of physical activity data

12.1 Household level surveys of physical activity

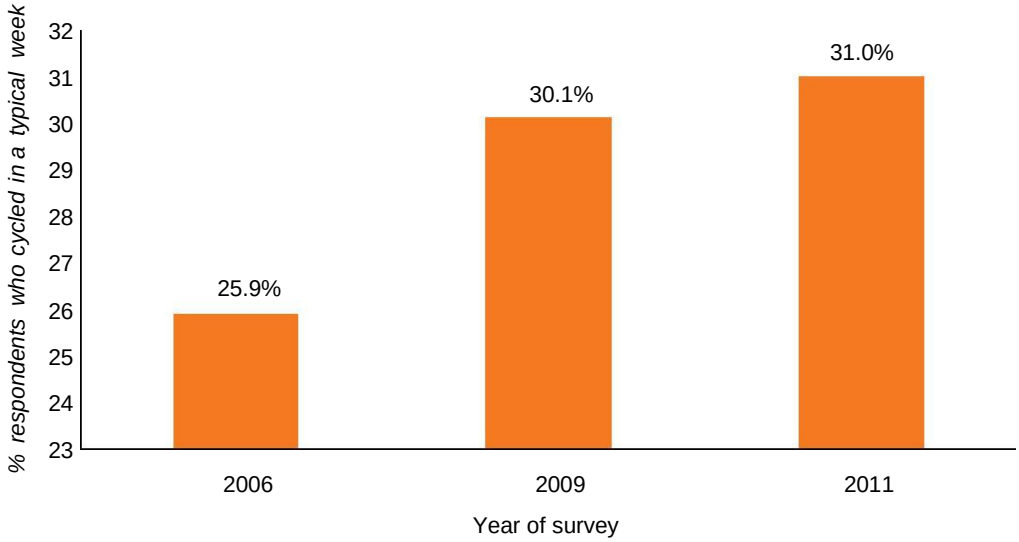
Household level surveys of physical activity were performed in Lancaster and Morecambe in 2006, 2009 and 2011. A representative quota sample of residents were surveyed by telephone in March/early April each year. The core of the questionnaire was the physical activity measure taken from the European Prospective Investigation into Cancer (EPIC) study[14] , 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).

12.1.1 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, 25.9% of respondents said they cycled in a typical week. By 2009 this figure was 30.1% and by 2011 it was 31%. These increases were all statistically significant compared to 2006 ($p<0.05$)

[14] 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.

Chart 12-1 Percentage of survey respondents in Lancaster and Morecambe who reported doing some cycling in a typical week



12.1.2 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, 25.0% said they were a cyclist (of some type); by 2009 this figure had increased to 29.5% ($p<0.05$) and by 2011 it had increased again to 30.7%. These increases were all statistically significant compared to 2006 ($p<0.05$).
In each survey year, around 1-2% of cyclists said they were ‘new to cycling’.

12.1.3 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, 28.1% were classed as inactive. By 2009 this reduced to 23.9% ($p<0.05$) and by 2011 it was 22.8%. These reductions in the prevalence of inactivity were statistically significant compared to 2006.

12.1.4 Awareness of campaign activity

In the 2011 iteration of the survey, 51% of respondents reported to have seen or heard some publicity in the town about a programme promoting cycling. In 2011, 40% of respondents recalled the name of the programme (Celebrating Cycling) when prompted; this was recalled by 41% in 2009.

Those who were aware of the programme were asked what they thought about it, using a set of statements. A number of the statements presented positive views about the CDT programme. Table 12-1 shows the proportion of people who agreed with these positive statements.

Table 12-1 Percentage of survey respondents in Lancaster and Morecambe agreeing with positive statements about the programme

	% agree strongly or tend to agree
The campaign made me think about cycling	58%
The campaign made me want to cycle more	33%
The campaign made me give cycling a try	23%
The campaign helped me see cyclists' point of view rather than drivers'	48%

This shows that around half of the respondents thought the 'campaign' had helped them think about cycling, but only 23-33% considered converting this into action.

A number of the statements presented more negative views about the programme. Table 12.2 shows the proportion of people who disagreed with these negative statements and indicates high levels of support for local authority spending on the Cycling Demonstration Towns/Cycling City and Towns programme in Lancaster and Morecambe.

Table 12-2 Percentage of survey respondents in Lancaster and Morecambe disagreeing with negative statements about the programme

	% disagree strongly or tend to disagree
The campaign didn't tell me anything new	31%
I didn't take much notice of the campaign	31%
The local authority should not be spending money on cycling	70%

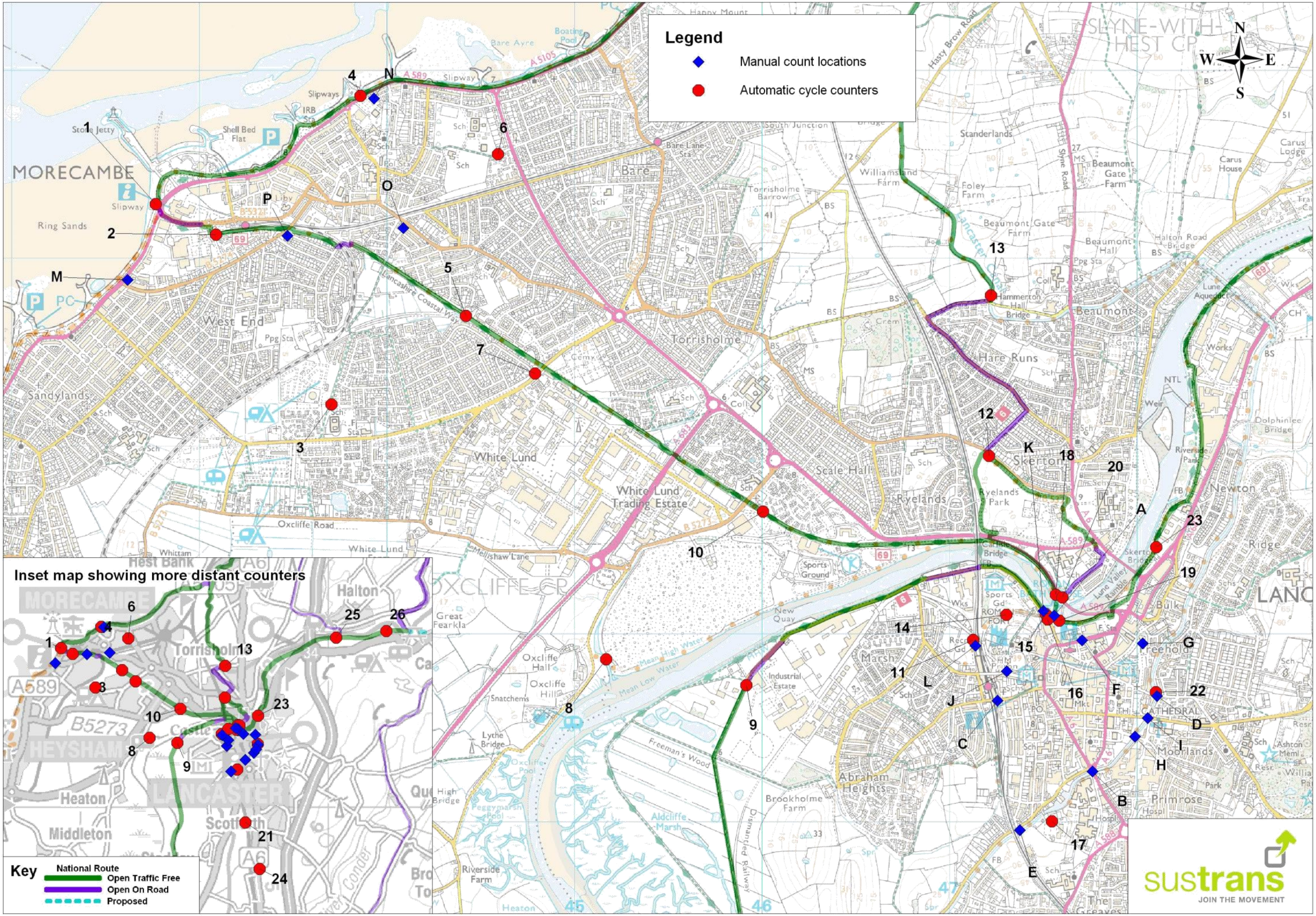
12.2 Active People Survey

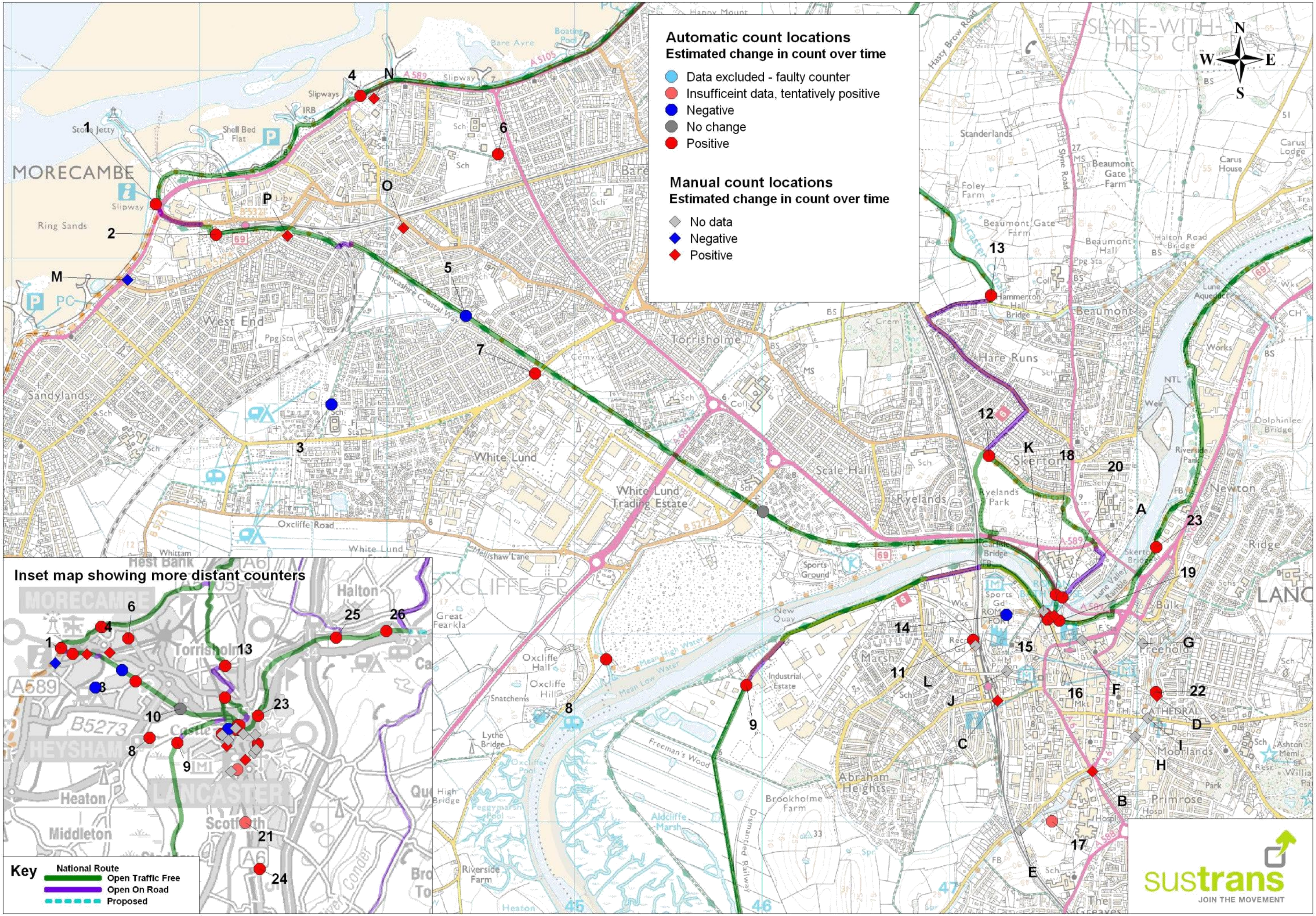
In Lancaster and Morecambe there was a significant increase in the proportion of respondents cycling once or more per month between 2005/6 and 2010/11, from 13.7% to 19.9% ($p<0.05$). The proportion cycling 12 or more times per month increased by 0.3%-points (from 3.2% to 3.5%) over the same period[15].

13 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.

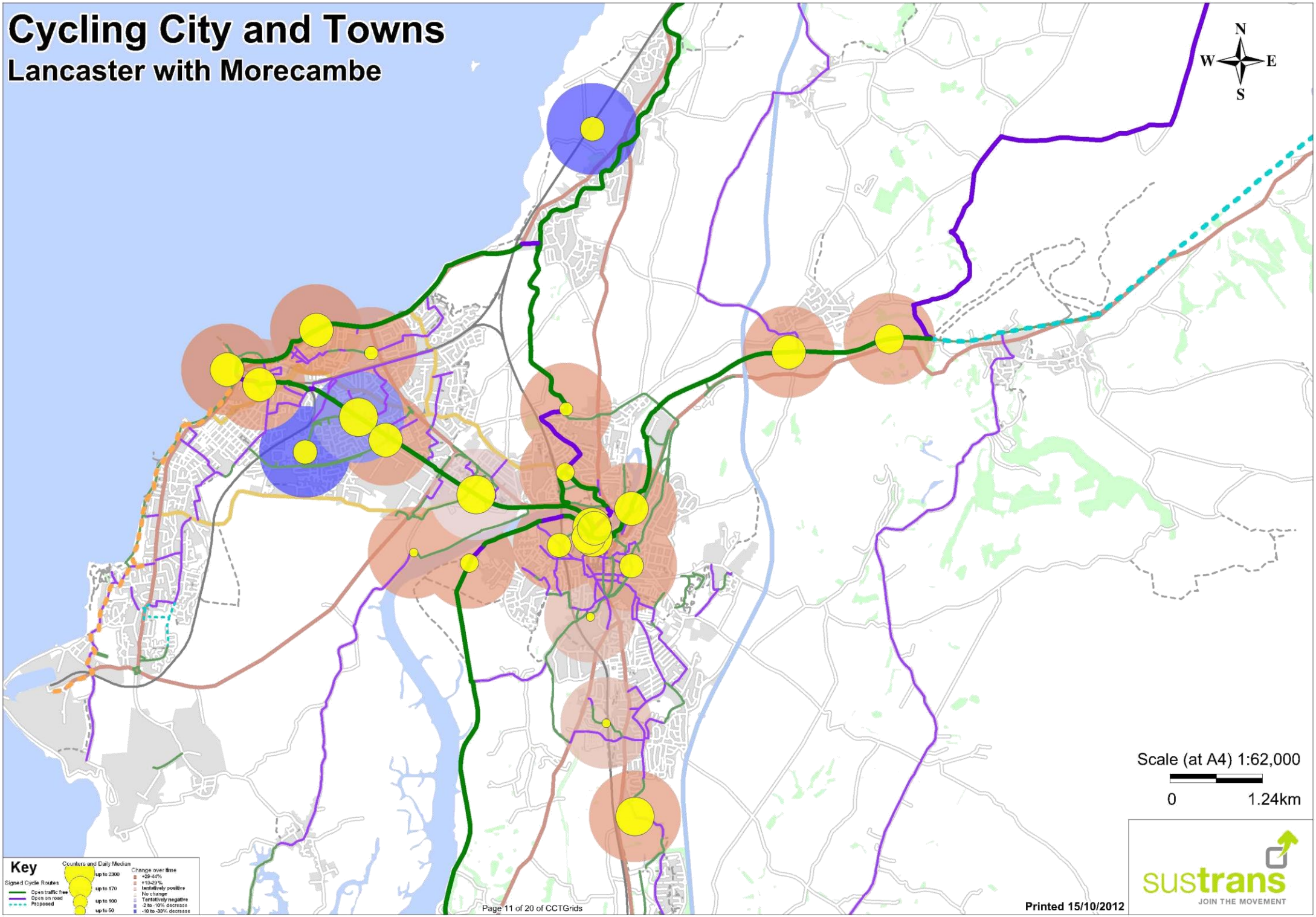
[15] This was not a significant increase (p=0.13)


Legend
Manual count locations
Automatic cycle counters
N
W
E
S
Inset map showing more distant counters
Key
National Route
Open Traffic Free
Open On Road
Proposed
MORECAMBE
West End
Sandylands
Torrisholme
Bare
White Lund
White Lund Trading Estate
Skerton
Scale Hall
Ryelands
Beaumont
Hare Runs
Newton
Marsh
Freehold
Moorlands
Primrose
Abraham Heights
Oxcliffe Road
Halton
Heaton
Middleton
Scotforth
HEYSHAM
LANCASTER
sustrans
JOIN THE MOVEMENT


Automatic count locations
Estimated change in count over time
Data excluded - faulty counter
Insufficeint data, tentatively positive
Negative
No change
Positive
Manual count locations
Estimated change in count over time
No data
Negative
Positive
Inset map showing more distant counters
Key
National Route
Open Traffic Free
Open On Road
Proposed
MORECAMBE
West End
Torrisholme
White Lund
White Lund Trading Estate
Skerton
Lancaster Coastal Way
sustrans
JOIN THE MOVEMENT

Cycling City and Towns

Lancaster with Morecambe



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