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

Individual town results: York

April 2017

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Acknowledgments
The authors are grateful for the extensive assistance of officers in the 12 Cycling City and Towns in supplying monitoring data for this research.

We are also grateful for additional support provided by Lisa Muller, Katie Pullen, George Macklon, Katie Thomson, James O'Hare, Richard Sanders, Alison Janes, Hannah Delaney, Laurence Bonner, Peter Stephenson, Charlotte Draycott and Jo Watson.

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1 Introduction

1.1 Description of the Cycling City and Towns programme in York

The Cycling City and Towns programme delivered in York – 'Cycling City York' – aimed to deliver a significant increase in levels of cycling in the city[1]. Specific targets included an increase in overall participation in cycling of 25%, an increase of 10% in commuter cycling, and a 100% increase in children cycling to school.

Infrastructure developments focused on the addition of approximately 10km of new cycle infrastructure and the improvement of approximately 5km of existing facilities. The northern, eastern and western sections of the Orbital Route were fully joined to the existing cycle network and improvements in facilities for cyclists were made at key junctions on the route. A programme of signage installation aimed to highlight the route at key points around the city. Cycle parking received a substantial boost from the Cycle Hub Station, managed by Bike Rescue, which offers secure indoor parking for 100 bicycles as well as changing/locker rooms, bike repairs and retail. Large businesses have also benefited from the increased provision of secure, undercover parking through match funding from Cycling City York. To improve connectivity with the train, the railway station benefited from two new access points and ramps for cyclists.

Cycling City York also engaged with workplaces. A range of major employers in the city including Nestle and York University were involved in a series of initiatives and events, such as the York Cycle Challenge, to encourage a modal shift towards cycling. Match-funding was offered to a specific set of ward committees to run events, including 'come and try' road shows and the 'Fit as a Fiddle' project. A range of marketing events were organised and promotional material was designed to promote the 'Cycling City York' brand. This included the Festival of Cycling, Bike Week events, and a regular newsletter distributed to every household in York. Bike availability has been improved through the implementation of a low-interest loan scheme with the North Yorkshire Credit Union to buy a new cycle from local retailers. In addition, individuals with physical and learning disabilities had the option of hiring specially adapted cycles. Work in schools focused on raising the profile of cycling, through Bike It, themed bike rides, bike maintenance classes and all school action days. Guided leisure rides were also offered, as well as organised mountain bike events.

1.2 Expenditure

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

[1] Cycling City York (2011) End of Programme Report, Cycling City York. 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 York

	2008 – 2011 revenue	2008 – 2011 capital	Total
Cycling England/DfT/DH investment	£1,380,949	£2,444,080	£3,825,029
Matched funding	£0	£3,728,000	£3,728,000
Total	£1,380,949	£6,172,080	£7,553,029

1.3 Summary of available monitoring data

The following data sources are available:

- Data from 34 automatic cycle counters
- 12 hour manual counts performed annually since 2000 at 33 locations and every quarter since 2009 at 11 locations
- Pupil Level Annual School Census (PLASC) travel data and monitoring data from Bike It
- route user intercept surveys at six sites
- counts of parked bicycles
- STATS19 cycling casualty data
- Active People Survey (APS) data.

1.4 Summary of headline findings

Mixed evidence of change, tending towards modest growth in levels of cycling from a relatively high initial baseline

Based on count data, there is mixed evidence of the direction and magnitude of change in levels of cycling in York over time. The most complete data sets, time series data from automatic cycle counters (located predominantly on traffic-free cycle routes), suggest a modest growth in levels of cycling. The majority of count sites have seen an increase in the volumes of cyclists recorded, although the magnitude of uplift is highly variable across individual count sites. Trends over time as indicated by manual counts are not consistent with the automatic counter data: manual count sites on an inner cordon around York indicate increasing counts over time; counts performed on bridges in York show a net decrease, although usage increases at as many sites as it decreases; and counts on an outer cordon around the city boundary tentatively suggest a decrease. In most instances, change is from a high base relative to most of the towns funded through the programme.

Notwithstanding the limitations of the data source, levels of cycling to primary schools appear to have declined over the course of the programme, whilst cycling to secondary schools has increased. In both cases, the direction of change year-to-year is not constant over the time series, and as such it is not possible to draw firm conclusions around this. Schools engaged with Bike It have seen 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 +6% against a 2007 baseline. Based on data from the 34 automatic cycle counters, this estimated growth corresponds to an increase from an estimated 7,117 trips per day in 2007 to 7,544 in 2011.
- An increase was observed at 24 of the automatic cycle counter sites, a decrease at eight sites and no change at the two remaining sites
- Annual manual counts on the inner cordon indicate growth in cycle volumes between 2007 and 2009 and between 2010 and 2011; quarterly data from eight of these sites suggest a slight increase when comparing quarter 4 2009 and quarter 1 2010 with quarter 4 2010 and quarter 1 2011
- Annual manual counts on bridges in York indicate a decrease when comparing data from 2006 and 2007 with data from 2010 and 2011, with significant decreases at two of the five sites for which a comparison was reasonable, and significant increases at two sites
- Annual manual counts on an outer cordon of York indicate a decrease in counts
- Across all schools, the percentage of children cycling to school as measured by PLASC was 6.1% in 2010/11 compared to 7.8%
- Bike It data indicate an increase in children cycling to school on the day of the survey, from 13.7% in pre surveys to 19.2% in post surveys, and an increase in children cycling to school everyday, from 10.9% in pre surveys to 16.9% in post surveys
- Route user intercept surveys undertaken at six sites, once in 2010 and again in 2011, reveal that the majority of cyclists in both surveys were making commuting journeys 61.4% in 2010 and 62.4% in 2011; an increase in counts of cyclists was recorded between the surveys at all six sites
- Counts of parked bicycles undertaken at the railway station, formal cycle parking in the city centre and on city centre footstreets (pedestrianised streets) increased between 2007 and 2011
- Compared to pre-programme data, the number of cycling casualties was not significantly different during the Cycling City and Town programme
- Active People Survey data indicate significant decreases in York in the proportion of respondents cycling once or more per month and the proportion cycling 12 or more times per month between 2007/8 and 2010/11

2 Analysis of automatic cycle counter data

Data from a total of 34 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. Many of the counters are within the centre of York although there are also several to the north and west of the city. Five of the 34 counters were installed in 1999 and one each in 2003, 2005 and 2007. More recently, 23 counters were installed in 2009 and the remaining three were installed in 2010. The majority of the counters have data for two years or less, therefore although there are a relatively large number of counters in York, the analysis which can be performed in relation to change over time is somewhat limited. In order to be consistent across the Cycling City and Towns, data from 2007 onwards are included in the analysis.

Two distinct sets of analysis have been undertaken using cycle counter data in York. In the first, all available data are 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 are 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

Table 2-1 presents the percentage change in cycle counts relative to a 2007 baseline including data to the end of September 2011.

Table 2-1 Change in cycle count in York 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%	95%*	104%*	99%	106%*

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

This analysis does not include data from the Millennium Bridge counter which records usage at a key crossing point on a popular route in York. Changes to the layout of the counter mean that a period of comparable data for robust analysis is not available.

The counter data indicate a decline in the volume of cyclists recorded in 2008 and 2010 compared to previous years. The decline in 2010 is potentially the result of poor weather during late 2009 and early and late 2010. A significant uplift in counts is observed between 2008 and 2009, and between 2010 and 2011.

An additional element was added into the regression model to account for the two periods of poor weather nationally. Table 2-2 presents the findings of this analysis. When adjusting the model for these severe weather conditions, there is an increased percentage change between 2008 and 2009, and a smaller decrease in the volumes of cyclists recorded between 2009 and 2010. Although this supports the assertion that poor weather conditions in 2009 and 2010 impacted upon cycle volumes, other factors have contributed to the decrease in cycle volumes in 2010.

Table 2-2 Change in cycle count in York at the end of the Cycling City and Towns period relative to a 2007 baseline including an adjustment for snow (baseline = 100%)

	2007	2008	2009	2010	2011
Change against 2007 baseline	100%	95%*	108%*	105%*	105%*

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

The above analyses have not included data from three of the counters in York (references 5, 24 and 25 in Table 2-5 below). These counters are in areas prone to flooding and Cycling City York does not consider the data to be sufficiently reliable. A visual inspection of the data available supports this assertion. Table 2-3 details the change in cycle counts in York if these three counters had been included in the analysis.

Table 2-3 Change in cycle count in York at the end of the Cycling City and Towns period relative to a 2007 baseline, including Oakdale Road North, Oakdale Road South and St George's Field (baseline = 100%)

	2007	2008	2009	2010	2011
Change against 2007 baseline	100%	93%*	103%*	97%	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 2-4 and alongside more detailed information for each counter in Table 2-5. There are sufficient data available to robustly estimate the annual percentage change in the number of cyclists counted over time for seven counters. For the remaining counters, based on the more limited data available, change over time is positive for 18 count sites, negative for eight, and there is no change over time for one site.

Table 2-4 Summary of findings of detailed analysis of data from individual count sites

Number of counters for which data are available	34
Number of counters for which sufficient data are available to quantify change over time[2]	7
Number of counters with quantifiable increase	6
Number of counters with no change	1
Number of counters with quantifiable decrease	0

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

[2] None of the changes at individual counters are statistically significant.

Table 2-5 Description of automatic cycle counters in York

Map reference	Location	Time period	Annual change	Average daily count in 2010 [b]	Comments
1.	Scarborough Bridge	2010-2011	Positive	Overall: 358 Weekdays: 393 Weekend days: 204	Located on a traffic-free path near the Scarborough Bridge on National Route 65 of the National Cycle Network, approximately half a mile west of the centre of York. This site is on a key access route to the railway station. Weekday counts show 'commuting' peaks.
2..	Almery Terrace	2010-2011	Positive	Overall: 163 Weekdays: 162 Weekend days: 164	Located on National Route 65 of the National Cycle Network, a traffic-free shared use riverside path next to the River Ouse in the centre of York. A school site is nearby. Weekday counts show 'commuting' peaks.
3.	Scarcroft Lane	2009-2011	Negative	Overall: 131 Weekdays: 165 Weekend days: 78	Located on a traffic-free shared use route between buildings and a school. The site is approximately half a mile south of the centre of York. Weekday counts show 'commuting' peaks.
4.	Skeldergate Bridge	2007-2011[a]	Positive	Overall: 382 Weekdays: 417 Weekend days: 250	Located on National Route 65 of the National Cycle Network, an on-road section of the Trans Pennine Trail alongside the River Ouse, half a mile south of the centre of York. Weekday counts show 'commuting' peaks.
5.	St. George's Field	2007-2011[a]	Weekday: 0% Sat/Sun: -1%	Overall: 302 Weekdays: 333 Weekend days: 249	Located on a traffic-free shared use path in a riverside area. Due to its riverside location the site is prone to flooding and Cycling City York have reservations about the reliability of the data. The site is half a mile south of the centre of York, close to Clifford's Tower. Weekday counts show 'commuting' peaks.
6.	Cinder Lane/Jubilee Terrace	2007-2011[a]	Weekday: +2% Sat/Sun: +4%	Overall: 813 Weekdays: 948 Weekend days: 405	Located on a traffic-free shared use path between housing and a school. The site is approximately half a mile north-west of the centre of York. Weekday counts show 'commuting' peaks.

7.	Rowntree Park (Terry Avenue)	2009-2011[a]	Negative	Overall: 540 Weekdays: 608 Weekend days: 340	Located on National Route 65 of the National Cycle Network, a traffic-free shared use riverside path in Clementhorpe, approximately three quarters of a mile south of the centre of York. A riverside park is nearby. Weekday counts show 'commuting' peaks.
8.	Foss Islands Retail Park	2009-2011	Positive	Overall: 240 Weekdays: 266 Weekend days: 181	Located on a traffic-free cycle route adjacent to James Street, a supermarket and car park. The site is in Layerthorpe, approximately half a mile east of the centre of York. Weekday counts show 'commuting' peaks.
9.	James Street/Hallfield Road	2009-2011	Positive	Overall: 372 Weekdays: 446 Weekend days: 207	Located on a traffic-free cycle route within a retail park in Layerthorpe, approximately half a mile east of the centre of York. Weekday counts show 'commuting' peaks.
10.	Heworth Green	2009-2011	Positive	Overall: 680 Weekdays: 747 Weekend days: 361	Located on an on-road cycle lane in Layerthorpe, approximately three quarters of a mile north-east of the centre of York.
11.	Cemetery Road	2009-2011	Positive	Overall: 254 Weekdays: 281 Weekend days: 171	Located on an on-road route, approximately three quarters of a mile south-east of the centre of York. School sites are nearby. Weekday counts show 'commuting' peaks.
12.	Lawrence Street	2009-2011	Positive	Overall: 491 Weekdays: 528 Weekend days: 322	Located on-road on the A1079 Lawrence Street, by a central reservation crossing. The site is in a residential area one mile east of the centre of York. Weekday counts show 'commuting' peaks.
13.	Fulford, by the river, Maple Grove	2007-2011[a]	Weekday: -1% Sat/Sun: 0%	Overall: 163 Weekdays: 180 Weekend days: 134	Located on a traffic-free cycle path linking to National Route 66 of the National Cycle Network. Residential housing, a riverside park and a school are nearby. The site is approximately one mile south-east of the centre of York. Weekday counts show 'commuting' peaks.
14.	Hob Moor	2007-2011[a]	Weekday: +4% Sat/Sun: 0%	Overall: 330 Weekdays: 396 Weekend days: 189	Located on a traffic-free shared use path across a park adjoining a residential area. The site is in Hob Moor, one mile south-west of the centre of York. Weekday counts show 'commuting' peaks.

15.	Huntington Road (inbound)	2009-2011	Positive	Overall: 352 Weekdays: 398 Weekend days: 183	Located on an on-road route on Huntington Road, approximately one mile north-east of the centre of York. Weekday counts show 'commuting' peaks.
16.	Huntington Road (outbound)	2009-2011	Negative	Overall: 239 Weekdays: 270 Weekend days: 127	
17.	Bishopthorpe Road/Terrys	2008-2011[a]	Weekday: +1% Sat/Sun: +5%	Overall: 371 Weekdays: 388 Weekend days: 329	Located on National Route 65 of the National Cycle Network, a traffic-free shared use path adjacent to Bishopthorpe Road. The site is approximately one and a quarter miles south of the centre of York. Factories are nearby. Weekday counts show 'commuting' peaks.
18.	Retreat Lane	2009-2011	Positive	Overall: 317 Weekdays: 401 Weekend days: 118	Located on a traffic-free shared use path surrounded by urban green space. The site is approximately one and a half miles south-east of the centre of York. A university site is nearby. Weekday counts show 'commuting' peaks.
19.	Woodlea Avenue to Danebury Drive	2009-2011	Positive	Overall: 70 Weekdays: 76 Weekend days: 50	Located on a traffic-free shared use route between urban green space in Acomb and a residential area approximately one and a half miles west of the centre of York. Weekday counts show 'commuting' peaks.
20	Malton Road (inbound)	2009-2011	Negative	Overall: 241 Weekdays: 274 Weekend days: 164	Located on a traffic-free cycle path adjacent to A1036 Malton Road. It is in Heworth, approximately one and three quarter miles north-east of the centre of York. Weekday counts show 'commuting' peaks.
21.	Malton Road (outbound)	2009-2011	Positive	Overall: 219 Weekdays: 269 Weekend days: 140	Located on a traffic-free segregated cycle lane adjacent to A1036 Malton Road. The site is in Heworth, approximately one and three quarter miles north-east of the centre of York. Weekday counts show 'commuting' peaks.
22.	Windmill Lane to Science Park	2010-2011	No change	Overall: 267 Weekdays: 333 Weekend days: 113	Located on National Route 66 of the National Cycle Network, a traffic-free segregated cycle path through a university science park. The site is approximately two miles east of the centre of York. Weekday counts show 'commuting' peaks.

23.	Water Lane to Tribune Way	2009-2011	Negative	Overall: 76 Weekdays: 90 Weekend days: 22	Located on a traffic-free segregated cycle route between buildings/industrial units. It is in Clifton, approximately two miles north of the centre of York. Weekday counts show 'commuting' peaks.
24.	Oakdale Road (South)	2009-2011	Negative	Overall: 37 Weekdays: 41 Weekend days: 25	Located on a traffic-free path connecting Oakdale Road to a lake in the Clifton area, approximately two miles north-west of the centre of York. A school site is adjacent. Weekday counts show 'commuting' peaks.
25.	Oakdale Road (North)	2009-2011	Negative	Overall: 38 Weekdays: 45 Weekend days: 24	Located on a traffic-free path connecting Oakdale Road to a lake in the Clifton area, approximately two miles north-west of the centre of York. A school site is adjacent. Weekday counts show 'commuting' peaks.
26.	Beckfield Lane	2009-2011	Positive	Overall: 135 Weekdays: 164 Weekend days: 70	Located on a traffic-free shared use path adjacent to Beckfield Lane. The site is two miles north-west of the centre of York. Weekday counts show 'school' and 'commuting' peaks.
27.	Millfield Lane (off-road)	2009-2011	Positive	Overall: 126 Weekdays: 155 Weekend days: 94	Located on a traffic-free shared use path, approximately two and half miles north-west of the centre of York. A school is located nearby. Weekday counts show 'school' and 'commuting' peaks.
28.	Rawcliffe Bar	2010-2011	Positive	Overall: 126 Weekdays: 124 Weekend days: 132	Located on National Route 65 of the National Cycle Network, a traffic-free shared use railway path. It is approximately two miles north-east of the centre of York. The site is surrounded by green space and a sewage works is nearby. Weekday counts show 'commuting' peaks.
29.	Manor Lane to Hurricane Way	2009-2011	Negative	Overall: 131 Weekdays: 154 Weekend days: 101	Located on a traffic-free shared use path between houses. A retail park is nearby. It is approximately two and a half miles north-west of the centre of York. Weekday counts show 'commuting' peaks.

30.	Stirling Road	2009-2011	Positive	Overall: 52 Weekdays: 62 Weekend days: 37	Located on a traffic-free cycle route adjacent to A1237 Stirling Road. The site is approximately two and a half miles north of the centre of York at the outer edge of the urban area. A retail park is nearby. Weekday counts show 'commuting' peaks.
31.	Hull Road (off-road)	2007-2011	Weekday: -1% Sat/Sun: -1%	Overall: 82 Weekdays: 97 Weekend days: 55	Located on a traffic-free cycle route adjacent to the dual carriageway A1079 Hull Road, outside Osbaldwick, two miles east of the centre of York. The site is adjacent to the car park of a superstore. Weekday counts show 'commuting' peaks.
32.	Naburn Bridge	2009-2011	Positive	Overall: 198 Weekdays: 171 Weekend days: 299	Located on National Route 65 of the National Cycle Network, a traffic-free shared use railway path at the southern end of Bishopthorpe, three miles south of the centre of York. Weekday counts show 'commuting' peaks.
33.	Clifton Bridge (eastbound off-road)	2009-2011	Positive	Overall: 436 Weekdays: 489 Weekend days: 231	Located on a traffic-free shared use path at the east end of Clifton Bridge, one mile north-west of the centre of York. Weekday counts show 'commuting' peaks.
34.	Clifton Bridge	2009-2011	Positive	Overall: 400 Weekdays: 455 Weekend days: 201	

[a] data are also available for earlier periods, but to ensure consistency across the Cycling City and Towns 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: positive, negative or no change

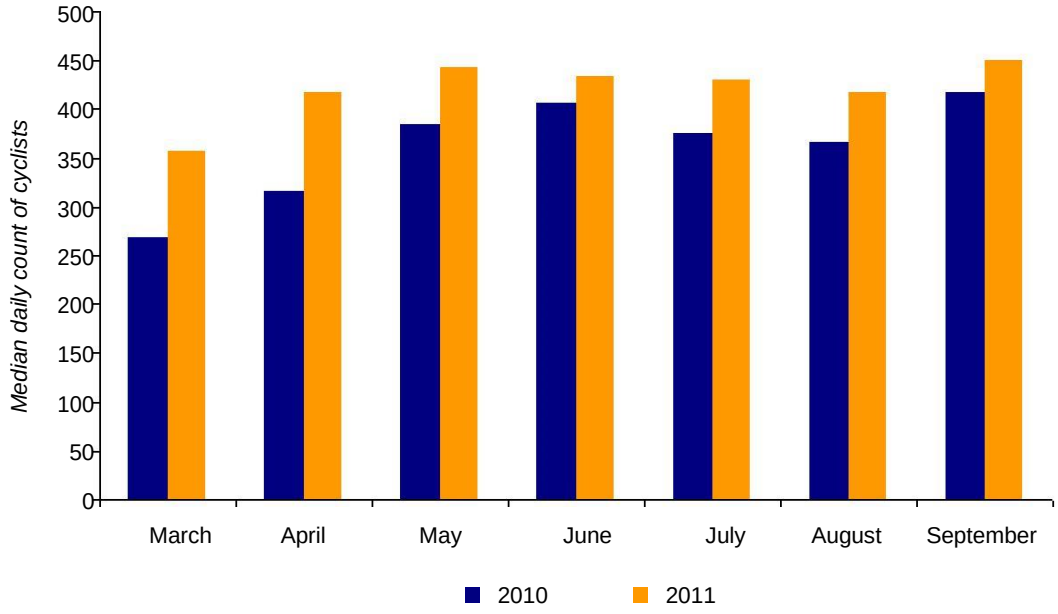
2.3 Relationship between programme activity and automatic count data

2.3.1 Access to station

Access improvements to York railway station have been implemented during the Cycle City York programme, creating links to other key cycle routes. A counter located close to Scarborough Bridge (map reference 1) monitors movement towards the railway station. Scarborough Bridge provides a direct link between the station area and the northern part of the city. It accesses a new point of entrance to the station which is fitted with ramps, making access to the platforms considerably quicker for travellers coming from this part of town. The new ramps were officially opened on 2nd August 2011 and therefore the full impact on cycling levels may not be apparent within the data included herein.

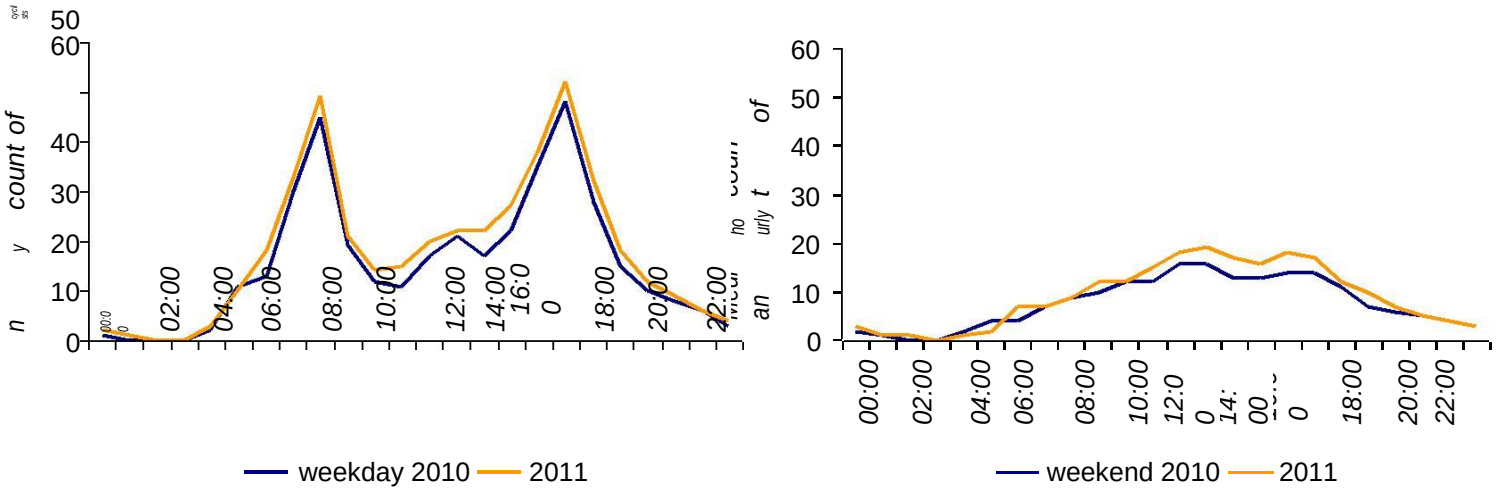
The volume of cyclists counted in this location on weekdays is almost double that recorded on weekend days. There has been a year on year increase based on comparable months in 2010 and 2011 although there are insufficient data to quantify growth over time (Chart 2-1). The hourly distribution of counts at this location indicates peaks in flows recorded around commuting times (Chart 2-2).

Chart 2-1 Median daily count of cyclists recorded at Scarborough Bridge close to York railway station in comparable months in 2010 and 2011[3]



[3] The Scarborough Bridge counter was installed in March 2010 and therefore March to September are the only months for which both 2010 and 2011 data are available.

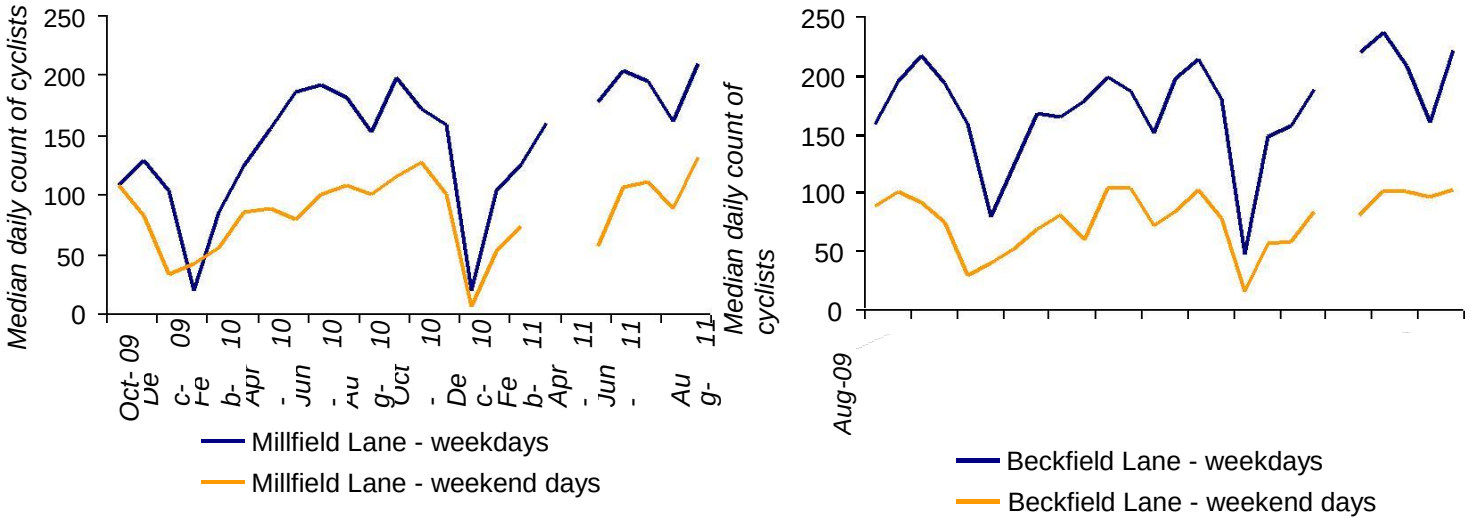
Chart 2-2 Median hourly count of cyclists recorded at Scarborough Bridge on weekdays and weekend days in 2010 and 2011



2.3.2 Beckfield Lane route development

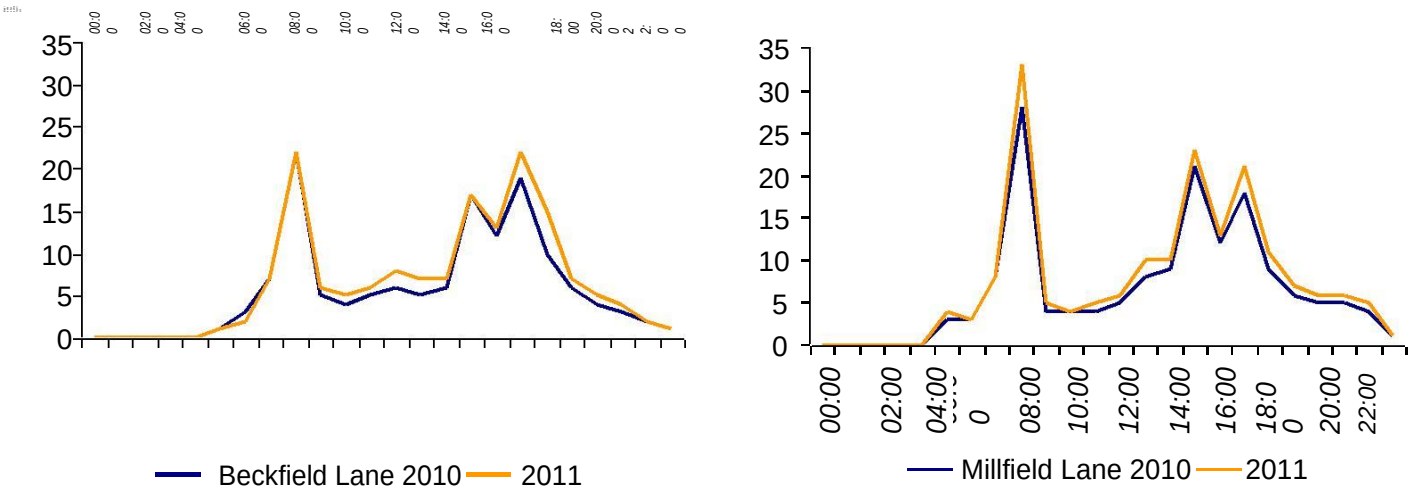
A traffic-free route was created at Beckfield Lane to the north west of the city providing access to Manor Church of England school. The route opened in July 2009. Two automatic cycle counters are located in the area, one on Beckfield Lane (map reference 26) and a second on Millfield Lane (map reference 27). Similar volumes of cyclists are counted at both locations, with higher levels of use on weekdays compared to weekend days (Chart 2-3). The dip in volumes of cyclists recorded in August, corresponding with the school summer holidays, suggests the use of the route for school journeys.

Chart 2-3 Median daily count of cyclists recorded on weekdays and weekend days at Millfield Lane and Beckfield Lane



Whilst there are insufficient data to make a robust estimate of change in volumes of cyclists using this route over time, for most comparable months a greater median daily count was recorded in 2011 than in 2010. The hourly distribution of counts at both locations indicate peaks in flows around school commuting times, suggesting the use of the route for travel to school (Chart 2-4).

Chart 2-4 Median hourly count of cyclists recorded on weekdays in 2010 and 2011 at Beckfield Lane and Millfield Lane



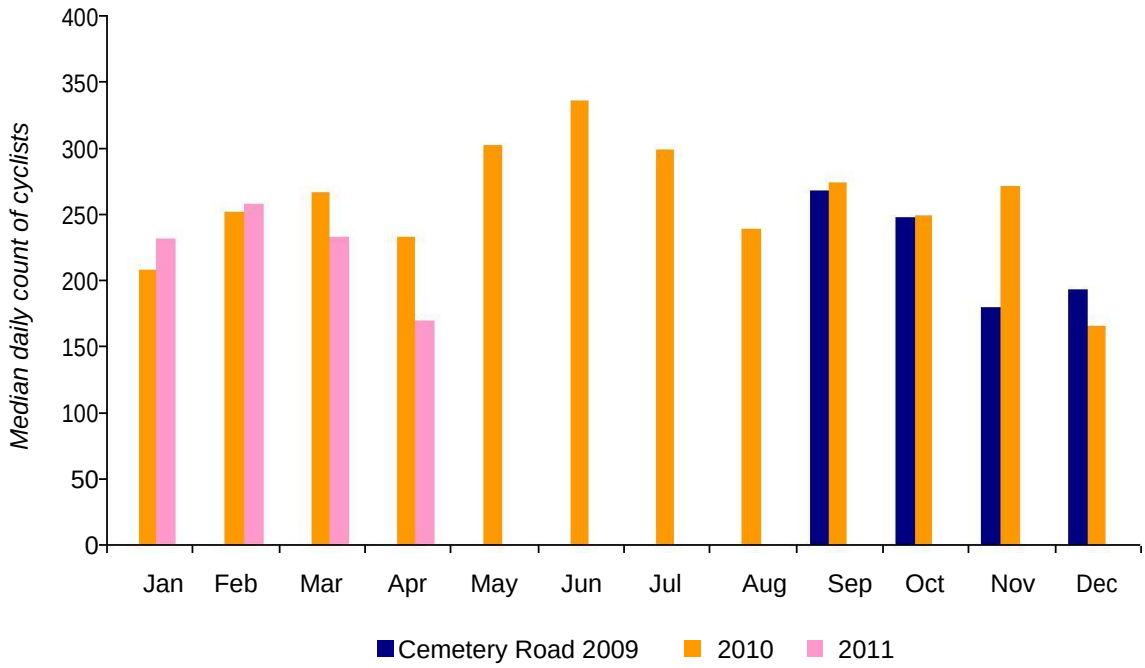
2.3.3 Fulford Road route development

During the York Cycle City programme, on-road and traffic-free cycle routes were introduced on the Fulford Road corridor to the south of the city, between Heslington Lane and Cemetery Road. The new route developments opened in June 2009. Two counters are located within the Fulford Road corridor:

- On the route at Cemetery Road (map reference 11)
- On Maple Grove (map reference 13), on a route linking to Fulford Road

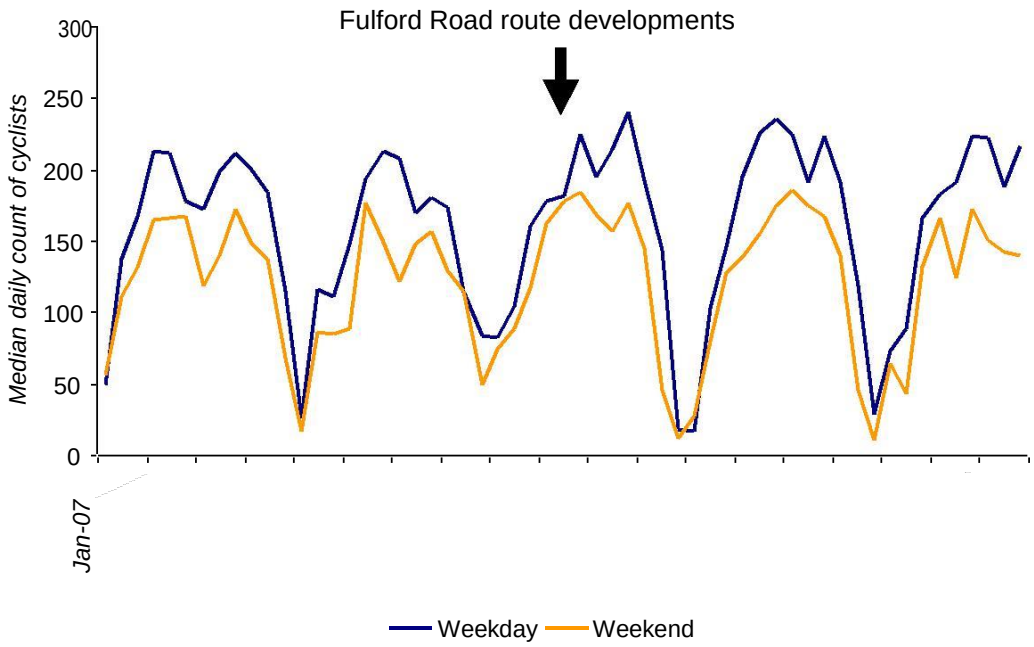
Insufficient data are available to quantify change over time in the volumes of cyclists recorded at the Cemetery Road site. Where months can be compared between years (Chart 2-5), the pattern of change is mixed, with an approximately equal balance of decreases and increases when comparing like months.

Chart 2-5 Median daily count of cyclists recorded at Cemetery Road in 2009, 2010 and 2011



The route adjacent to Maple Grove links the Fulford Road corridor with the Millennium Bridge. The median daily count of cyclists recorded at this location since 2007 is presented in Chart 2-6. Whilst there is no strong upward trend in volumes of cyclists recorded, there is a slight but distinct step in the volumes of cyclists recorded in 2009 onwards compared to previous years, potentially linked the surrounding route developments.

Chart 2-6 Median daily count of cyclist recorded at Maple Grove, between Fulford Road and the Millennium Bridge



3 Analysis of manual count data

Three distinct groups of manual counts are performed in York– on an inner cordon, bridges and boundaries. These groups will be considered separately.

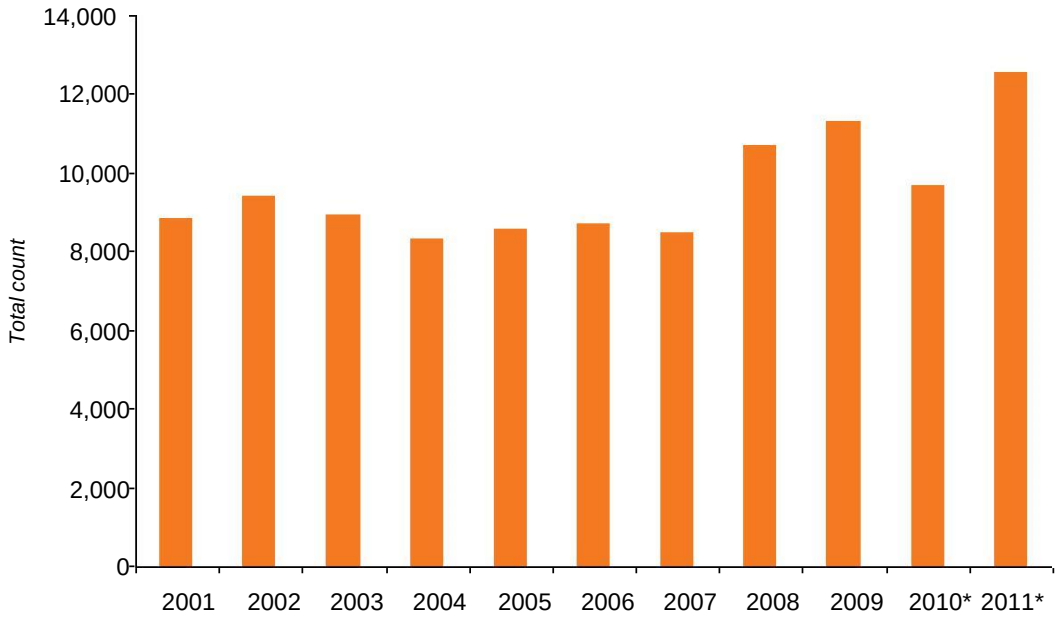
3.1 Inner cordon survey

Cyclists are counted annually at 15 locations forming a cordon around York. Counts were performed in March or April between 2000 and 2009 and in October or November from 2010 onwards. Quarterly counts were undertaken at 11 of these locations between quarter 4 2009 and quarter 1 2011 although some data are missing, for example only two of the sites have data in quarter 3 2010. The count locations forming the inner cordon, indicated on the accompanying map (section 9), are as follows:

- Bishopthorpe Road (map reference C5)
- Blossom Street (map reference C2)
- Bootham (map reference C3)
- Clarence Street (map reference C6)
- Fulford Road (map reference C15)
- Heslington Road (map reference C12)
- Heworth Green (map reference C10)
- Huntington Road (map reference C9)
- Lawrence Street (map reference C13)
- Layerthorpe (map reference C7)
- New Walk (map reference C11)
- Terry Avenue (map reference C14)
- Cinder Lane (map reference C8)
- Riverside Walk (map reference C1)
- Leeman Road (map reference C4)

The counts were moved from March/April each year to October/November in 2010 so that the inner cordon count coincided with the bridge and boundary survey. These more recent counts are therefore not consistent with previous years. In Chart 3-1 below the 2010 and 2011 counts have been reduced by 6% in order to make them more comparable with the earlier counts. The adjustment was calculated using the average counts in the relevant months in 2010 for all automatic cycle counters less than a mile from the centre of York.

Chart 3-1 Total count at 15 sites on the inner cordon around York between 2001 and 2011



* denotes that the counts have been reduced by 6% in order to adjust for a timing difference between the counts

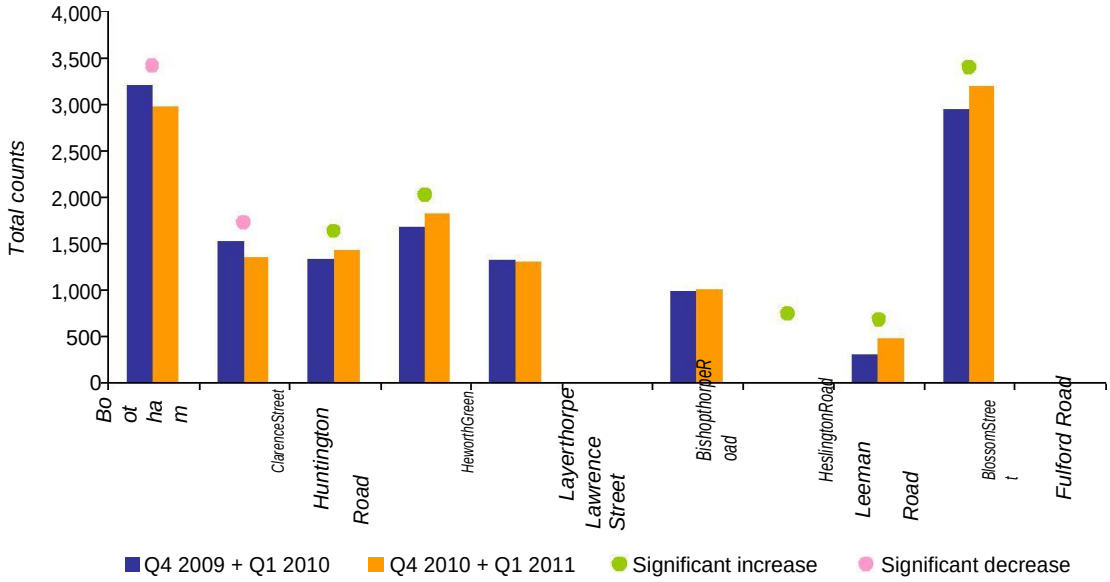
Counts are relatively constant between 2004 and 2007 followed by a sizeable increase to 2009. The percentage change between 2007 (prior to the programme commencement in 2008) and 2009 is +33%. A decrease in counts was recorded between 2009 and 2010, prior to an increase beyond previous levels in 2011. The pattern since 2009 is consistent with the findings from the automatic cycle counter data. Counts in 2010 and 2011 were performed at the same time of year, and an increase of 30% is recorded between these two years.

Three automatic counter locations coincide with inner cordon count sites. A +1% annual increase in counts has been observed at St George's Field (map reference 5) and Cinder Lane (map reference 6). Rowntree Park (Terry Avenue) (map reference 7) is also on the cordon and the tentative indication of change over time is negative. The automatic cycle count data is therefore inconsistent with the growth suggested by the manual count data. This may be because the roads where manual count sites have been performed have benefited from Cycling City and Towns interventions, or there may have been displacement from the routes where the automatic cycle counters are located to the road network.

Data for 11 sites were collected quarterly between quarter 4 2009 and quarter 1 2011. Chart 3-2 compares data collected in quarter 4 2009 and quarter 1 2010 with data collected in quarter 4 2010 and quarter 1 2011 for the sites where data are

available. The three sites which are shaded in Chart 3-2 have missing data in one of these quarters. An alternative comparison has therefore been made based on one quarter in each year. For Lawrence Road and Heslington Road quarter 4 2009 has been compared with quarter 4 2010 and for Fulford Road quarter 1 2010 has been compared with quarter 1 2011.

Chart 3-2 Comparison of manual count data collected on the inner cordon in York in quarter 4 2009 and quarter 1 2010 with data collected in quarter 4 2010 and quarter 1 2011[4]



Combining data from the eight sites for which a comparison between quarter 4 2009 / quarter 1 2010 and quarter 4 2010 / quarter 1 2011 can be made indicates a 2% increase. A significant increase was recorded at five sites and a significant decrease at two sites. The significant increase on Blossom Street may be partly due to improvements made to the junction of this road with Micklegate and Queen Street during autumn 2010, including an advance priority signal for cyclists. Chart 3-3 below suggests that cycle counts on Blossom Street were also increasing prior to the improvements and therefore the more recent growth may be part of a longer term trend in this area.

[4] Significant where $p<0.05$

Chart 3-3 Manual counts on Blossom Road between 2007 and 2009

3.2 Bridge survey

Manual counts have been undertaken annually (in October) at six sites since 1991. These sites are on bridges which form a screenline from north to south through York. The counts are conducted on the following bridges:

- Rawcliffe Bridge (map reference Br6)
- Clifton Bridge (map reference Br4)
- Lendal Bridge (map reference Br1)
- Ouse Bridge (map reference Br2)
- Skeldergate Bridge (map reference Br3)
- A64 Bridge (map reference Br5)

Data collected since 1999 are presented in Chart 3-4.

Chart 3-4 Total count at six sites on bridges in York

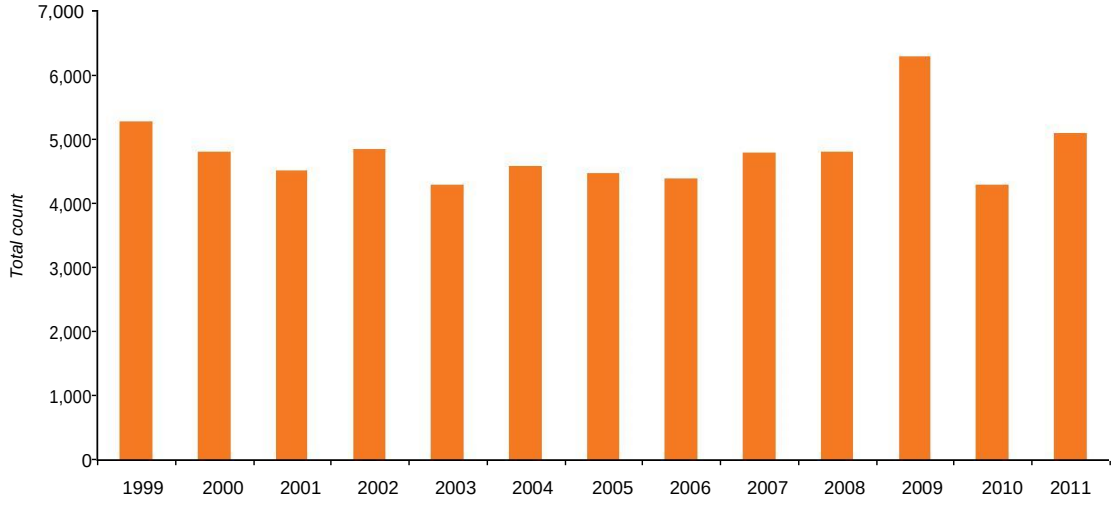
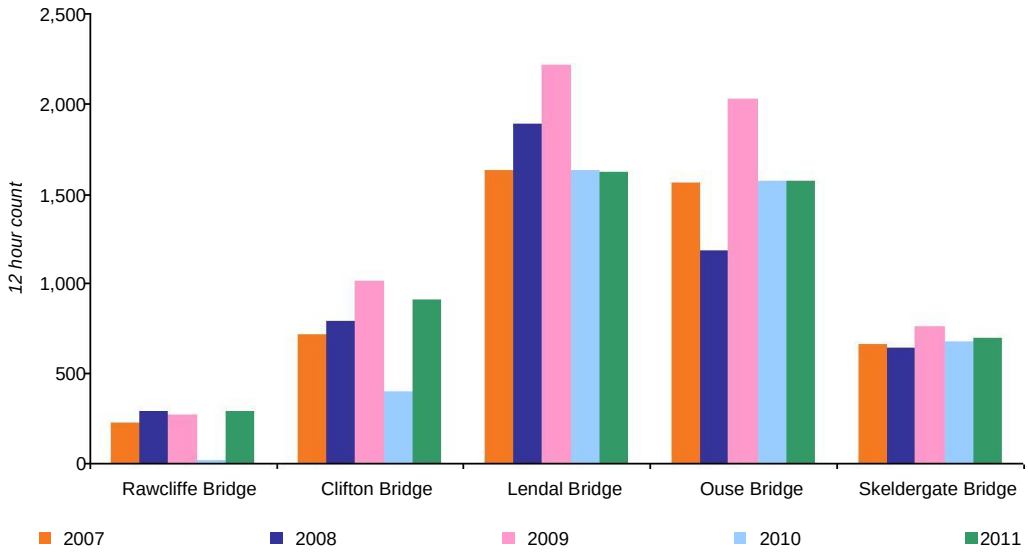


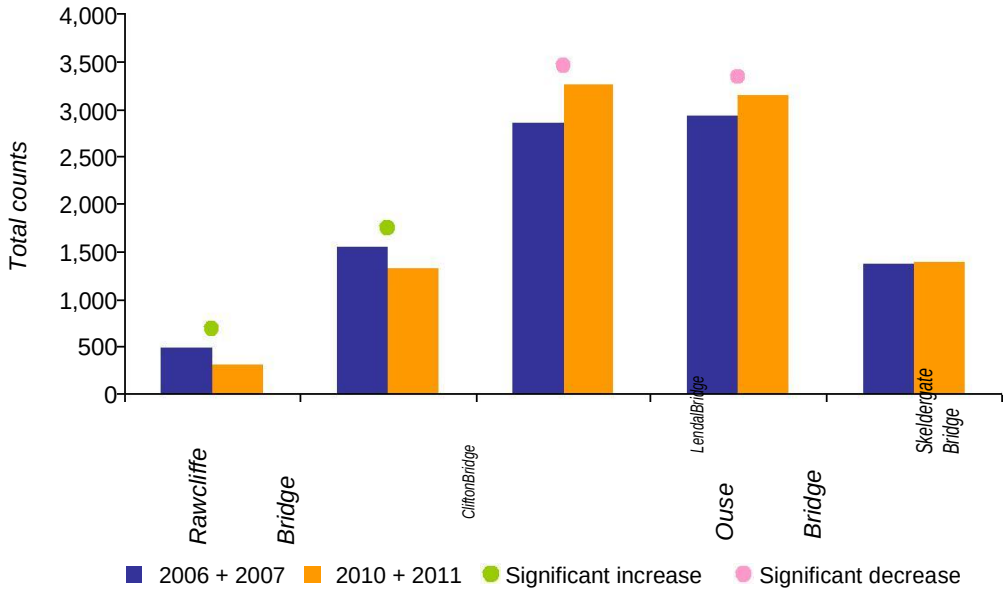
Chart 3-5 below indicates that counts for four of the bridge count sites peaked in 2009, followed by a decrease in counts recorded in 2010 and 2011.

Chart 3-5 Total counts at five of the bridge manual count sites in York between 2007 and 2011[5]



Comparing data from 2001 to 2005 with data from 2007 to 2011 indicates that the bridge counts have increased significantly over this time period. Comparing data from 2006 and 2007 (pre-programme) with data from 2010 and 2011, however, indicates that there to have been a small increase in counts overall. The counts for these comparable periods are presented in Chart 3-6. Significant increases are recorded at two sites, and significant decreases at two sites.

Chart 3-6 Comparison of manual count data collected at five of the bridge manual count sites in York in 2006 and 2007 with data collected in 2010 and 2011[6]



[5] The A64 Bridge count has not been included as zero counts were recorded in three of the years being analysed and very low counts were recorded in other years.
[6] Significant where p<0.05

The automatic cycle counters on Scarborough Bridge (map reference 1) and Naburn Bridge (map reference 32) also form part of this screenline and both indicate a tentative annual increase in counts. Data from the Clifton Bridge automatic cycle counters (map references 33 and 34) show a tentative increase in counts using data from 2009 to 2011. This is not consistent with the manual count data at this site (see Chart 3-5). The manual counts are undertaken in October or November and may therefore have been affected by poor weather conditions.

3.3 Boundaries survey

The annual bridges and boundaries survey conducted in October each year includes the bridge sites detailed above and 12 manual counts at sites forming an outer cordon on main routes around York. These boundary sites are located away from the centre of York and therefore the programme was not expected to have had as much of an impact as in more central areas.

Chart 3-7 Total count at 12 boundary manual count sites in York

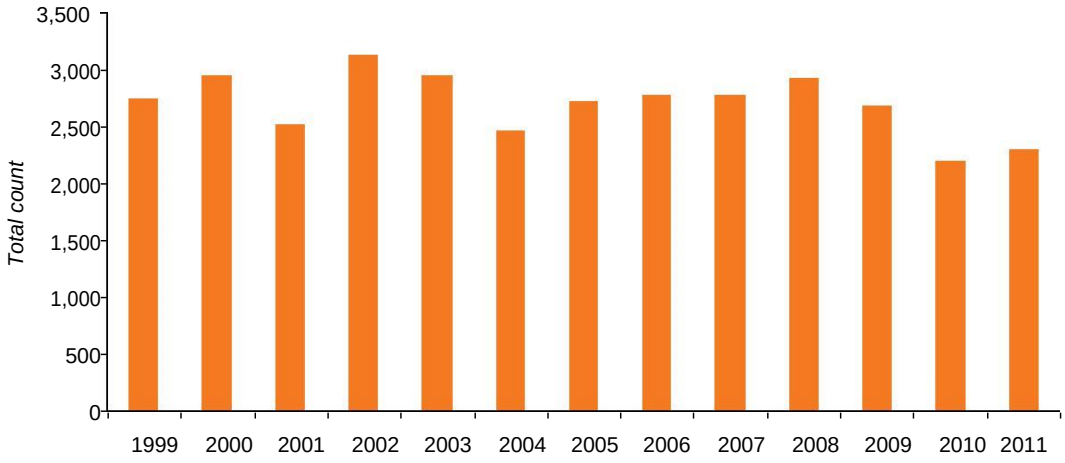


Chart 3-7 suggests that counts in 2010 and 2011 are lower than in previous years. A comparison of data collected in 2001 to 2005 with data collected in 2007 to 2011 suggests a significant decrease in counts ($p<0.05$). A comparison of data collected in 2006 and 2007 with data collected in 2010 and 2011 also indicates a significant decrease ($p<0.05$).

4 Analysis of school related data

During the Cycling City and Towns programme, Cycling City York has engaged with 16 schools through the Bike It programme.

Due to the already high levels of cycle training in primary schools (around 64% of pupils participating), a number of events were organised to increase the profile of children cycling. These included themed bike rides (e.g. Biking Vikings, Roaming Romans), virtual competitions (e.g. End to End Cycle Race), Save My Bike days and Beauty & the Bike.

4.1 PLASC

The percentage of pupils surveyed in York stating cycling to be their usual mode of travel to school are summarised in Table 4-1. Considering data across all schools, the proportion of children cycling to school decreased, from 6.9% in the 2006/07

academic year to 6.7% in 2010/11. The percentages cycling to school show substantial fluctuation year to year.

Table 4-1 Percentage of pupils surveyed stating cycling to be their usual mode of travel to school [a]

	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	7.1%	5.6%	6.8%	5.7%	5.1%*
Secondary	6.8%	9.9%	6.7%	6.4%	8.2%*
All schools	6.9%	7.7%	6.8%	6.1%	6.7%

[a] These figures are based on data from 38 primary schools and nine secondary schools
* indicates a significant change in cycling in the 2010/2011 academic year compared to the 2006/07 academic year ($p<0.05$)

These changes are quite heavily influenced by two secondary schools which recorded counts of zero cyclists in at least one year and relatively high counts of cyclists in other years. Table 4-2 includes the percentage of pupils cycling to school if the data from these two schools are excluded.

Table 4-2 Percentage of pupils surveyed stating cycling to be their usual mode of travel to school, excluding two secondary schools with questionable data [a]

	Academic year				
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	7.1%	5.6%	6.8%	5.7%	5.1%*
Secondary	8.8%	8.3%	7.6%	7.5%	7.4%*
All schools	7.8%	6.8%	7.2%	6.5%	6.1%*

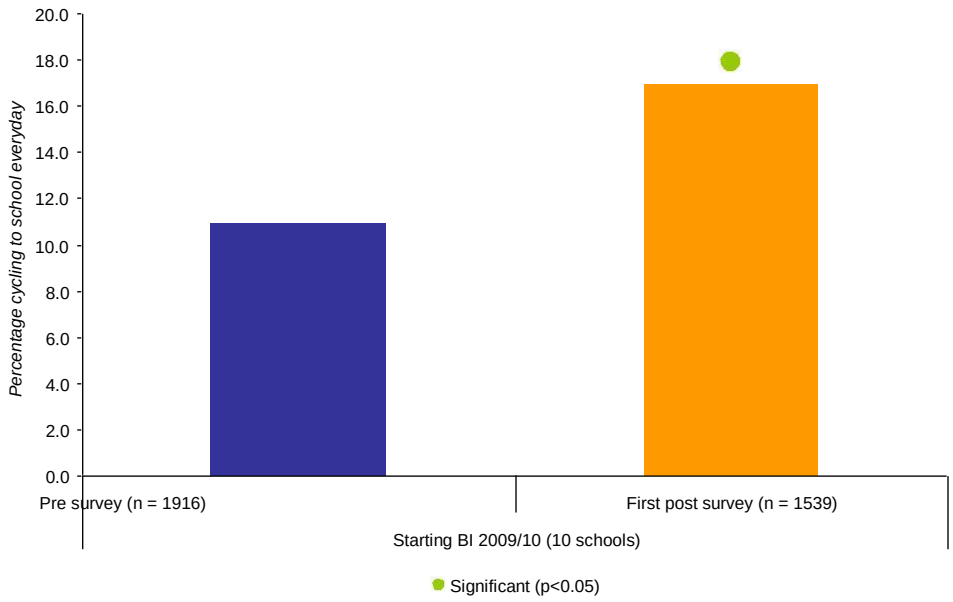
[a] These figures are based on data from 38 primary schools and seven secondary schools
* indicates a significant change in cycling in the 2010/2011 academic year compared to the 2006/07 academic year ($p<0.05$)

Considering data across 45 schools (excluding the secondary schools noted above), there was a significant decrease in the proportion of children cycling to primary schools and secondary schools. Combining primary and secondary school data, the proportion of children cycling to school decreased from 7.8% to 6.1%.

4.2 Bike It

Bike It has been delivered in a total of 16 schools in York since 2009/10. 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 10 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 reporting to cycle to school everyday between the pre and post survey is significant for schools starting Bike It in the 2009/10 academic year.

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



Aggregating together data from all pre intervention and first post intervention surveys performed during the project, the percentage of children surveyed reporting to cycle to school everyday increased from 10.9% to 16.9%[7], whilst the proportion reporting to cycle to school regularly (everyday or once or twice a week) increased from 36.0% to 41.8%[8]. The proportion 'never' cycling to school decreased from 48.5% to 41.7%[9]. The proportion of children cycling to school on the day of the survey increased from 13.7% to 19.2%[10].

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

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

	2007	2008	2009	2010	2011
Non-Bike It schools [a]	7.8%	6.9%	7.3%	6.3%	5.6%
Bike It in 2009 [b,c]	7.2%	6.4%	6.8%	7.5%	7.7%

[a] Data for 30 primary schools and six secondary schools that were not engaged in Bike It
[b] Data for eight primary schools and one secondary school initially engaged in Bike It in 2009
[c] PLASC data are collected in January. Bike It engages with schools from the beginning of the academic year. For schools starting Bike It in, for example, 2009, the relevant PLASC year is 2010

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

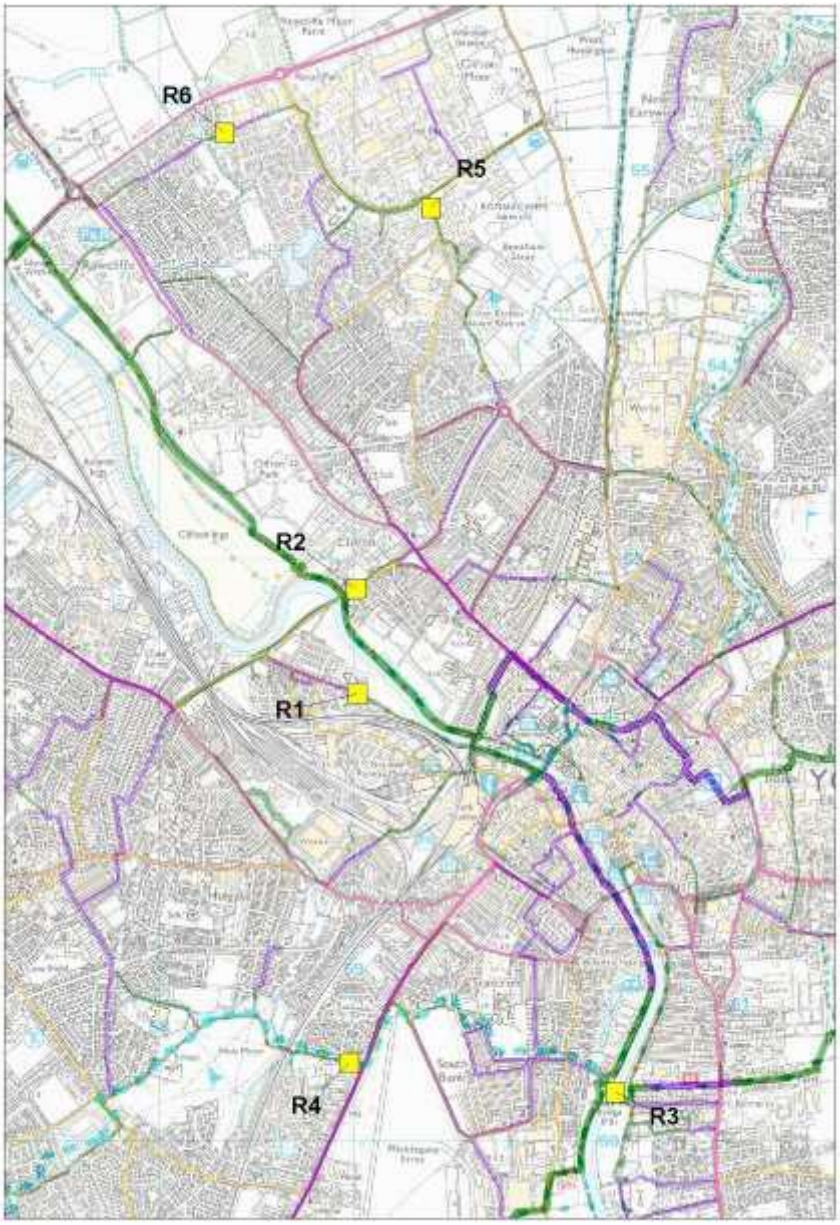
5 Route User Intercept Surveys

Route user intercept surveys were undertaken at six locations in York in 2010 and 2011. Table 5-1 includes details about the six survey locations and the map references refer to Map 1 below.

Table 5-1 Route user intercept surveys undertaken in York

Site	Survey dates	Site description
Hob Moor (map reference R4)	February, March and April 2010 and April 2011	Urban, traffic-free, not on the National Cycle Network connecting Acomb / Dringhouses to Tadcaster Road on to the city centre and the Millennium Bridge
Hurricane Way (map reference R6)	February and March 2010 and March and April 2011	Urban, traffic-free, not on the National Cycle Network connecting Rawcliffe and Clifton Moor
Jubilee Terrace (map reference R1)	February and March 2010 and March and April 2011	Urban, traffic-free, not on the National Cycle Network connecting Salisbury Road to the city centre
Millennium Bridge (map reference R3)	February, March and April 2010 and March and April 2011	Urban, traffic-free, on the National Cycle Network connecting east and west York over the River Ouse south of the city centre
Water End (map reference R2)	February and March 2010 and March and April 2011	Urban, road-adjacent, not on the National Cycle Network connecting north York over the River Ouse to the north of city centre
Water Lane (map reference R5)	February and March 2010 and March and April 2011	Urban, traffic-free, not on the National Cycle Network connection from York to Clifton Moor from the south

Map 5-1 Route user intercept survey sites in York



In all cases, route users were counted and interviews performed over 12 hours on each of four days – a school-holiday weekday, a school-holiday weekend day, a term-time weekday and a term-time weekend day. Two iterations of surveys were performed at each location, one in 2010 and one in 2011.

The number of cyclists counted at each site over the four 12 hour periods in 2010 and 2011 are shown in Table 5-2.

Table 5-2 Total count of cyclists on four 12 hour counts in 2010 and 2011 at the six survey sites[11]

	2010	2011
Hob Moor	946	1492
Hurricane Way	541	822
Jubilee Terrace	2,001	2,948
Millennium Bridge	3,441	5,684
Water End	1,235	2,643
Water Lane	440	1,120

The automatic cycle counter next to the Millennium Bridge counted 1,263 cyclists on average per day in 2011[12], as opposed to 1,421 on average per 12 hour survey count performed. This suggests that either the days on which the surveys were performed were busier than average or that the counter does not count all cyclists crossing the bridge. There is only one day on which the automatic cycle counter was functioning correctly that coincides with a survey (19/4/2011). Over the same 12 hour period the automatic cycle counter counted 1,128 cyclists, whilst 1,693 cyclists were counted as part of the survey. This supports the assertion that the automatic cycle counter is undercounting cyclists crossing the bridge.

The data for York were aggregated for 2010 and 2011. Although the majority of cyclists recorded were male (81.9% in 2010 and 67.5% in 2011), there was an apparent increase in the proportion of females recorded between the two iterations at all six sites (Table 5-3).

Table 5-3 Percentage of female cyclists counted at each route user intercept survey site

	2010	2011
Hob Moor	24.7%	33.2%
Hurricane Way	8.3%	33.6%
Jubilee Terrace	9.9%	32.7%
Millennium Bridge	23.3%	33.7%
Water End	19.4%	32.1%
Water Lane	15.2%	24.5%

[11]The four day manual count is scaled up to an annual total based on automatic cycle counter data collected on a comparable route. This process also accounts for the time of year at which the counts were performed.

[12]This figure relates to the median of data collected within the programme period only and therefore includes data from 1/1/11 – 30/9/11.

Overall, the majority of cyclists in both survey iterations were making commuting journeys (61.4% in 2010 and 62.4% in 2011). In 2010 other journeys were for leisure, shopping, education, other reasons and personal business (18.6%, 11.7%, 4.8%, 2.5% and 1.1%, respectively). In 2011 other journeys were for leisure, shopping, personal business, education and other reasons (20.3%, 8.7%, 4.4%, 3.2% and 1.0%, respectively). Commuting was the predominant journey purpose for cyclists across all six sites (Table 5-4). The proportion commuting varied from 45% of cyclists on Hurricane Way to 71% on Jubilee Terrace in 2011. There was a decrease in commuting between survey iterations at four of the six survey sites. The most notable increase in commuting was recorded at the Millennium Bridge site, where 62.5% of cyclists were commuting in 2011 compared with 49.5% in 2010.

Table 5-4 Percentage of cyclists who were commuting at each route user intercept survey site

	2010	2011
Hob Moor	62.0%	54.9%
Hurricane Way	53.6%	45.4%
Jubilee Terrace	78.4%	70.8%
Millennium Bridge	49.5%	62.5%
Water End	57.3%	58.7%
Water Lane	95.4%	65.3%

In 2010 and 2011 the survey respondents were asked on how many days in the past week they had undertaken physical activity for 30 minutes or more. Over half of the cyclists (56.1% in 2010 and 67.8% in 2011) had undertaken physical activity for 30 minutes or more on five or more days in the past week[13].

[13] The percentage of respondents undertaking 30 minutes or more of physical activity on five or more days in the past week has been chosen for reporting as this is one way in which individuals can achieve the Department of Health guidelines on physical activity (Department of Health (2011) Start Active, Stay Active: A report on physical activity for health from the four home countries' Chief Medical Officers).

Table 5-5 Percentage of survey respondents undertaking 30 minutes or more of physical activity on five or more days in the past week at each route user intercept survey site

	2010	2011
Hob Moor	67.6%	66.4%
Hurricane Way	41.1%	49.8%
Jubilee Terrace	60.0%	55.0%
Millennium Bridge	50.0%	74.2%
Water End	68.0%	69.8%
Water Lane	44.9%	69.4%

When asked about their reasons for cycling for their journey and their opinions about the route, a high proportion of survey respondents at all of the sites agreed with the 'best transport option' and 'most convenient route' statements. The percentage ranged from 87.7% to 98.1% for the best transport option statement and from 85.9% to 95.8% for the most convenient route statement. The highest percentage of survey respondents agreeing with both statements was recorded at Jubilee Terrace.

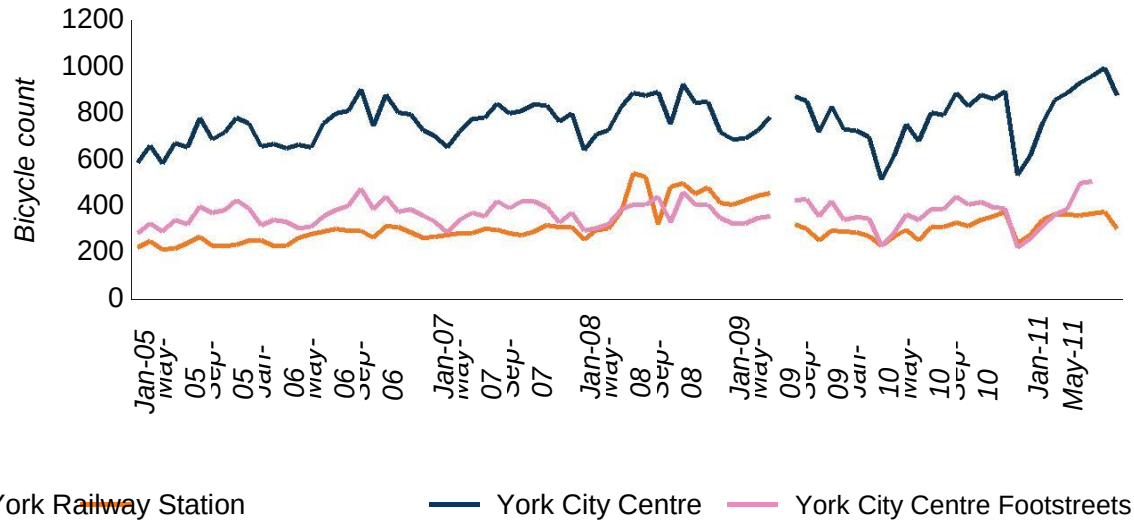
The difference between survey sites was more marked for statements about whether respondents liked the surroundings and whether the route felt safe. The highest percentage of respondents agreeing with these statements was recorded at the Millennium Bridge site: 97.2% liked the surroundings and 88.3% felt that the route was safe. By contrast, at Water Lane 44.5% of survey respondents liked the surroundings and 53.2% felt that the route was safe.

6 Analysis of counts of parked bicycles data

Fortnightly counts of parked bicycles are undertaken on three beats in York including the railway station, formal cycle parking in the city centre and on city centre footstreets. Counts have been undertaken since the late nineties.

Chart 6-1 shows monthly counts of bicycles on each of the beats. Although there appears to be a decrease in counts in 2010, there is an increase to previous levels in 2011. Comparing data from January to August, there is a +21% increase in counts of parked bicycles at York railway station since 2007 and a +13% increase in the city centre. Comparing data from January to June (as subsequent data are not available for 2011), there is an +11% increase in counts of parked bicycles on the city centre footstreets beat between 2007 and 2011.

Chart 6-1 Counts of parked bicycles in each month on three beats in York



7 Analysis of casualty data

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

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

	Annual average number of casualties			
	Killed	Seriously injured	Slightly injured	Total
Pre-programme	0.3	11.2	113.7	125.2
During programme	0.5	12.0	115.5	128.0

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

8 Analysis of physical activity data

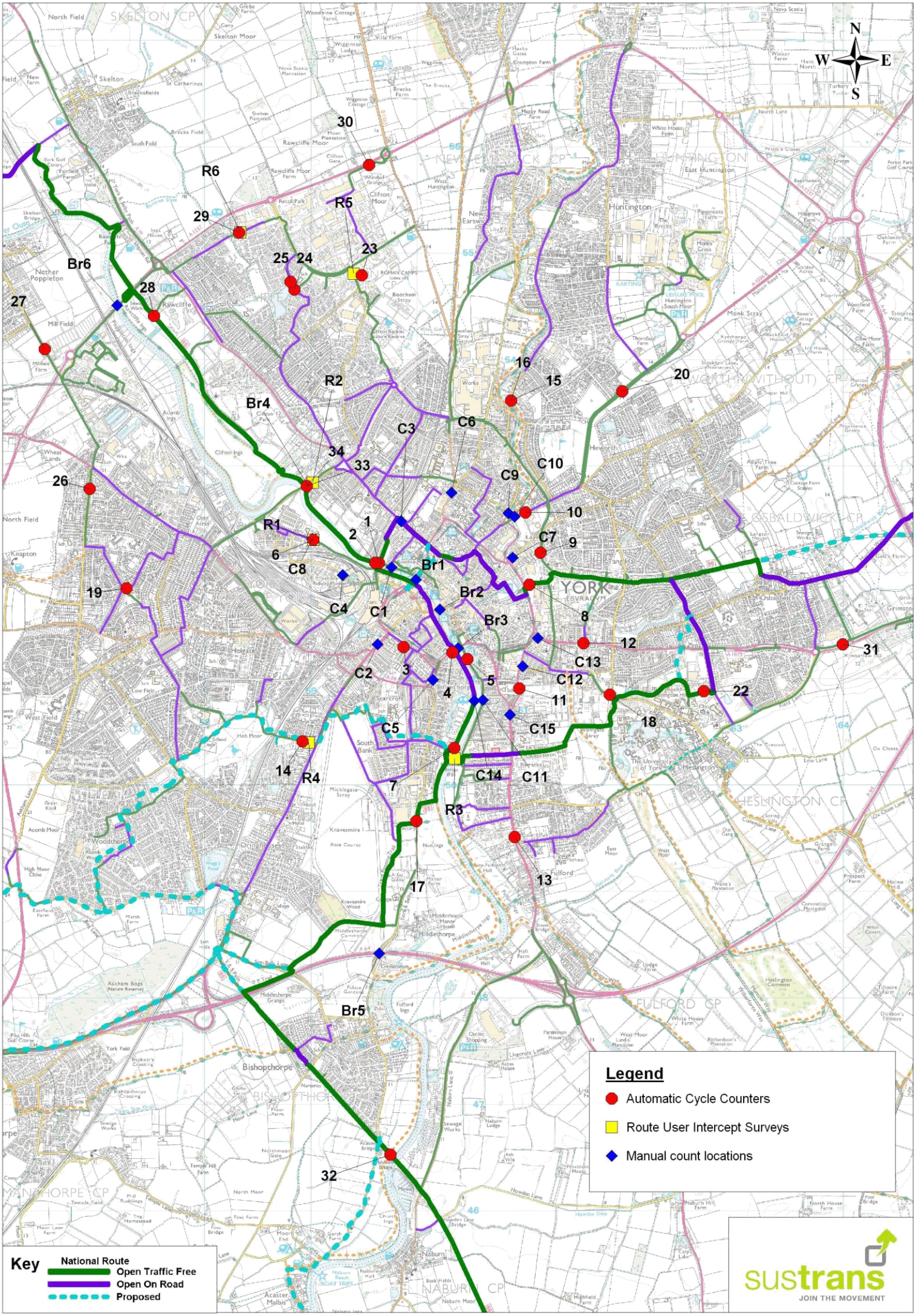
Data are available from Sport England's Active People Survey (APS) for two years prior to the Cycling City and Towns programme and all three years of the project. The APS data provide information on the proportion of people cycling for at least 30 minutes once or more per month and the proportion cycling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

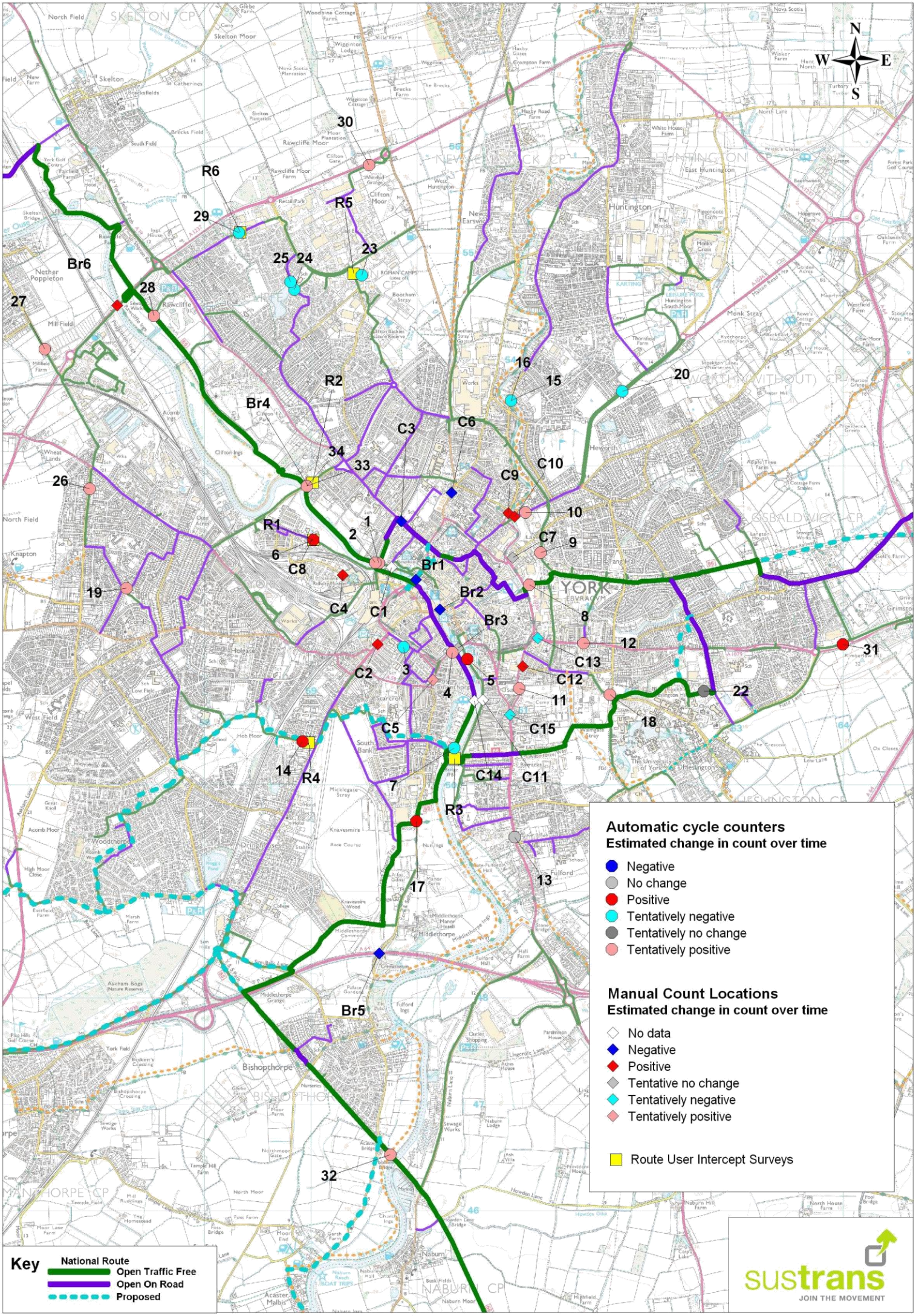
The proportion cycling once or more per month fell by 5.8%-points (from 22.8% to 17.1%) in York between 2007/8 and 2010/11. The proportion cycling 12 or more

times per month fell by 3.9%-points (from 7.0% to 3.1%) over the same period. These are both significant decreases ($p<0.05$).

9 Maps

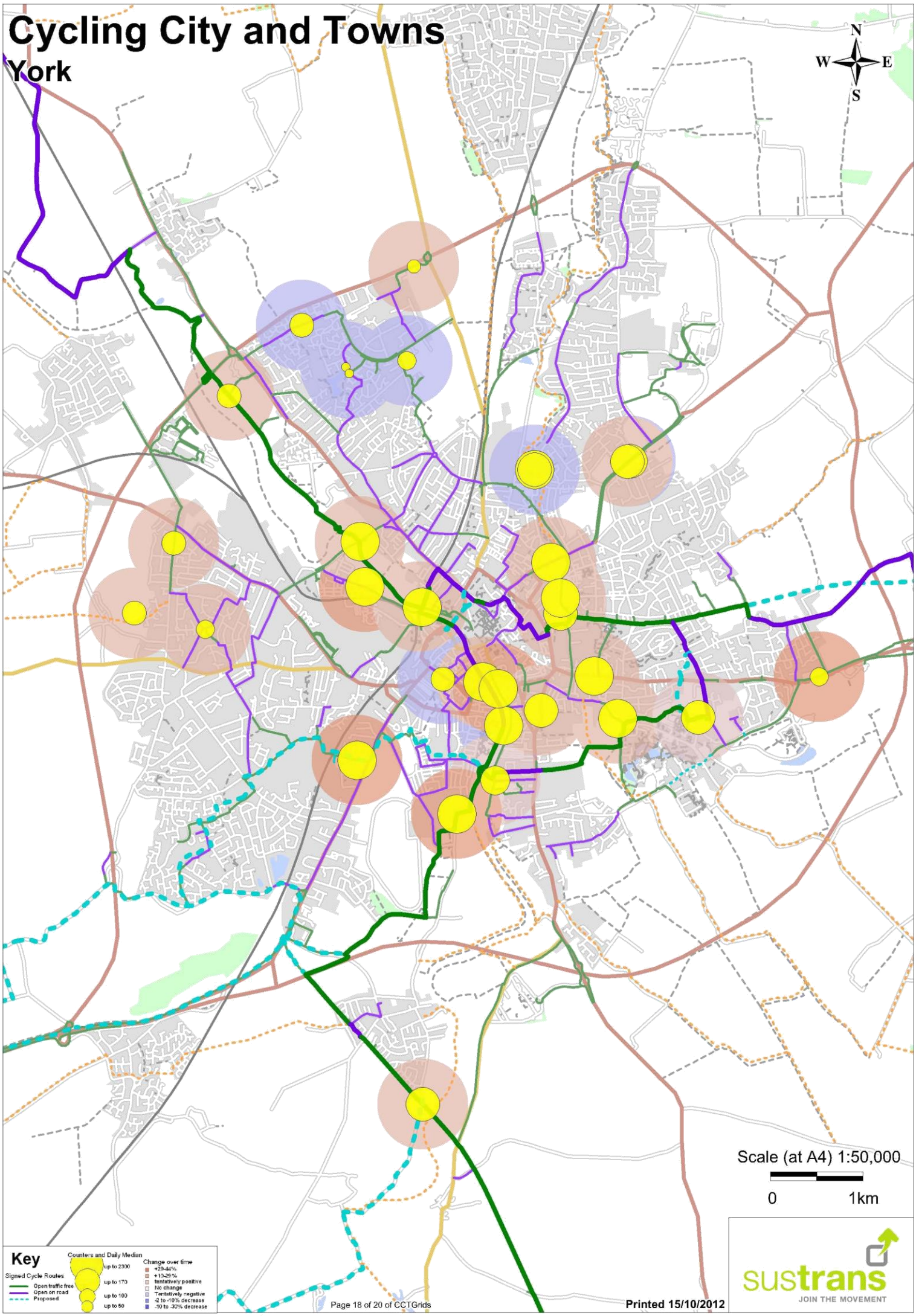
The following pages contain maps indicating the location of manual count and automatic cycle counter locations, and the estimated change in volumes of cycles recorded at these sites.


N
W
E
S
Legend
Automatic Cycle Counters
Route User Intercept Surveys
Manual count locations
Key
National Route
Open Traffic Free
Open On Road
Proposed
sustrans
JOIN THE MOVEMENT


Automatic cycle counters
Estimated change in count over time
Negative
No change
Positive
Tentatively negative
Tentatively no change
Tentatively positive
Manual Count Locations
Estimated change in count over time
No data
Negative
Positive
Tentative no change
Tentatively negative
Tentatively positive
Route User Intercept Surveys
Key
National Route
Open Traffic Free
Open On Road
Proposed
sustrans
JOIN THE MOVEMENT

Cycling City and Towns

York



Printed 15/10/2012