Outcomes of the Cycling Demonstration Towns programme: monitoring project report

Individual town results: Exeter

April 2017

Report authors: Andy Cope, Research and Monitoring Unit, Sustrans

Angela Kennedy, Research and Monitoring Unit, Sustrans Fiona Crawford, Research and Monitoring Unit, Sustrans

Nick Cavill, Cavill Associates

John Parkin, University of the West of England, Bristol

Lynn Sloman, Transport for Quality of Life

PART A: INTRODUCTION

PART B: DATA COLLECTION AND ANALYTICAL METHODOLOGIES

PART C: OVERALL FINDINGS

PART D: INDIVIDUAL TOWN RESULTS

PART D1: AYLESBURY

PART D2: BRIGHTON AND HOVE

PART D3: DARLINGTON

PART D4: DERBY PART D5: EXETER

PART D6: LANCASTER WITH MORECAMBE









About Sustrans

Sustrans is the charity making it easier for people to walk and cycle. We are engineers and educators, experts and advocates. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute. Sustrans works in partnership, bringing people together to find the right solutions. We make the case for walking and cycling by using robust evidence and showing what can be done. We are grounded in communities and believe that grassroots support combined with political leadership drives real change, fast.

Join us on our journey. www.sustrans.org.uk

Head Office Sustrans 2 Cathedral Square College Green Bristol BS1 5DD

© Sustrans April 2017 Registered Charity No. 326550 (England and Wales) SC039263 (Scotland) VAT Registration No. 416740656

Acknowledgments

The authors are grateful for the extensive assistance of officers in the six Cycling Demonstration 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.

Disclaimer

Although this report was commissioned by the Department for Transport (DfT), the recommendations are those of the authors and do not necessarily represent the views of the DfT. While every effort has been made to ensure the information in this document is accurate, DfT does not guarantee the accuracy, completeness or usefulness of that information; and it cannot accept liability for any loss or damages of any kind resulting from reliance on the information or guidance this document contains.

Mapping (c) Crown Copyright licence no 100039241. Also OpenStreetMap (c) www.OpenStreetMap.org (and) contributors licence CC-BY-SA (www.creativecommons.org).

Table of contents

1	I	Introduction	4
	1.1	Description of the Cycling City and Towns programme in Exeter	4
	1.2	Expenditure	4
	1.3	Summary of available monitoring data	5
	1.4	Summary of headline findings	5
2	P	Analysis of automatic cycle counter data	6
	2.1	Town-wide analysis	7
	2.2	Analysis of data from individual counter sites	8
	2.3	Relationship between programme activity and automatic count data	12
3		Analysis of manual count data	22
	3.1	City centre cordon	22
	3.2	Counts of cyclists on main traffic routes in Exeter	25
4		Combined manual and automatic count data	27
	4.1	River Exe screenline	27
5		Analysis of school related data	29
	5.1	PLASC	29
	5.2	Bike It	29
	5.3	Fit to Succeed cycling data	31
6		College travel survey	32
7		Behaviour and attitude survey data	32
8		Workplace travel data	33
9		TravelSmart	34
1(0	Analysis of casualty data	34
1	1	Analysis of physical activity data	35
	11.	1 Household level surveys of physical activity	35
	11.2	2 Active People Survey	37
12	2	Maps	38

1 Introduction

1.1 Description of the Cycling City and Towns programme in Exeter

Exeter was one of the six Cycling Demonstration Towns, receiving funding between 2005 and 2008. The focus of the programme was cycling to school and workplaces, with an emphasis on improving cycle infrastructure and the delivery of smarter measures to encourage cycling. During the second phase of the programme Exeter extended the project boundaries to take in communities on the Exe Estuary, the East of Exeter programme area and the Exe Valley cycle routes to Tiverton and Crediton. Emphasis was placed on promotion of and improvement of links to the network of leisure route for new and returning cyclists.

Infrastructure developments focused on filing gaps in the cycle network and removing barriers to enable easier journeys to employment and educational facilities within the city by bicycle. Between 2005 and 2011, links to schools were a high priority for the 'Cycle Exeter' programme. Five new secondary schools in Exeter had cycle routes and facilities built in from the beginning, prioritising traffic-free shared use routes. In total, 11.3km of traffic-free cycle routes and shared use paths were installed in order to improve access to schools.

Access to the University of Exeter campus was improved through the creation of a traffic free route connecting to a new toucan crossing and the removal of a ban on cycling on campus. A similar pattern of shared-use paths and the construction of a cycle contraflow lane were also adopted to improve access to the city centre and employment areas. Leisure access was improved through extending National Route 2 of the National Cycle Network along both sides of the River Exe, the construction of a cycle bridge to the rugby club stadium, and the development of an off-road cycling network in Haldon Forest Park. Signage has been improved and additional cycle parking spaces have been provided at a range of locations around the city.

Between 2006 and 2008, Bikeability was delivered to 3,144 pupils (1,793 to Level 1, 1,299 to Level 2 and 52 to Level 3). In the second phase of the programme (between 2008 and 2011) Bikeability was delivered to 5,647 pupils (2,809 to Level 1, 2,745 to Level 2 and 93 to Level 3)¹. In total, 24 schools in Exeter have engaged with the Bike It programme.

Smarter measures have focused on workplaces and neighbourhoods. Since 2008, Cycle Exeter has engaged intensively with employers in Exeter. In 2008 the Travel Smart programme was launched and through this Personalised Travel Planning was rolled out to 25,000 households in the area. Other marketing and promotional events such as 'National Bike Week' and the Tour Series has further raised the profile of Cycle Exeter.

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

4 Outcomes of the Cycling Demonstration Towns programme Individual town results: Exeter

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

revenue expenditure. Details of expenditure in Exeter during the Cycling Demonstration Town and Cycling City and towns programme are summarised in Table 1-1.

Table 1-1 Funds invested in cycling in Exeter

	2005-2008 revenue			2008-2011 capital	
Total	£491,029	£3,142,605	£1,031,358	£13,514,746	

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 six locations on a cordon around the city centre and six locations on a screenline based on the River Exe since summer 2006
- 12 hour manual counts of cyclists performed at six on-road locations annually since 1997
- Pupil Level Annual School Census (PLASC) travel data, monitoring data from Bike It and from the annual 'Fit to Succeed' survey collecting data on the lifestyles of young people and the impact of Schools Sports Partnership interventions
- college travel survey
- behaviour and attitude surveys performed in 2009 and 2010
- data on mode of travel to work
- 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 over time in levels of cycling from a moderate initial baseline

The available data provides evidence for continued growth in cycling in Exeter, building on that achieved during the first phase of the programme. The most complete data sets, time series data from automatic cycle counters located predominantly on traffic-free cycle routes, indicate positive change over time, although with some variation across the town. Evidence from automatic cycle counters is corroborated by manual count data. Counts of cyclists recorded on a cordon and a screenline indicate a growth over time, although the magnitude of counts varied considerably between the locations. Notwithstanding the limitations of the data source, levels of cycling to school appear to have increased over time for both primary and secondary schools. 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 +45% against a 2005 baseline. Based on data from the 26 automatic cycle counters, this estimated growth corresponds to an increase from 2,567 trips per day counted in 2005 to 3,713 in 2011

- An increase was observed at 21 of the automatic cycle count sites and a decrease was observed at five locations
- Analysis of manual count data collected since 2006 indicates an annual average change of +0.1% for the counts on a city centre cordon and +2% for counts performed on screenline based on the River Exe
- Analysis of counts of cyclists performed on the main arterial routes in Exeter indicate an increase during the programme
- Across all schools, the percentage of children cycling to school as measured by PLASC was 5.5% in 2010/11 compared to 3.4% in 2006/07
- Bike It data indicate an increase in children cycling to school on the day of the survey from 4.9% in pre surveys to 10.2% in post surveys, and an increase in children cycling to school everyday from 4.6% in pre surveys to 8.7% in post surveys
- Data collected through the 'Fit to Succeed' partnership indicate in increase in pupils stating that they cycle to primary schools (8% in 2008 to 17% in 2010) and secondary schools (14% in 2006 to 21% in 2010)
- Behaviour and attitude surveys found an increase in the proportion of respondents reporting to 'currently cycle' – from 53% in 2009 to 57% in 2010
- Surveys performed at Exeter College in 2010 found 5% of staff and 6% of students surveyed had cycled to the college more often in the past year; 70% of staff and 51% of students reported noticing an increase in the numbers of people cycling in Exeter in the past four years
- An annual survey of mode of travel to work recorded a small increase in the proportion of respondents cycling to work, from 9% in 2006 to 10% in 2010
- Compared to pre-programme data, the overall number of cycling casualties was not significantly different during the Cycling City and Town programme
- Household physical activity surveys indicate a significant increase in respondents cycling in a typical week during the first part of the programme
- Active People Survey data indicate a small, non-significant, decrease in Exeter in the proportion of respondents cycling once or more per month and a significant decrease in the proportion cycling 12 or more times per month between 2005/6 and 2010/11. In both cases the three intervening surveys showed an increase in the proportion cycling since 2005/6

2 Analysis of automatic cycle counter data

Data are available from a total of 26 counters in Exeter. 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 location. The cycle counters are located across Exeter, providing coverage of a number of routes linking to the city centre. Of the 26 sites, two were installed in 2000, four in 2001, eight in 2002, one in 2005 and the remaining 11 in 2006. In order to be consistent across towns, data from 2005 onwards are included in the analysis.

Two distinct sets of analysis have been undertaken using cycle counter data in Exeter. 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 +40% 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 Exeter at the end of the Cycling Demonstration Towns period relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009
Change against 2005 baseline	100%	113%*	125%*	133%*	140%*

^{*} 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 Exeter at the end of the Cycling City and Towns period relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	113%*	124%*	130%*	133%*	135%*	145%*

^{*} 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 due to the analysis performed at the end of the Cycling Demonstration Town period including data only to the end of March 2009. The same analysis is reported in Table 2-3 for the Cycling City and Towns programme period, comparing cycling levels in 2011 to a 2007 baseline.

Table 2-3 Change in cycle count in Exeter 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%*	109%*	117%*

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

An additional element was added into the regression model to account for the two periods of severe weather nationally late 2009 and early and late 2010. Table 2-4 presents the findings of this analysis. When adjusting the model for poor weather conditions, there is an increased percentage change between 2009 and 2010.

Table 2-4 Change in cycle count in Exeter 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%	113%*	123%*	130%*	135%*	142%*	145%*

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

Change in cycling as measured by the automatic cycle counters across Exeter, has been steady and positive over time, with growth continuing through the Cycling City and Towns phase of the project.

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 2-5 and alongside more detailed information for each counter in Table 2-6.

Table 2-5 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	26
Number of counters with quantifiable increase	21
Number of counters with no change	0
Number of counters with quantifiable decrease	5

In the following table counters are ordered by their location relative to the centre of Exeter, starting with those located closest to the town centre. Map references refer to the accompanying map (section 12).

² None of the changes are statistically significant.

Table 2-6 Description of automatic cycle counters in Exeter

Map reference	Location	Time period	Annual change	Average daily count in 2010	Comments
1.	Western Way	2005-2011 ^a	Weekday: +2% Sat/Sun: -2%	Overall: 57 Weekdays: 64 Weekend days: 30	Located in central Exeter on a traffic-free cycle path that connects Lower Coombe Street to Western Way.
2.	Millers Crossing	2005-2011 ^a	Weekday: +4% Sat/Sun: +4%	Overall: 227 Weekdays: 261 Weekend days: 178	Located on a proposed section of National Route 48 of the National Cycle Network, a traffic-free route adjacent to Bonhay Road and a bridge over the river Exe under half a mile north-west of the centre of Exeter.
3.	Exwick playing field	2005-2011 ^a	Weekday: 0% Sat/Sun: -2%	Overall: 282 Weekdays: 286 Weekend days: 257	Located on National Route 34 of the National Cycle Network, a traffic-free shared use path across playing fields, approximately half a mile north-west of the centre of Exeter.
4.	Prince of Wales Road	2006-2011	Weekday: +12% Sat/Sun: + 13%	Overall: 105 Weekdays: 129 Weekend days: 50	Located on an on-road route in the St James area of Exeter, approximately one mile north of the city centre. The University of Exeter is nearby.
5.	Prince Charles Road Higher	2005-2011 ^a	Weekday: +7% Sat/Sun: +5%	Overall: 47 Weekdays: 55 Weekend days: 27	Located on a traffic-free shared use path adjacent to Prince Charles Road one and a quarter miles north of the centre of Exeter.
6.	Barrack Road south bound	2006-2011 ^a	Weekday: - 10% Sat/Sun: -13%	Overall: 71 Weekdays: 82 Weekend days: 36	Located on an on-road route on Barrack Road, one mile east of the centre of Exeter in the St Leonard's area. A hospital and army barracks are located nearby.
7.	Gras Lawn	2006-2011	Weekday: +15% Sat/Sun: +15%	Overall: 46 Weekdays: 55 Weekend days: 22	Located on a traffic-free shared use path within a housing estate in the St Leonard's area of Exeter, one mile south-east of the city centre. Schools, a hospital and County Hall are located nearby.
8.	Cowick Barton playing fields	2006-2011	Weekday: +6% Sat/Sun: 0%	Overall: 83 Weekdays: 101 Weekend days: 59	Located on a traffic-free segregated path across playing fields in the St Thomas area of Exeter, approximately one mile west of the city centre. A college site is nearby.

9.	Barrack Road north bound	2006-2011	Weekday: +4% Sat/Sun: +6%	Overall: 152 Weekdays: 177 Weekend days: 73	Located on an on-road cycle lane on Barrack Road approximately one mile south-east of the centre of Exeter. Hospital and army barrack sites are nearby.
10.	Riverside Valley Park (Salmon Pool Swing Bridge)	2005-2011	Weekday: +7% Sat/Sun: +6%	Overall: 599 Weekdays: 599 Weekend days: 593	Located on National Route 34 of the National Cycle Network, a traffic-free shared use path adjacent to the Exeter Ship Canal in the Riverside Valley Park, approximately one and a half miles south-east of the centre of Exeter. A university, college and playing fields are nearby.
11.	Dryden Road	2005-2011 ^a	Weekday: +9% Sat/Sun: +5%	Overall: 66 Weekdays: 77 Weekend days: 25	Located on an on-road cycle lane on Dryden Road, approximately one and a half miles south-east of the centre of Exeter. School and hospital sites are nearby.
12.	Clapperbrook Lane	2006-2011	Weekday: -1% Sat/Sun: +3%	Overall: 362 Weekdays: 427 Weekend days: 196	Located on-road in an industrial estate in the Alphington area of Exeter, approximately one mile south of the city centre. The route links to National Route 34 of the National Cycle Network.
13.	Burnthouse Lane North	2005-2011 ^a	Weekday: +2% Sat/Sun: +4%	Overall: 43 Weekdays: 48 Weekend days: 25	Located on an on-road cycle lane on the north side of Burnthouse Lane, approximately one and a half miles south-east of the centre of Exeter close to college and university sites.
14.	Burnthouse Lane South	2005-2011 ^a	Weekday: -5% Sat/Sun: -1%	Overall: 48 Weekdays: 54 Weekend days: 28	
15.	Hamlin Lane playing field	2006-2011	Weekday: +7% Sat/Sun: +3%	Overall: 112 Weekdays: 130 Weekend days: 71	Located on a traffic-free segregated path across playing fields in the Whipton area of Exeter, approximately two miles north-east of the city centre.
16.	Honiton Road, Heavitree Gallows	2008-2011 ^b	Weekday: -1% Sat/Sun: -12%	Overall: 152 Weekdays: 172 Weekend days: 51	Located on a traffic-free shared use path adjacent to Honiton Road two miles east of the centre of Exeter. A school site is nearby.
17.	Hill Barton Road north bound	2006-2011	Weekday: +3% Sat/Sun: -2%	Overall: 164 Weekdays: 187 Weekend days: 49	Located on a traffic-free shared use path adjacent to the west side of the B3181 Hill Barton Road, two miles east of the centre of Exeter.

April 2017

18.	Hill Barton Road south bound	2006-2011	Weekday: +23% Sat/Sun: +22%	Overall: 50 Weekdays: 67 Weekend days: 27	Located on a traffic-free segregated path adjacent to the east side of the B3181 Hill Barton Road, two miles east of the centre of Exeter.
19.	Whipton Barton Road	2006-2011	Weekday: -1% Sat/Sun: +4%	Overall: 25 Weekdays: 32 Weekend days: 12	Located on a traffic-free shared use path adjacent to Whipton Barton Road in Whipton, approximately two miles to the east of the centre of Exeter. A supermarket and college are nearby.
20.	Rydon Lane north	2005-2011 ^a	Weekday: +6% Sat/Sun: +9%	Overall: 60 Weekdays: 70 Weekend days: 32	Located on a traffic-free shared use path adjacent to A3015 Rydon Lane, separated by a grass verge, two miles south-east of the centre of Exeter. A school site and a golf course are nearby.
21.	Rydon Lane south	2005-2011 ^a	Weekday: +11% Sat/Sun: +12%	Overall: 166 Weekdays: 208 Weekend days: 85	
22.	Bridge Road	2005-2011 ^a	Weekday: +5% Sat/Sun: +4%	Overall: 153 Weekdays: 178 Weekend days: 96	Located on a traffic-free shared use path adjacent to the A379 Bridge Road, two and a half miles south-east of the centre of Exeter.
23.	Sowton, Digby railway link	2006-2011	Weekday: +7% Sat/Sun: +11%	Overall: 121 Weekdays: 142 Weekend days: 25	Located on a traffic-free route adjacent to a railway line. The path links Sowton Industrial Estate with the nearby Digby and Sowton Railway station, approximately two and a half miles east of the centre of Exeter.
24.	Exminster, Sannerville Way	2005-2011 ^a	Weekday: +1% Sat/Sun: -3%	Overall: 152 Weekdays: 178 Weekend days: 95	Located on a traffic-free shared use path adjacent to the A379 Sannerville Road. The path links Exminster with National Route 2 of the National Cycle Network, three miles south of the centre of Exeter.
25.	Topsham (Exeter Road)	2005-2011 ^a	Weekday: +14% Sat/Sun: +13%	Overall: 293 Weekdays: 309 Weekend days: 237	Located on National Route 2 of the National Cycle Network, a traffic-free shared use path adjacent to Exeter Road in Topsham, three miles south-east of the centre of Exeter.
26.	Prince Charles Road Lower	2005-2011	Weekday: +7% Sat/Sun: +7%	Overall: 129 Weekdays: 154 Weekend days: 88	Located on a traffic-free shared use path adjacent to Prince Charles Road at a junction with Margaret Road, one and a half miles north from the centre of Exeter close to Stoke Hill infants and junior school.

a data are also available for earlier periods, but to ensure consistency these have not been included in the analysis
b counter installed prior to 2005 but data from 2008 onwards are included in the analysis due to changes in the coverage of counter channels partway through the time series

2.3 Relationship between programme activity and automatic count data

2.3.1 Traffic-free corridor alternative to Pinhoe Road

Infrastructure completed during the Cycling City and Towns programme included a corridor to the north of the city which provides a traffic-free alternative to cycling on Pinhoe Road. The route links the St James area in the west through Whipton to Pinhoe in the east, and passes close by number of schools. The western section of the route runs adjacent to Prince Charles Road at which point it is monitored by two automatic cycle counters. The daily flows of cyclists recorded at these locations are presented in Chart 2-1. Whilst a greater volume of cyclists are recorded by the Prince Charles Road Higher site, both sites have seen an increase in cycle trips recorded over time; +58% against a 2005 baseline. The year to year increase, based on all data, is presented in Table 2-7.

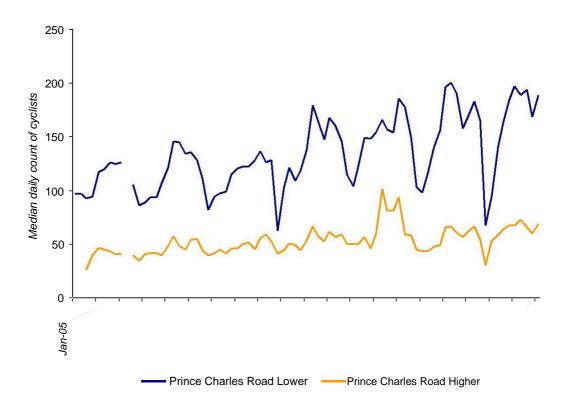
Table 2-7 Change in cycle count at count sites close to the Pinhoe Road corridor at the end of the Cycling City and Towns period relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	116%*	116%*	133%*	150%*	142%*	158%*

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

Although growth is recorded early in the programme at these locations, levels of cycling recorded are static between 2006 and 2007 (relative to the 2005 baseline), with growth resuming in 2008 and 2009.

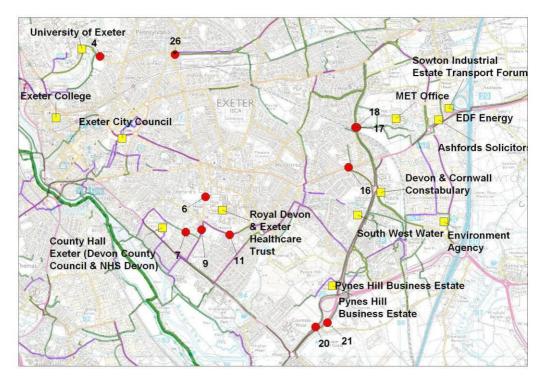
Chart 2-1 Median count of cyclists recorded on weekdays at two locations on the traffic-free route adjacent to Prince Charles Road



2.3.2 Workplaces

Several key employment areas in Exeter have benefited from a number of improvements to infrastructure to facilitate commuting to work by bicycle. These includede the installation of shared use routes and crossings, re-design of roads and designation of on-road cycle lanes, new links to existing routes and the completion of a high quality cycle route along the Exeter outer ring road. Map 2-1 below indicates the location of automatic cycle counters and key employment areas in Exeter.

Map 2-1 location of automatic cycle counters and key employers in Exeter (site numbers refer to Table 2-6)



Eleven automatic cycle counters were located close to key employment sites. The year to year growth in cycling recorded at these locations is presented in Table 2-8, alongside the same analysis for counters located in other parts of Exeter.

Table 2-8 Change in cycle count close to key employment areas and other locations in Exeter at the end of the Cycling City and Towns period relative to 2007 baseline (baseline = 100%)

		2007	2008	2009	2010	2011
Change against 2007	Counters located close to key employers	100%	108%*	116%*	120%*	124%*
baseline	Counters located elsewhere in Exeter ^a	100%	104%*	103%*	103%*	112%*

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

Collective analysis of data from cycle counters located close to key employment sites indicates a growth of +24% against a 2007 baseline, compared to +12% for counters located elsewhere in Exeter. The average annual change in the daily count of cyclists for the counters close to key employment sites are presented in Table 2-9.

^a there were 15 automatic cycle counters not located close to key employers

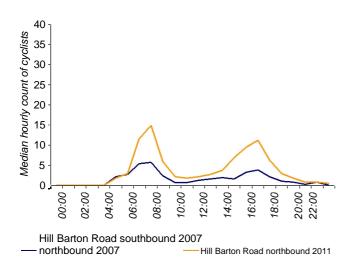
Table 2-9 Annual average change in daily count of cyclists recorded at count sites close to workplaces (baseline = 100%)

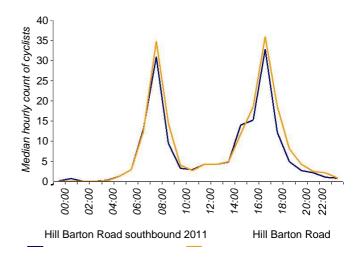
		Annual ave	rage % change
Map reference	Site	Weekday	Weekend day
4	Prince of Wales Road	+12%	+13%
6	Barrack Road southbound	-10%	-13%
7	Gras Lawn	+15%	+15%
9	Barrack Road northbound	+4%	+6%
11	Dryden Road	+9%	+5%
16	Honiton Road, Heavitree Gallows	-1%	-12%
17	Hill Barton Road northbound	+3%	-2%
18	Hill Barton Road southbound	+23%	+22%
20	Rydon Lane north	+6%	+9%
21	Rydon Lane south	+11%	+12%
26	Sowton, Digby Railway Link	+7%	+11%

Whilst there is positive growth across nine of the eleven sites based on weekday data, growth is not limited to weekday use, with growth of a similar order of magnitude observed in weekend day counts at the majority of sites, suggesting an all round growth across these locations not necessarily confined to commuting times.

Median hourly counts of cyclists are presented in Chart 2-2, by means of example, for the counters located at Hill Barton Road northbound and Hill Barton Road southbound. These counters are located to the east of a number of employment sites. On weekdays both sites record more than double the numbers of cyclists recorded on weekends. The northbound counter records greater volumes of cyclists than the southbound site (187 cyclists counted per day on weekdays in 2010 compared to 67 at the southbound site). The northbound site has also seen a lower rate of growth, with an annual average change of +3% compared to +23% at the southbound site. Growth in volumes of cyclists recorded at these sites between 2007 and 2011 is concentrated at the times of day associated with commuting.

Chart 2-2 Median hourly count of cyclists recorded at Hill Barton Road northbound and southbound on weekdays in 2007 and 2011





2.3.3 Exe Estuary Trail

National Route 2 of the National Cycle Network has been extended on both sides of the Exe estuary, providing a leisure route connecting Exeter to Dawlish to the east and Exmouth to the west. Counters in the following locations (indicated in Map 2-2) monitor the route around the estuary (ordered from north to south):

- Exwick Playing Field (map reference 3)
- Millers Crossing (map reference 2)
- Riverside Valley Park (Salmon Pool Swing Bridge) (map reference 10)
- Topsham (Exeter Road) (map reference 25)

Median daily counts of cyclists recorded on weekdays and weekend days at these locations are presented in Chart 2-3.

Although all sites show strong seasonality, typical of leisure routes, broadly similar volumes of cyclists are recorded on weekdays as on weekend across the year. This suggests use of the estuary route for a range of journeys, not only leisure trips. The hourly profile of counts recorded at these locations (Chart 2-4) indicates a peak in counts at times of day associated with commuting, but also consistent volumes of cyclists between these peaks, suggesting a mixture of use of the routes for commuting and leisure.

Map 2-2 Location of automatic cycle counters around the Exe Estuary (site numbers refer to Table 2-6)

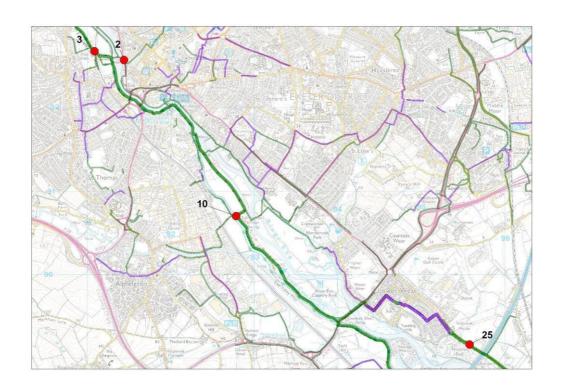


Chart 2-3 Median daily count of cyclists recorded on weekdays and weekend days at count locations around the Exe Estuary

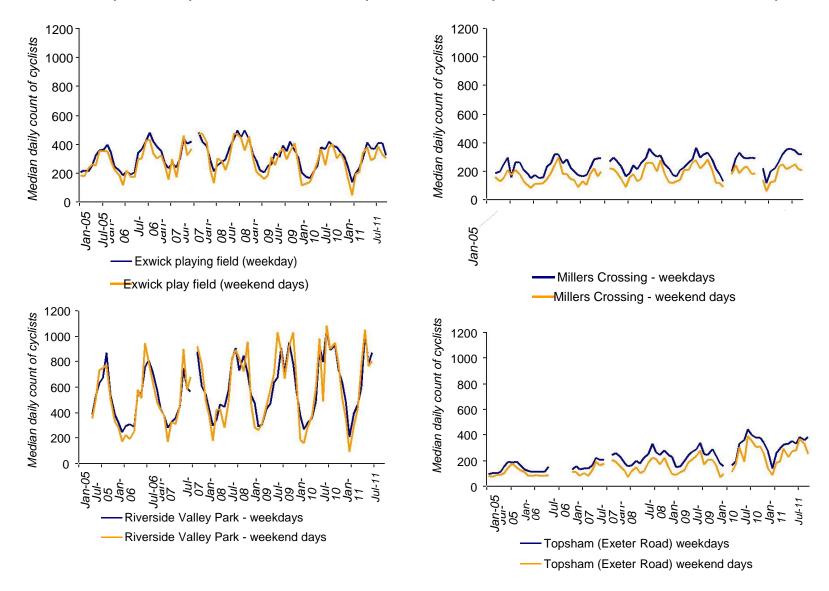
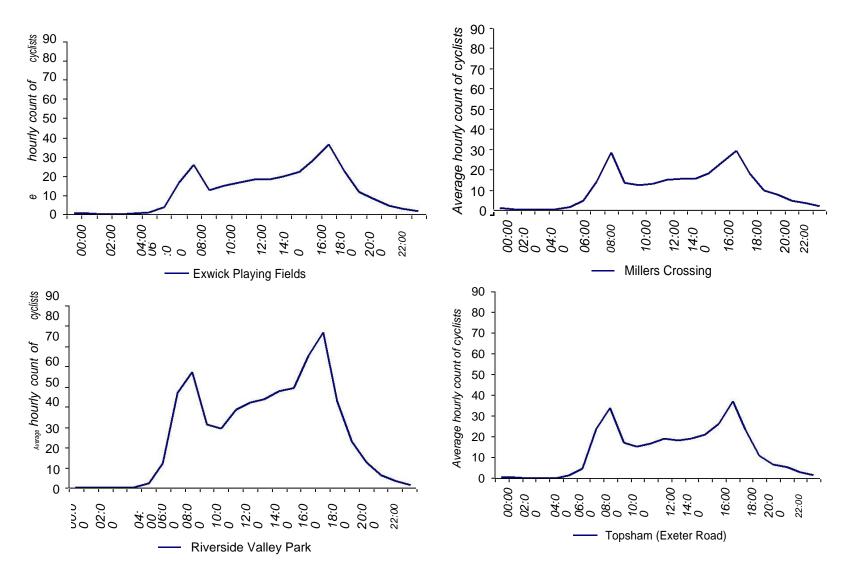


Chart 2-4 Average hourly count of cyclists recorded in 2011 at count locations around the Exe Estuary



Three of the four sites recorded an increase in volumes of cyclists over time. An annual average change of +4% was recorded at Millers Crossing, +7% at Riverside Valley Park, and +14% at Topsham (Exeter Road). An annual average change of -1% was recorded by the northernmost counter at Exwick playing field. Collective analysis of data from these sites indicates a +62% increase against a 2005 baseline, compared to +47% across all counters (Table 2-2). The year to year increase, based on all data, is presented in Table 2-10. This indicates a slowing of growth from 2008 to 2010, followed by substantial growth between 2010 and 2011.

Table 2-10 Change in cycle count at locations on the Exe Estuary relative to a 2005 baseline (baseline = 100%)

	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	116%*	133%*	138%*	133%*	139%*	162%*

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

In order to explore whether the slowing of growth between 2008 and 2010 is as a result of the severe weather conditions experienced nationally, an additional element was added into the regression model for the Exe Estuary counters. When this factor is added, an increased growth between 2009 and 2010 is observed (Table 2-11). This suggests that the severe weather conditions may account for some of the slowing in growth originally observed between 2009 and 2010, but it does not explain the decrease in volumes observed in 2009.

Table 2-11 Change in cycle count at locations on the Exe Estuary relative to a 2005 baseline (baseline = 100%)

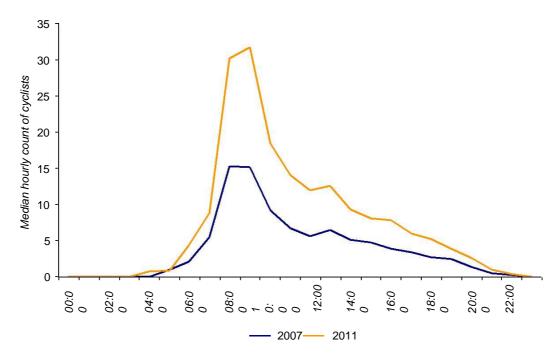
	2005	2006	2007	2008	2009	2010	2011
Change against 2005 baseline	100%	115%*	132%*	137%*	134%*	147%*	161%*

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

2.3.4 Movement to the University of Exeter

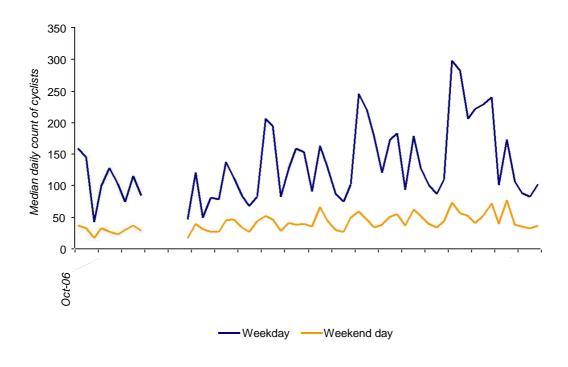
The Streatham campus of the University of Exeter is located to the north west of the city centre. Infrastructure improvements delivered during the Cycling City and Towns programme included the installation of a toucan crossing adjacent to the main entrance to the campus, providing a link to an existing traffic-free path and a new toucan crossing connecting the campus with new halls of residence. Cycle Exeter worked closely with the University, developing a cycling strategy, and delivering promotion, cycle training, discounts on cycling equipment, and installation of cycle parking. An automatic cycle counter is located on Prince of Wales Road and monitors inbound movement towards the campus. The median hourly count of cyclists recorded at this location is presented in Chart 2-5.

Chart 2-5 Median hourly count of cyclists recorded on weekdays at Prince of Wales Road in 2007 and 2011



The counter is located on-road and monitors inbound movement towards the University site, hence the peak in the count data in the morning. Although this site has seen similar rates of growth recorded on weekdays and weekend days, comparing hourly flows between 2007 and 2011 indicates a notable increase in the volumes of cyclists recorded during the morning commuting period. The median daily count of cyclists recorded at this location is presented in Chart 2-6.

Chart 2-6 Median daily count of cyclists recorded at Prince of Wales Road, close to the Streatham campus of the University of Exeter



The seasonal distribution of counts at this location reflects the proximity of the University site, with distinct peaks in flows coinciding with the three semesters of the academic year and substantially more cyclists recorded on weekdays than weekend days. The average annual percentage change is +12% based on weekday and +13% based on weekend day data. The annual percentage change by month is presented in Chart 2-7.

50 40 Annual percentage change in count 30 20 10 -10 Feb Dec Jan Mar Apr .lun Sep Oct Nov Weekday annual percentage change Weekend day annual percentage change

Chart 2-7 Annual average percentage change by month

Examining the estimated annual change in the average daily count by month indicates a lower growth during the summer months coinciding with the University summer holiday period. This suggests that much of the growth, both in weekday and weekend use, at this site is related to trips to access the University.

3 Analysis of manual count data

Three sets of manual counts have been undertaken in Exeter: on the city centre cordon, on the main traffic routes within Exeter, and on a screenline based on the River Exe. The latter is reported in a separate section combining manual and automatic count data.

3.1 City centre cordon

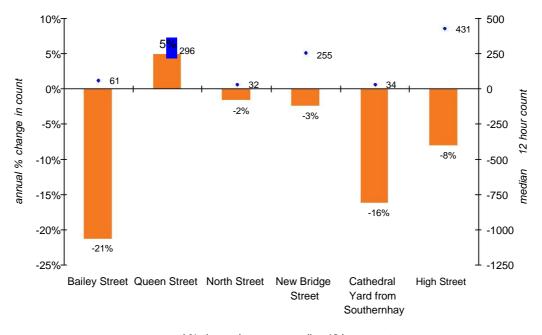
Manual counts forming a cordon around Exeter city centre were initiated as part of the Cycling Demonstration Town project in the summer of 2006. Quarterly counts have been undertaken at the six sites forming a cordon around the central area of the city up until spring 2011. The count sites, indicated on the accompanying map (section 12), are as follows:

- Bailey Street (map reference C1)
- Queen Street (map reference C6)
- North Street (map reference C5)
- New Bridge Street (map reference C4)
- Cathedral Yard from Southernhay (map reference C3)

High Street (map reference C2)

Chart 3-1 below shows the annual percentage change in counts across the period for each of the count sites.

Chart 3-1 Annual average percentage change in 12 hour manual counts of cyclists performed at six locations on the Exeter city centre cordon³



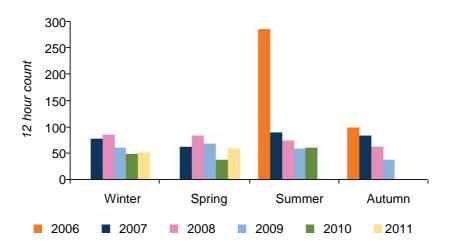
■ annual % change in count • median 12 hour count

The greatest decrease has been observed at the Bailey Street site. This site is likely to have been affected by displacement of cyclists to the High Street since it has been opened up to cyclists. An unusually high count in the summer of 2006 may also have contributed to the apparent decrease at this location over time (Chart 3-2). Excluding the count performed in summer 2006 gives an annual average decrease of -18%.

_

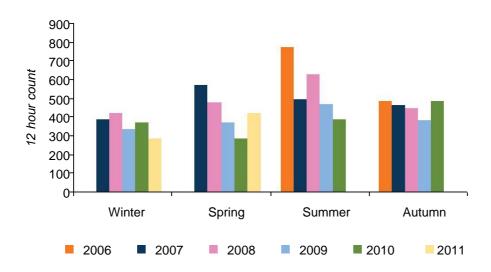
³ When comparing the total count at each point in time with counts in the same quarter but different years, there are 40 possible comparisons on the city centre cordon, 31 of which are significant differences (10 increases and 21 decreases).

Chart 3-2 Volumes of cyclists recorded during manual quarterly counts at the Bailey Street site between 2006 and 2011



The site on the High Street has the highest median count (431 for a 12 hour period) and has also experienced a decline in cyclists over the period analysed. Although this may be partly explained by a change in the count configuration at this site to prevent double counting, the data shows a gradual decrease which suggests that other factors have also contributed to the decrease. Chart 3-3 below shows the distribution of the quarterly counts for the High Street site.

Chart 3-3 Volumes of cyclists recorded during manual quarterly counts at the High Street site between 2006 and 2011



Combining the counts from the five of the six locations with consistent data for all quarters (Bailey Street is excluded as no data are available for autumn 2010) gives an annual percentage change in counts of -4% over the same period. Excluding the High Street site gives an annual percentage change of +0.1%.

3.2 Counts of cyclists on main traffic routes in Exeter

Manual counts of cyclists on the main traffic routes within Exeter have been undertaken since 1997 as part of an annual traffic count. These 12 hour counts have been undertaken at six locations in November each year:

- Honiton Road
- Alphington Street
- Queen Street
- Cowick Street
- Topsham Road
- Pinhoe Road

Chart 3-4 presents the total counts across the four sites for which we have data for each year since 2000. Counts began at Pinhoe Road in 2005, although no count was undertaken in 2006. No count was performed on Queen Street in 2011. The Pinhoe Road and Queen Street sites have therefore been excluded from Chart 11.

Chart 3-4 Total counts for four manual count sites on main traffic routes in Exeter

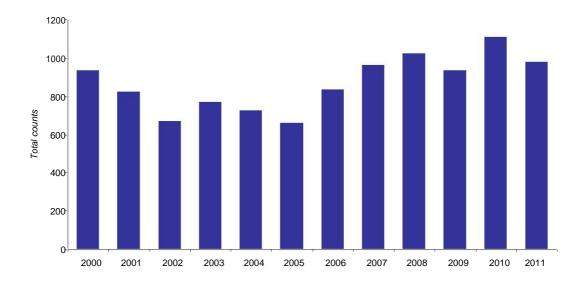
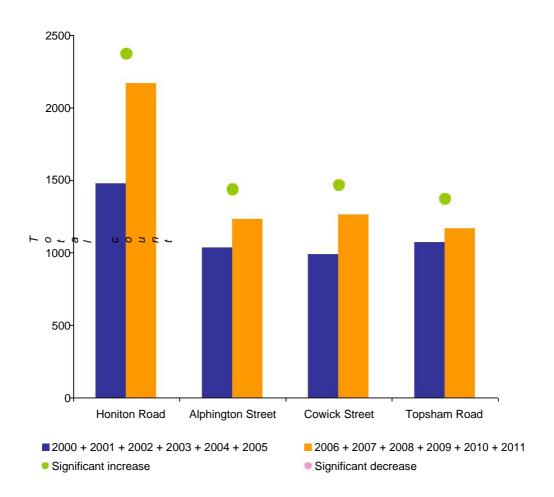


Chart 3-5 below compares aggregated data from 2000-2005 (pre-Cycling Demonstration Towns/Cycling City and Towns) with aggregated data from 2006-2011 for each site.

Chart 3-5 Comparison of manual count data collected on main traffic routes in Exeter in all years between 2000 and 2005 with data collected in all years between 2006 and 2011⁴



All count sites with data for this period show a significant increase (p<0.05) in counts when comparing the years prior to the programme with the programme period itself. The largest increase, both in terms of magnitude and percentage, is recorded at Honiton Road.

As noted above, the Queen Street and Pinhoe Road sites have insufficient data available to make the same comparison over time as reported in Chart 3-5. Comparing counts in 2001 to 2005 to counts in 2006 to 2010 indicates a significant increase at the Queen Street site. For the Pinhoe Road site, comparing data collected in 2007 and 2008 to data collected in 2010 and 2011 indicates an increase over time, although this is not statistically significant (p>0.05).

⁴ Significant if p<0.05

4 Combined manual and automatic count data

4.1 River Exe screenline

Manual counts forming a screenline along the River Exe were initiated as part of the Cycling Demonstration Town project in the summer of 2006. Quarterly counts have been undertaken at the six sites forming the screen line up until spring 2011. The count locations are as follows:

- Station Road (map reference R1)
- Exe Bridge South (map reference R2)
- Cricklepit Bridge (map reference R3)
- Suspension Bridge (map reference R4)
- Salmon Pool Bridge (map reference R5)
- Swing Bridge Road (map reference R6)

Chart 4-1 below shows the annual percentage change in counts across the period for each of the count sites. Combining the counts from the six locations gives an annual percentage change of +2% over the same period⁵.

Chart 4-1 Annual average percentage change in 12 hour manual counts of cyclists performed at six locations on the River Exe screenline in Exeter



~-

⁵ When comparing the total count at each point in time with counts in the same quarter but different years, there are 40 possible comparisons on the River Exe screenline, 29 of which are significant differences (15 increases and 14 decreases).

The following automatic cycle counters also monitor movement across the River Exe screenline:

- Riverside Valley Park (Salmon Pool Bridge) (map reference 10)
- Millers Crossing (map reference 2)
- Exwick Playing Fields (map reference 3)
- Clapperbrook Lane (map reference 12)
- Bridge Road (map reference 22)
- Prince of Wales Road (map reference 4)

Although the time series of data across these count sites are not consistent, it is possible to combine the automatic count data with the manual count data in a number of ways to allow comparisons to be made between consistent time periods. The results of these comparisons of data over time for the River Exe screenline are presented in Table 4-1.

Table 4-1 Comparisons of various combinations of count sites and time periods of data on the River Exe screenline

Combination of count sites	Time period compared	Change over time ^a
All manual and automatic count sites on screenline	Spring + summer 2008 compared to spring + summer 2010	Significant decrease
All manual and automatic count sites on screenline	Winter 2007 compared to winter 2011	Significant increase
excluding Swing Bridge Road	Winter 2008 + spring 2008 compared to winter 2011 and spring 2011	Significant increase
All manual and automatic count sites on screenline excluding Millers Crossing and Prince of Wales Road	Autumn 2006 compared to autumn 2011	Significant increase
All manual and automatic count sites on screenline excluding Millers Crossing and Prince of Wales Road	All counts in 2008 compared to all counts in 2010	Significant decrease

a Significant if p<0.05

Table 4-1 illustrates a common difficulty with manual count monitoring data, which is that comparison between different quarters can apparently show quite different trends. Here, we may tentatively draw the conclusion that more people were cycling across the River Exe screenline in 2011 than in any of the years 2006, 2007 or 2008, but we cannot say that growth has been consistent throughout the programme period.

5 Analysis of school related data

In relation to schools, Cycle Exeter focused mainly on Level 2 Bikeability training. A total of 2,745 children were trained to Level 2 between July 2008 and March 2011. A total of 24 schools have been in engaged in Bike It. A Bike Club officer worked in supporting 10 projects, supporting activities engaging approximately 760 young people. Cycle Exeter delivered transition lessons to 333 pupils, engaging young people making the transition between primary and secondary school.

5.1 PLASC

The percentage of pupils surveyed in Exeter stating 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 significantly between 2006/07 and 2010/11 (from 3.4% to 5.5%). Cycling to school has increased significantly over time for both primary and secondary schools, with substantially greater proportions cycling to secondary schools in all years. The proportion of pupils cycling to school increases year to year, with the exception of 2009/10 to 2010/11, where levels of cycling to primary decrease by 0.2 percentage points, and cycling to secondary school remains static.

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

	Academic ye	ear			
	2006/07	2007/08	2008/09	2009/10	2010/11
Primary	1.1%	1.4%	2.0%	2.6%	2.4%*
Secondary	6.1%	7.7%	8.1%	8.9%	8.9%*
All schools ^a	3.4%	4.3%	4.8%	5.5%	5.5%*

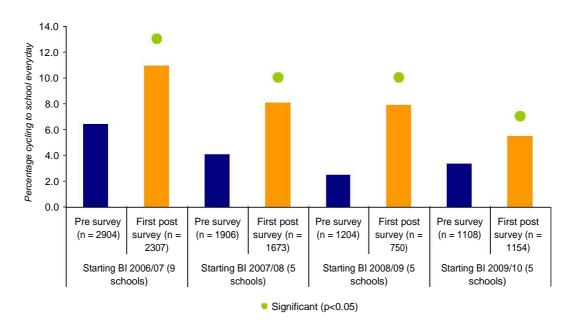
^a These figures are based on data from 23 primary schools and five secondary schools

5.2 Bike It

Bike It has been delivered in 24 schools in Exeter since September 2005. 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 24 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 reporting to cycle to school everyday between the pre and post survey is significant for schools starting Bike It in the 2006/07, 2007/08, 2008/09 and 2009/10 academic years.

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

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 cycle to school everyday increased from 4.6% to $8.7\%^6$ whilst the proportion cycling regularly increased from 12.4% to $20.9\%^7$. The proportion 'never' cycling decreased from 75.7% to $63.5\%^8$. The proportion of children cycling to school on the day of the survey increased from 4.9% to $10.2\%^9$.

For 12 schools in Exeter, 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'.

⁶ Significant increase (p<0.05)

⁷ Significant increase (p<0.05)

⁸ Significant decrease (p<0.05)

⁹ Significant increase (p<0.05)

Table 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%	7.9%*	8.1%*
Regularly	10.5%	19.1%*	21.3%*
Never	80.4%	65.6%*	60.3%*

^a pre-Bike It survey (in September of the first academic year of engagement

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.

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

	2007	2008	2009	2010	2011
Non-Bike It schools ^a	0.8%	0.9%	1.4%	1.3%	1.0%
Bike It in 2006 b,f	7.5%	9.2%	9.6%	10.7%	10.3%
Bike It in 2007 ^{c,f}	1.2%	1.6%	2.3%	2.6%	3.5%
Bike It in 2008 d,f	0.9%	1.2%	1.5%	2.9%	2.2%
Bike It in 2009 e,f	0.0%	1.0%	1.3%	1.1%	1.0%

^a Data for eight primary schools that were not engaged in Bike It

5.3 Fit to Succeed cycling data

Fit to Succeed¹⁰ is a programme promoting physical activity and achievement in schools in Exeter. It is a partnership between school children, Exeter Academic Council, Devon Curriculum Services, Exeter City Council, DC Leisure Management and the Schools Health Education Unit. A survey is conducted each year as part of the programme. The survey collects information on the lifestyles of young people, and includes questions about cycling. Table 5-4 summarises the results of surveys performed in a consistent set of schools between 2006 and 2010, and a subset of these schools in 2011.

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

b Data for four primary schools and three secondary schools initially engaged in Bike It in 2006

^cData for two primary schools and two secondary schools initially engaged in Bike It in 2007

^dData for five primary schools initially engaged in Bike It in 2008

^eData for four primary schools initially engaged in Bike It in 2009

^fPLASC 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

¹⁰ http://sheu.org.uk/content/page/fit-succeed

Table 5-4 Percentage of pupils surveyed cycling to school in the annual Fit to Succeed survey $^{\rm c}$

	2006	2007	2008	2009	2010 ^a	2011
% cycling to primary schools	8%	10%	14%	15%	17% (19%)	25%
% cycling to secondary schools	14%	16%	20%	22%	21% (26%)	24%

^a data from a smaller subset of schools were included in the 2011 analysis. Figure in parentheses against 2010 are for the same schools as reported for 2011 to allow a direct comparison to be made.

6 College travel survey

An online survey was available to Exeter College staff and students between the 29th of November and the 13th of December 2010. A total of 522 responses (281 from staff and 241 from students) were received. The survey asked 17 questions relating to mode of travel to Exeter College and opinions on changing levels of cycling in Exeter. An additional questions concerning CycleScheme was asked of staff only.

Of the 281 members of staff surveyed, 27% drive a car or van alone to the college, whilst 12% cycle. Of staff surveyed, 5% had cycled to the college more often in the previous 12 months, 70% noticed an increase in the number of people cycling in the last four years in Exeter and 58% noticed an increase in the network of cycle routes in Exeter in the last four years.

Of the 241 students surveyed, 33% travel to the college by train, whilst 4.6% cycle. Of students surveyed, 6% had cycled to the college more often in the previous12 months, 51% noticed an increase in the number of people cycling in the last four years in Exeter and 41% noticed an increase in the network of cycle routes in Exeter in the last four years.

7 Behaviour and attitude survey data

Baseline and follow up surveys were performed in 2009 and 2010 around marketing activities in Exeter which included project branding, a Pledge Campaign, workplace and schools toolkits, resources and a new website. The pre survey was performed in spring 2009 with 400 respondents and the follow up in spring 2010 with 402 respondents.

The survey found a small increase in the proportion of respondents who 'currently cycle', from 53% in 2009 to 57% in 2010¹¹. The increase in cycling between surveys is attributed largely to increased cycling amongst those aged 35 to 54. There was a significant increase in the number of male cyclists, whilst cycling amongst women remained at similar levels. Bike ownership increased from 57% in 2009 to 68% in 2010.

^b Ten secondary and special schools and 50 primary schools usually take part in the survey

^c Pupils were asked "Do you cycle to school?"

¹¹ Power Marketing (2010) *Market Research Presentation for the Devon CC Cycling campaign:* post-campaign research, 22 April [presentation]

8 Workplace travel data

Exeter's Travel to Work Tally has been carried out annually since 2006. Letters are sent to local businesses inviting them and their staff to complete the travel tally questionnaire. The questionnaire asks how participants usually travel to work and has a set of questions on changes in travel over the last year. In 2006, almost 6,500 respondents completed the survey, whilst just over 7,000 completed the survey in 2010. The following results are for all respondents and therefore are likely to include some different employers in different years.

The percentage of respondents stating cycling to be their usual mode of travel to work are shown in Table 8-1. By means of comparison, the proportion of all residents in Exeter cycling to work as recorded in the 2001 Census was 2.3%.

Table 8-1 The percentage of respondents stating cycling to be their usual mode of travel to work

Year	% of respondents stating cycling to be their usual mode of travel to work
2006	9%
2007	9%
2008	9%
2009	10%
2010	10%

Although the percentage of respondents living in Exeter stating that improved cycling routes or lanes had changed the way they travelled in the last 12 months was fairly constant between 2006 and 2009, it more than doubled to 11% in 2010 (Table 8-2).

Table 8-2 The percentage of respondents stating that improved cycling routes or lanes had changed the way they travelled in the last 12 months

Year	% of respondents stating that improved cycling routes or lanes had changed the way they travelled in the last 12 months
2006	6%
2007	5%
2008	5%
2009	5%
2010	11%

The percentage of respondents stating that they were cycling more than they were 12 months ago has remained relatively constant at around 40% (2006: 44%; 2007: 39%; 2008: 40%; 2009: 39%; 2010: 41%).

One of the larger employers to take part in the survey was the Met Office where 667 employees completed the survey in 2006 and 476 in 2010. Over this period the percentage of respondents reporting to usually cycle to work increased from 13% to 20%. At the Royal Devon and Exeter Hospital a small increase in cycling to work was observed (2006: 10%; 2010: 11%), although a much smaller number of staff responded to the survey in 2010 than in 2006 (2006: 1128; 2010: 361).

9 TravelSmart

The TravelSmart Individualised Travel Marketing (ITM) project was delivered in Exeter and Exminster during 2008 and 2009 with a target population of 25,000 households.

The project was evaluated using pre and post surveys in the ITM area and in a control area (an untargeted area of North Exeter). Respondents completed a household survey and an individual travel diary for each member of the household for one week. The number of responses to the pre-survey in January to March 2008 was 1,317 for the ITM group and 638 for the control group. The number of responses to the post survey in January to March 2010 was 1,296 for the ITM group and 516 for the control group.

Without ITM, 3% of trips by main mode were made by cycle compared to 4% with ITM. A 33% relative change in cycle trips was observed, from 27 trips per person per year by bike as main mode without ITM to 36 trips per person per year with ITM. The relative reduction in car as driver trips was 12%; and the car distance travelled for day to day trips decreased by 15%.

10 Analysis of casualty data

Cycle user casualty data were derived for Exeter from STATS19 collision data. The average number of killed, seriously injured and slightly injured in each year prior to the Cycling Demonstration Towns/Cycling City and Towns programme (2003-2005) are compared to those occurring during the programme (2006-2010) in Table 10-1. The difference between the time periods compared is not significant.

Table 10-1 Annual average number of cyclists killed or injured in Exeter before (2003-2005) and during (2006-2010) the Cycling City and Towns programme

	Annual ave			
	Killed	Seriously injured	Slightly injured	Total
Pre-programme	0.0	2.7	47.3	50.0
During programme	0.2	5.2	57.4	62.8

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

11 Analysis of physical activity data

11.1 Household level surveys of physical activity

Household level surveys of physical activity were performed in Exeter 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) study¹², 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).

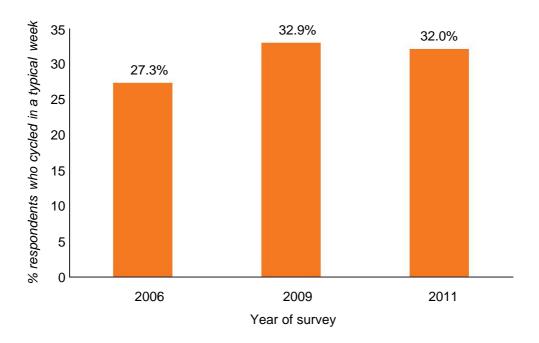
11.1.1 Any cycling in a typical week

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, 27.3% of respondents said they cycled in a typical week. By 2009 this figure was 32.9%, a significant increase compared to the 2006 baseline (p<0.05). The 2011 survey found the proportion of respondents doing any cycling in a typical week to be unchanged at 32%.

-

¹² 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 11-1 Percentage of respondents who reported cycling in a typical week



11.1.2 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, 26.7% said they were a cyclist (of some type); by 2009 this figure had increased to 32.4% (p<0.05) and in 2011 it had increased to 31.7%. These increases were all statistically significant compared to 2006 (p<0.05). In each survey year, around 1-3% of cyclists said they were 'new to cycling'.

11.1.3 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, 22.8% were classed as inactive. By 2009 this reduced to 20.6% (not significant: p>0.05) and by 2011 it was 22.2%.

11.1.4 Awareness of campaign activity

In research to understand the success of the campaign, 40% of respondents said they had seen or heard some publicity in the town about a programme promoting cycling. In 2011, 50% of respondents recalled the name of the programme (Cycle Exeter) when prompted; this was recalled by 53% in 2009.

Those who were aware of the Cycling Demonstration Towns/Cycling City and Towns programme were asked what they thought about it, using a set of statements. A number of the statements presented positive views about the

programme. Table 11-1 shows the proportion of people who agreed with these positive statements.

Table 11-1 Percentage of people who agreed with the following statements

	% agree strongly or tend to agree
The campaign made me think about cycling	57%
The campaign made me want to cycle more	34%
The campaign made me give cycling a try	24%
The campaign helped me see cyclists' point of view rather than drivers'	51%

This shows that around half of the respondents thought the 'campaign' had helped them think about cycling, but only 24-34% considered converting this into action.

A number of the statements presented more negative views about the programme. Table 11-2 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 Exeter.

Table 11-2 Percentage of people who disagreed with the following statements

	% disagree strongly or tend to disagree
The campaign didn't tell me anything new	34%
I didn't take much notice of the campaign	30%
The local authority should not be spending money on cycling	73%

11.2 Active People Survey

In Exeter the proportion of respondents cycling once or more per month was 11.8% in both 2005/6 and 2010/11. Surveys undertaken in 2007/08, 2008/09 and 209/10 all found a higher proportion cycling once or more per month than in 2005/06 (19.5%, 15.1% and15.5%, respectively) although there was not a consistent increase year to year over this period. A significant decrease (p<0.05) was observed in the proportion cycling 12 or more times per month (from 2.2% in 2005/06 to 0.7% in 2010/11. As with the proportion of respondents cycling once or more per month, the surveys undertaken in 2006/07, 2007/08 2008/09 found a greater proportion of respondents cycling 12 or more times per month than in 2005/6 (5.2%, 2.9% and 4.1% respectively).

12 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.

