Ucycle Nottingham phase one

Monitoring and evaluation report

October 2011

sustrans
JOIN THE MOVEMENT

About Sustrans

Sustrans makes smarter travel choices possible, desirable and inevitable. We're a leading UK charity enabling people to travel by foot, bike or public transport for more of the journeys we make every day. We work with families, communities, policy-makers and partner organisations so that people are able to choose healthier, cleaner and cheaper journeys, with better places and spaces to move through and live in.

It's time we all began making smarter travel choices. Make your move and support Sustrans today.
www.sustrans.org.uk

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

Registered Charity No. 326550 (England and Wales) SC039263 (Scotland)
VAT Registration No. 416740656

Table of contents

1 Executive summary

Since September 2009, the Ucycle Nottingham project has aimed to increase cycling and awareness of the benefits of and opportunities for cycling though engagement with staff and students at Nottingham University Hospitals, Nottingham Trent University and the University of Nottingham. This was achieved through infrastructure improvements, sharing of information, training and community activities, as well as a cycle hire scheme. Evaluation was carried out by Sustrans Research and Monitoring Unit (RMU), on data gathered from staff travel surveys, activity records, parked bike counts, cycle hire scheme monitoring and Route User Intercept Surveys (RUIS), to monitor the impacts of the Ucycle project.

Ucycle Nottingham increased levels of cycling

- there was an increase in levels of cycling trips made to work/study by travel survey respondents, from 5% to 8% for students and 8% to 13% for staff
- there was an increase in the average number of parked bikes counted across university and hospital campuses: from 1,203 in January/February 2010 to 1,492 in January/February 2011 and from1,243 in May/June 2010 to 1,575 in May/June 2011
- based on data collected at key wider infrastructure locations, estimated cycling user levels increased from 683,872 in 2010 to 688,961 in 2011.

Ucycle Nottingham raised awareness of the opportunities for and benefits of cycling

- project activities in Ucycle Nottingham have engaged with a total of 6,841 individuals over the project period
- 284 participants were engaged in the Ucycle bike hire scheme in 2010/11.

Ucycle Nottingham reduced car use

- travel survey respondents reported a reduction in car use across all three sites - for staff, from 53% to 52% of trips, and for students from 17% to 15% of trips
- 62% of surveyed route users reported having replaced at least one mile of car travel on average per week with walking and or cycling.

Ucycle Nottingham's impacts have wider economic benefits

- the present value of reduced mortality resulting from increased time spent cycling by travel survey respondents is estimated by the Health Economic Assessment Tool (HEAT) to be £4,359,000 for staff and £2,483,000 for students(when accumulated) over ten years
- the present value of reduced mortality resulting from increased time spent cycling by bike hire participants results is estimated by HEAT to be £718,000 (when accumulated) over ten years
- the present value of the benefit of the new walking and cycling trips made by the additional route users, assuming that 50% of the new trips are attributable to the scheme, accumulated over 10 years was estimated by HEAT to be £1,243,000
- RUIS respondents reported replacing 835 km per day of driving with walking and cycling over the past year. If all of the users counted on the three sites had the same reduction in car use there would be a saving of 1,480 tonnes of carbon dioxide per year, this reduction in carbon dioxide is valued at £78,000
- If all bike hire users made the same level of reduction in their car travel as the survey respondents the bike hire scheme would produce a saving of 106 tonnes of carbon dioxide per year, valued at £5,500
- If all staff and students made the same reduction in trips made to work/study by car as the travel survey respondents there would be a saving of 570 tonnes of carbon dioxide per year for staff and 577 tonnes of carbon dioxide per year for students, each valued at £30,000.

2 Introduction and methodology

2.1 Project background

Since September 2009, the Ucycle Nottingham project has aimed to increase levels of cycling amongst staff and students at the University of Nottingham (UoN), Nottingham Trent University (NTU) and Nottingham University Hospitals NHS Trust (NUH). The project implemented a range of activities and interventions including infrastructure improvements on and between campuses (details available in the project infrastructure update reports), events and activities to raise awareness of the benefits of cycling, as well as a cycle hire scheme for students.

The Ucycle project aimed to achieve the following outcomes:

1. an increase in the number of staff and students cycling to and from each university and hospital
2. an increase in the awareness of opportunities for and the benefits of cycling amongst staff, students and visitors
3. up to 100 staff and students actively engaged in promoting cycling and other forms of sustainable transport at the universities/teaching hospitals over the two years
4. an increase in the usage of cycling facilities by visitors and the wider community

Sustrans RMU has evaluated the scheme using the following tools:

- travel surveys – baseline (November/December 2009), interim follow up (May 2010), second follow up (December 2010/January 2011) and final survey (May 2011)
- pre and post Route User Intercept Surveys (RUIS) and manual counts
- counts of parked bikes on all university campuses
- participant engagement and activity monitoring, using an online project database
- in-depth monitoring of bike hire scheme participants, consisting of:
    - (1) a registration survey - completed on paper when the participant collected the bike
    - (2) a baseline survey – emailed to participants as soon as Sustrans RMU received the contact data
    - (3) an interim survey – end of Autumn term
    - (4) an interim survey – end of Spring term
    - (5) a follow up survey – completed at the end of the academic year. All follow up surveys were carried out in June and July 2011.

Full results and methodology for all information presented in this document are available on request from Sustrans Research and Monitoring Unit. Please contact monitoring@sustrans.org.uk or call 0191 269 9370.

2.2 Impact evaluation

Surveys were carried out in order to determine if the Ucycle Nottingham project had increased levels of cycling and awareness of the benefits of cycling among staff and students. Four iterations of staff and student travel surveys were delivered over the two year project period. As part of the travel surveys, respondents were asked to complete a travel diary detailing the modes of travel taken to make all of their trips to and from work/study over the course of a week. The surveys included questions on travel behaviour and a week long work/study travel diary. The results of the travel surveys have been used to examine the travel behaviour of staff and students, their attitudes towards cycling, barriers to cycling, recognition of Sustrans and Ucycle Nottingham, and participation in activities offered by the project. A summary of changes in levels of cycling and car use is presented in **Section 3** of this report.

Project targets were then set to increase levels of cycling based on the results of this week long university travel diary in the baseline travel survey. The targets were:

- NTU: trips made to work or study by bike to increase by 50% for staff and 100% for students
- UoN: trips made to work or study by bike to increase by 50% for staff and students
- NUH: trips made to work by bike to increase by 50% for staff.

2.3 Beneficiary monitoring

Project beneficiaries are those individuals who had been engaged in project activities in some way. This included individuals who received information, attended an event or took part in training or an activity organised by the project. All project activities and associated participants were recorded in an online database. **Section 4** of this document provides a summary of the total numbers of participants that have been engaged in the project during phase one.

Participants that took part in the bike hire schemes delivered at the University of Nottingham and Nottingham Trent University in the academic year 2010/11 completed a detailed programme of monitoring as part of the scheme. A summary of the headline results from the bike hire scheme monitoring can be found in **Section 5.** The complete data set is available in the *Ucycle Nottingham bike hire scheme 2010/11 monitoring report*.

2.4 Cycle counts

In order to monitor how the project has affected cycle numbers at the university, counts of parked bikes were completed at all cycle parking locations across campuses. Each parking location was surveyed three times over a six hour period. Five iterations were carried out on a termly basis. A summary of the count results are presented in **Section 6** of this report.

2.5 Route User Intercept Surveys

Route User Intercept Surveys (RUIS) and manual counts were conducted at four locations around the project area. RUIS gather information from individuals at significant points on walking and cycling routes recording demographic information, trip information, and also data on attitude and perception. Data is collected over 48 hours at each site across one weekday during term time, one weekend day during term time, one weekday during the holiday period and one weekend day during the holiday period. The surveys were conducted between the hours of 0700h and 1900h. **Section 7** of this document presents a summary of the key results of the Route User Intercept Surveys.

2.6 HEAT

The World Health Organisation's Health Economic Assessment Tool (HEAT)[1] is used to estimate the economic value of the health benefits associated with cycling and walking. HEAT requires the input of data on levels of walking and cycling, then calculates whether a reduction in mortality is evident resulting from specified levels of activity. HEAT can be used to place a value against existing levels of walking and cycling or to estimate the benefits of increased activity following the delivery of interventions encouraging walking and cycling.

2.7 Carbon dioxide savings

Carbon dioxide savings were calculated using the Department for Transport's (DfT) Local Authority Basic Carbon tool[2]. This is an MS Excel based tool used to assess the effects of transport interventions on carbon dioxide emissions. The carbon tool can also be used to estimate the economic value of carbon dioxide savings. The DfT use a standard price of £52,476 per 1,000 tonnes of carbon dioxide (2011 prices)[3].

[1] http://www.heatwalkingcycling.org/
[2] http://www2.dft.gov.uk/pgr/regional/policy/carbon-tool/
[3] Value published by the DfT

3 Travel survey results

Travel surveys were delivered to all staff and students in December 2009 and December 2010/January 2011. As part of the survey, staff and students were asked to record all modes of travel used for trips to and from work/study in a week long travel diary. At the University of Nottingham and Nottingham Trent University a total of 1,937 students completed the 2009 travel diary and 1,433 completed the 2010/11diary. At both Universities and Nottingham University Hospitals, 901 staff completed the 2009 diary and 1,696 completed the diary in 2010/11 (table 3-1).

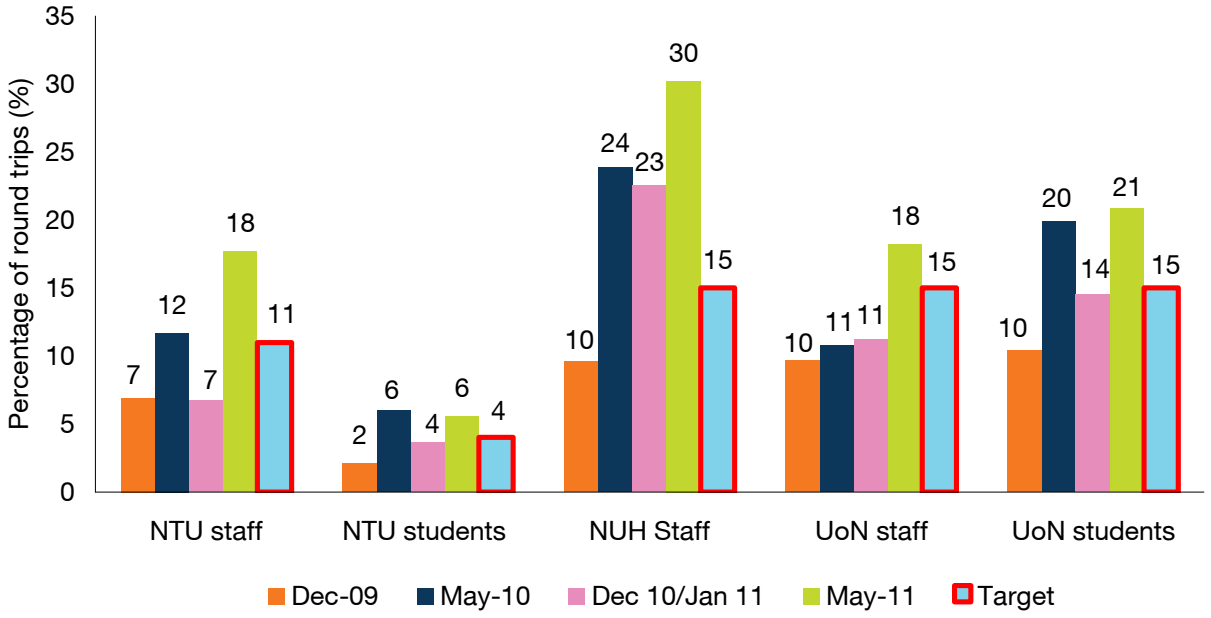
Table 3-1 Number of survey respondents that completed the week-long travel diary

	NTU		UoN		NUH
	Staff	**Students**	**Staff**	**Students**	**Staff**
December 2009	450	1,172	72	756	379
December 2010/January 2011	583	887	651	546	461

3.1 Increases in cycling trips

The travel diary results show that there has been an increase in trips made to work/study by staff and students (chart 3-2). In total, the December 2009 and December 2010/January 2011 surveys show that the proportion of trips made to university by bicycle[4] by students increased from 5% to 8% and trips made by staff increased from 8% to 13%. Among survey respondents that travelled by bicycle, the average return distance travelled by students decreased from 11km to 10km and the average return distance travelled by staff increased from 15km to 17km.

Chart 3-2 Percentage of average weekday trips made to work/study by bicycle by survey respondents



[4] This includes all trips where respondents stated they had used a bicycle as either a single or multimode journey

The changes in levels of cycling reported in the staff and student travel diaries were applied to the total numbers of staff and students at University of Nottingham, Nottingham Trent University and Nottingham University Hospitals (see table 3-2). If all staff and students increased their levels of cycling in the same way as the travel survey respondents this would result in an increase in staff trips made by bicycle from 1,856 trips to 2,815 trips per day and an increase in student trips from 2,890 trips to 4,145 trips per day.

Table 3-2 Total numbers of staff and students

	NTU	UoN	NUH
Students	23,554	30,000	n/a
Staff	3,500	6,700	12,000

Staff and student numbers are those presented in the Ucycle Nottingham project business plan

The present value of these new cycling trips, assuming that 50% of the new trips are attributable to the scheme, that individuals cycle for the average distance reported in the travel survey on 124 days per year, accumulated over 10 years, was estimated by HEAT[5] to be £4,359,358 for staff and £2,483,145 for students.

3.2 Reduction in car trips

Travel diary results also reported a reduction in trips made to work/study by car. Overall the proportion of trips by car[6] made by staff decreased from 53% in the December 2009 survey to 52% in the December 2010/January 2011 survey. Trips made to university by students using a car decreased from 17% to 15%. A breakdown of the proportion of trips made by car at each of the universities and hospital can be seen in table 3-3.

Table 3-3 Percentage of average weekday trips made to work/study by car by survey respondents

	NTU		UoN		NUH
	Staff	**Students**	**Staff**	**Students**	**Staff**
December 2009	46%	18%	70%	15%	57%
December 2010/January 2011	42%	18%	61%	11%	53%

Among survey respondents that travelled by car, the average return distance travelled by students remained the same at 35km and the average return distance travelled by staff increased from 32km to 30km.

If all staff and students reduced the number of trips made to work/study by car in the same way as the travel survey respondents, this would result in a decrease in staff trips made by car from 7,302 trips to 7,203 trips per day and a decrease in student trips from 5,612 trips to 5,104 trips per day. The DfT's carbon tool was used to estimate carbon dioxide savings associated with this reduction in car use. Staff would make a saving of 570 tonnes of carbon dioxide per year valued at £29,926 and students would save 577 tonnes of carbon dioxide per year valuing £30,277[7]

[5] All 10 year values are discounted at a rate of 3.5%
[6] This includes all trips where respondents stated that they had used a car as part of a single or multimode journey
[7] Assuming a 220 day working year and to account for car sharing an average car occupancy of 1.6 people is assumed.

4 Participant engagement

Ucycle Nottingham project activities have engaged with a total of 6,841 individuals from September 2009 until August 2011, as recorded in an online project database, used by project staff to record participant engagement and details of activities.

Registered participants were those that consented to have their contact details recorded in the database, unregistered participants are those for which just a count of participants was conducted. Activities could be categorised as led, training, community or information and table 4-1 shows the numbers engaged by academic year, and activity type. In addition, activities are categorised, and chart 4-2 shows a breakdown of participation by category.

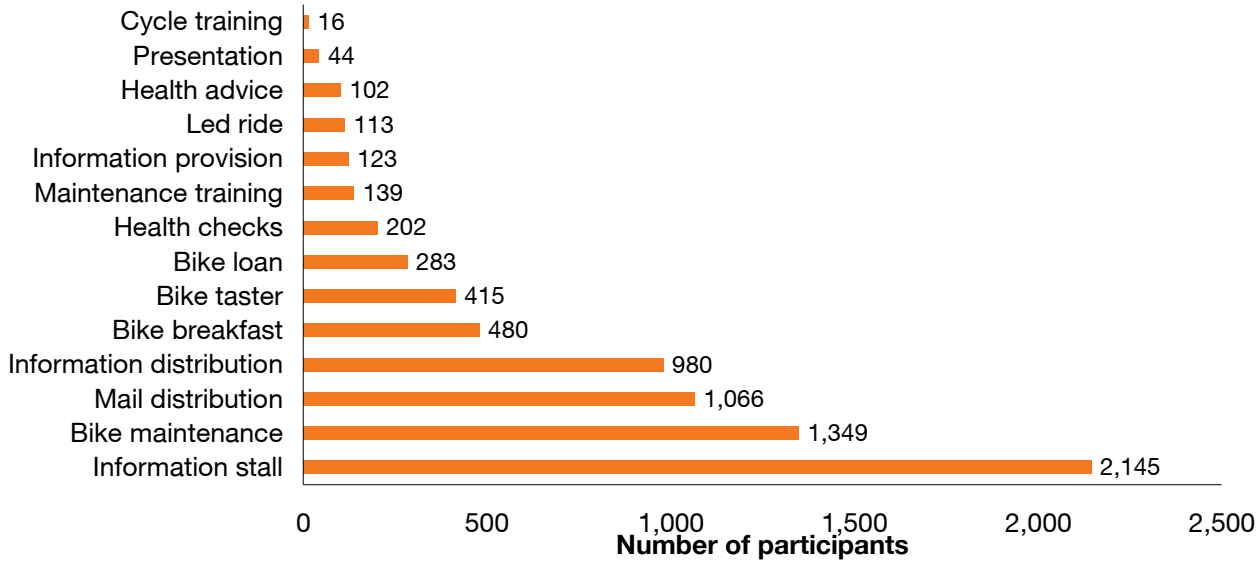
Led activities include bike rides, bike loans, and bike maintenance. Training activities include cycle training and maintenance training. Community activities include information provision, health checks, bike tasters, and bike breakfasts. Information activities included presentations, health advice, information distribution, mail distribution and information stalls.

The highest levels of engagement over both years resulted from information stalls (2,145 participants) and bike maintenance (1,349 participants). A large proportion of participants were also engaged with through mail distribution: 1,066 over both years (see chart 4-1).

Table 4-1 Participant numbers – split by academic year and activity type

Activity Type	2009/10	2010/11	Totals
Led activity	1,109	775	1,863
Training activity	47	142	183
Community activity	564	146	709
Information activity	1,857	3,149	4,932
Total participants	**3,171**	**4,104**	**6,841**
Registered participants	*1,484*	*1,005*	*2,055*
Unregistered adult participants	*1,667*	*3,089*	*4,756*
Unregistered U16 participants	*20*	*10*	*30*

Chart 4-1 Breakdown of participant numbers by activity, in total for all years 2009 to 2011



5 University bike hire scheme

5.1 Summary of results from the university bike hire scheme

In total, the Ucycle Nottingham project engaged with 284 participants in its bike hire scheme in 2010/11, 60 at Nottingham Trent University and 224 at the University of Nottingham. 92% of the 66 follow up survey respondents said that in general over the past academic year they had used their hire bike on at least two to three days per week, with 61% of them doing so daily.

The bike hire scheme helped students to access education and services: 51% of follow up survey respondents said they travelled to university using their hire bike daily and a further 25% did so on two to three days per week. The bikes were also used for going shopping with 58% doing so one to three times per week.

The bike hire scheme has reduced car and bus use and increased the frequency of cycling, whilst maintaining the amount of walking participants do. Comparing baseline to follow up survey results (for the 28 individuals that completed both surveys) shows:

- a 36 percentage point increase in proportion of respondents that never travelled by car as a driver and 39 percentage point increase in those that never travelled by car as a passenger
- bus use on three to seven days per week decreased from 14% to 11% and those saying they travel by bus less frequently or never increased from 18% to 19%
- cycling for travel on three to seven days per week increased from 22% to 89%
- walking on three to seven days per week only decreased slightly from 82% to 71%
- the average number of hours spent cycling per week in the past year increased from two hours in the baseline survey to five hours in the follow up survey.

There were also small increases in the number of hours spent walking and doing other physical activity, which suggests that having the hire bike adds to the activity participants used to do before they got the bike, rather than replacing it (based on direct comparisons of the 28 individuals that completed both surveys).

5.2 HEAT calculations

Bike hire participants were asked how many hours they spent cycling in summer and winter before and after taking part in the project. On average participants reported an increase in cycling from 16.5 minutes per day at baseline to 44 minutes per day at follow up. The present value of the reduced mortality resulting from the increase in hours spent cycling per day is estimated by HEAT to be £717,764[8] when accumulated over 10 years[9].

5.3 Carbon dioxide savings

Bike hire scheme participants were asked how many days per week they travelled by car. In total the 28 respondents who provided this information at baseline and follow up reduced the number of trips they travelled by car[10], on their own and with others[11], from 42 trips per week at baseline to 15 trips per week at follow up. The average return distance from respondents' houses to university is 7.9 km and it is assumed that they make this journey seven days a week throughout the academic year (252 days a year), based on reported frequency of journeys. These figures were entered into the DfT's carbon tool to give a carbon dioxide saving resulting from the reduction in car trips. If all bike hire users made the same level of reduction in their car travel the bike hire scheme would produce a saving of 106.1 tonnes of carbon dioxide per year, which would be valued at £5,570.

[8] Assuming that all bike hire participants showed the same increase as the 28 respondents who provided this information at baseline and follow up
[9] All 10 year values are discounted at a rate of 3.5%
[10] Assuming they only made one trip per day
[11] Assuming an average of 1.6 occupants per car when participants responded 'driving with others'

6 Counts of parked bikes

Parked bicycle counts have been carried out at all cycle parking facilities on all university campuses and hospital sites, to monitor and evaluate any change in the number of bikes around the project sites as an increase or decrease will reflect a similar change in cycling levels. Each parking location was surveyed three times over a six hour period. Five iterations were carried out on a termly basis. The data presented in this section summarises the average number of bikes counted in total, the average number of bikes per site and the average number of bikes per parking location.

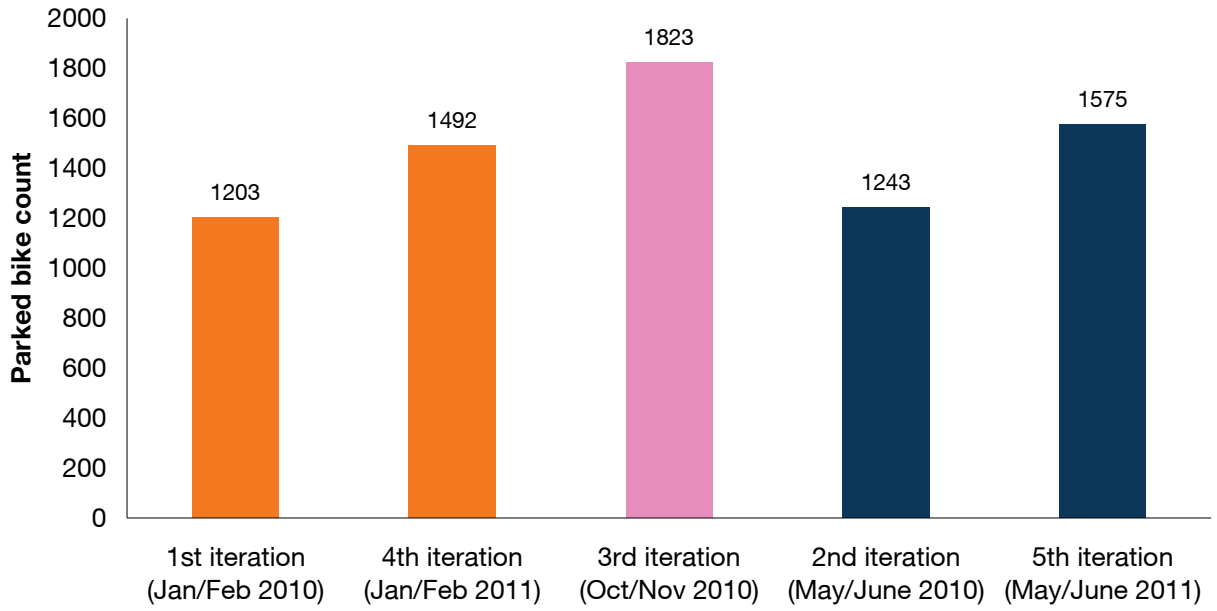
Between the first and fourth iterations (January/February 2010 to January/February 2011) the total number of bikes counted on average across all university and hospital sites increased from 1,203 to 1,492 (a total of 289 more bikes). Between the second and fifth iterations (May/June 2010 to May/June 2011) the total number of bikes counted on average across all university and hospital sites increased from 1,243 to 1,575 (a total of 332 more bikes).

Table 6-1 shows a breakdown of the total number of bikes counted on average per project location and chart 6-1 shows the total number of bikes counted on average overall for the project.

Table 6-1 Average number of parked bikes at each site at each iteration

	NTU	UoN	NUH	Total
1st iteration (Jan/Feb 2010)	130	928	145	**1,203**
2nd iteration (May/June 2010)	150	858	235	**1,243**
3rd iteration (Oct/Nov 2010)	218	1,314	291	**1,823**
4th iteration (Jan/Feb 2011)	214	1,077	201	**1,492**
5th iteration (May/June 2011)	217	1,041	317	**1,575**

Chart 6-1 Total average numbers for each iteration at all three sites



7 City-wide infrastructure

7.1 Route User Intercept Surveys

Manual counts of users and Route User Intercept Surveys (RUIS) were conducted at three locations: Clifton Campus; Queens Medical Centre and University Boulevard in March 2010 and 2011. An aggregated data set for all three sites was produced. A fourth RUIS was carried out Shakespeare Street, but data was only available in 2011 so Shakespeare Street is excluded from the aggregate data set.

7.1.1 Increased annual usage

The estimated annual usage across the three sites was 2,626,554 in 2010 and 2,713,123 in 2011; cycling user levels were estimated to be 683,872 in 2010 and 688,961 in 2011. This was used to determine the number of additional individual walkers (717) and cyclists (27) using the route in 2011 and the number of additional trips they made; across the three sites there was an increase of 16 cycling trips and 386 walking trips per day. The increases in walking and cycling trips were entered into HEAT; the present value of these new walking and cycling trips, assuming that 50% of the new trips are attributable to the scheme, was estimated by HEAT to be £1,242,892[12] over 10 years.

7.1.2 Reduction in car trips

In 2011 respondents to the RUIS were asked: in the past year, how many miles they had replaced driving for walking and cycling per week. 62% of respondents reported having replaced at least one mile of car travel on average per week with walking and or cycling. It was calculated that the 588 people who responded to this question had replaced 835 km per day of driving with walking and cycling. This reduction in driving was inputted into the DfT's carbon tool to calculate carbon dioxide savings associated with the reduction in car use.

If all of the users counted on the three sites had the same reduction in car use as the 588 people who responded to the RUIS there would be a saving of 1,480 tonnes of carbon dioxide per year. This reduction in carbon dioxide would be valued at £77,664.

7.1.3 Journey purpose

In the 2011 survey, 40% of those surveyed were not staff or students at Nottingham Trent University, University of Nottingham or Nottingham University Hospitals, demonstrating that the routes are being used by members of the community. 41% of those surveys were staff or students at the University of Nottingham.

In 2010 45% of respondents were commuting, this decreased to 40% in 2011. Those travelling for education remained similar: 31% in 2010 and 32 % in 2011. There was an increase in the percentage of respondents travelling for leisure from 14% in 2010 to 18% in 2011.

7.1.4 Project awareness

In 2010 31% of respondents were aware of Sustrans which increased to 42% in 2011. In 2011 47% of people who responded to the RUIS had heard of Ucycle Nottingham.

7.2 Automatic cycle counters

The following section summarises changes in the number of bikes counted by three automatic cycle counters near the University of Nottingham and Nottingham Trent University from 2010 to 2011. Data were not available for the whole year at all counters so only the months with comparable data have been included.

[12] All 10 year values are discounted at a rate of 3.5%

7.2.1 Cator Lane and University Boulevard

Two counters are located close to the University of Nottingham: Cator Lane, a residential road in Chilworth 2 miles south west of the campus and University Boulevard, a traffic free cycle path that runs through the campus.

On University Boulevard the number of bikes counted at this site increased in five out of the seven months that data was available for in 2010 and 2011. The average number of bikes counted for these months increased from 21,807 in 2010 to 22,945 in 2011. The average count of cyclists per hour during the morning commute increased from 28 in 2010 to 29 in 2011 and during the afternoon commute from 33 in 2010 to 35 in 2011.

On Cator Lane the number of bikes counted increased for seven out of the eight months that data was available for in 2010 and 2011. The average number of bikes for these months increased from 3,576 in 2010 to 3,960 in 2011. The average count of cyclists per hour during the morning commute increased from seven in 2010 to nine in 2011.

Chart 7-1 Automatic cycle counter data for Cator Lane 2010 and 2011

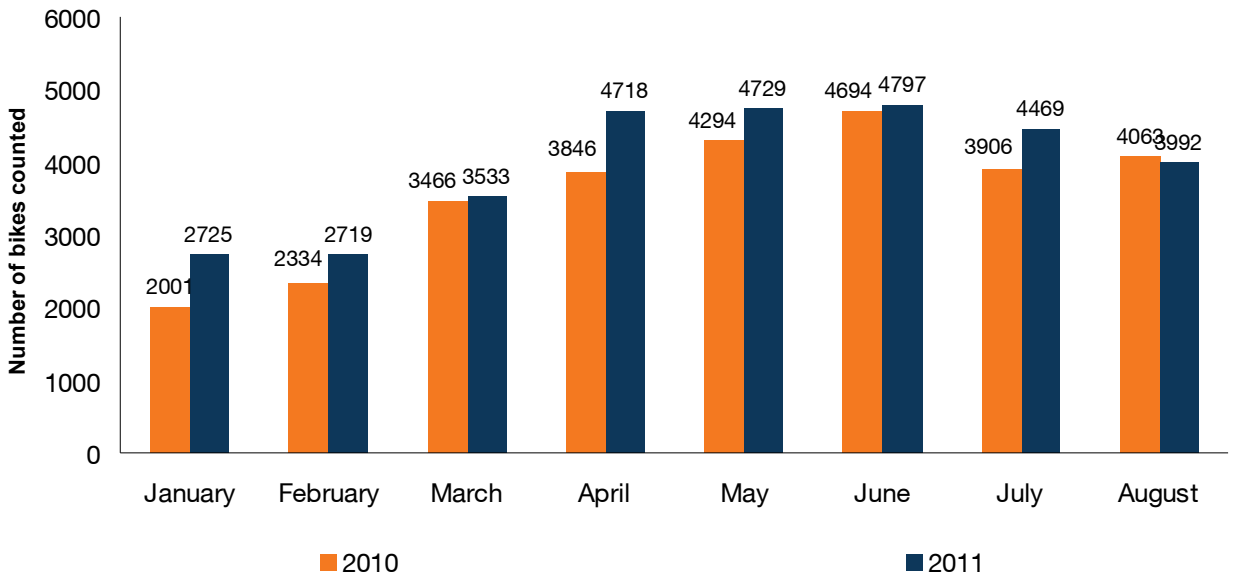
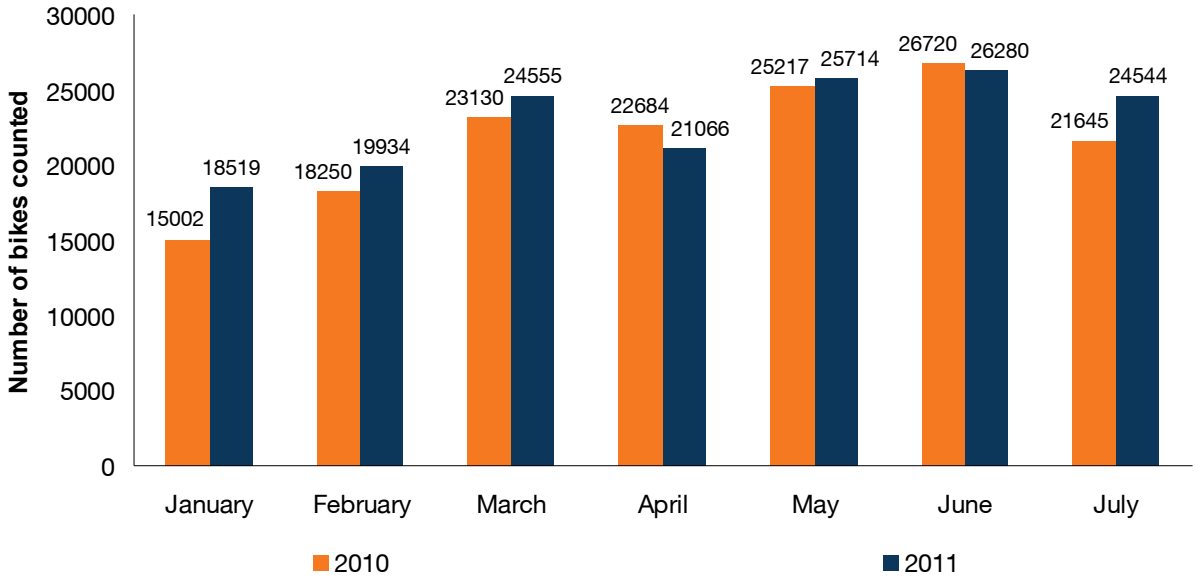


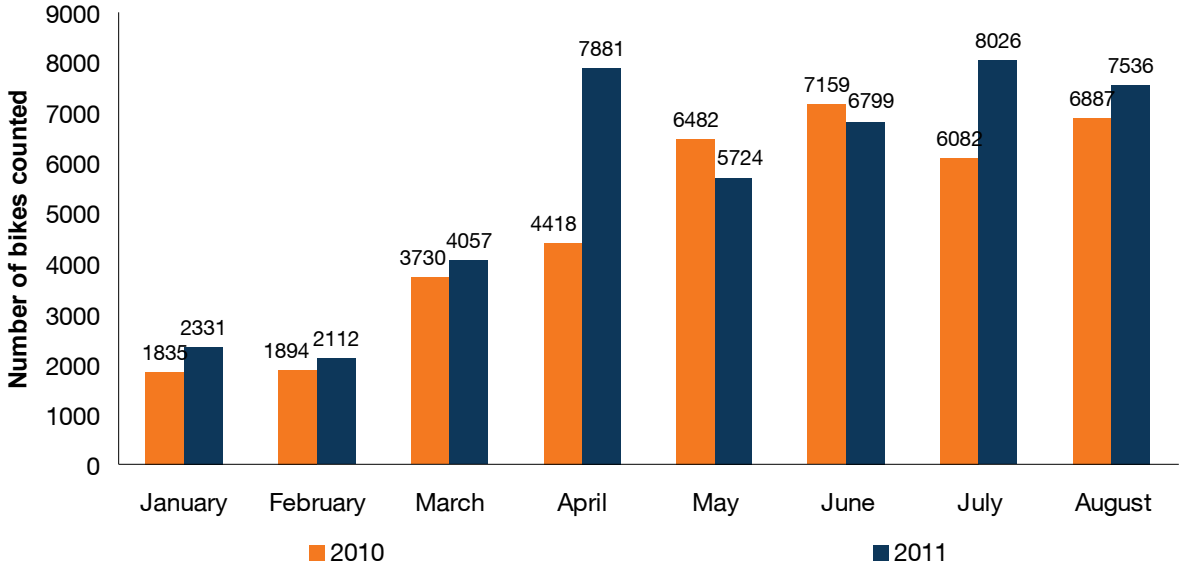
Chart 7-2 Automatic cycle counter data for University Boulevard 2010 and 2011



7.2.2 Beeston Lock

The counter at Beeston Lock is located on a traffic free cycling and walking path the runs along side the river Trent, in between the University of Nottingham campus and the Nottingham Trent University campus, just north of the Attenborough nature reserve. The number of bikes counted at this site increased in five out of the eight months that data was available for in 2010 and 2011. The average number of bikes counted for these months increased from 4,811 in 2010 to 5,558 in 2011. The average count of cyclist per hour during the morning commute increased from eight in 2010 to 10 in 2011 and during the afternoon commute from 12 in 2010 to 15 in 2011.

Chart 7-3 Automatic cycle counter data for Beeston Lock 2010 and 2011



8 Conclusion

Cycling levels have increased and attitudes to cycling have improved throughout the project, showing it has achieved Outcome 1. There was an increase in people saying they intend to cycle more in the next few months, which corresponds with actual increases in cycling levels. In addition, the numbers of parked bikes counted around the university increased, as can be expected with an increase in cycling. In addition, despite there being no significant change in the distance respondents lived from their place of work or study, there were decreases in the proportion of staff and students who said they felt they lived too far away from their place of work to cycle for any part of the journey, suggesting an increase in willingness to cycle or cycle further.

The university bike hire scheme reduced the amount participants travelled by car and increased the amount they travel by bike while maintaining the amount they travel by foot. This suggests that increases in cycling are replacing journeys that were previously made by car rather than by foot. This is supported by the increase in the number of respondents who reported never travelling by car in follow up survey compared to the baseline. This suggests that the availability of a bike hire scheme encourages people who were previously unwilling to cycle to do so.

Over 6,000 staff and students have been engaged in project activities since September 2009 and the survey results and bike counts suggest that this engagement has been successful in raising awareness of the benefits of cycling and increasing the numbers of staff and students who regularly cycle for travel to and from work/study, thus demonstrating the achievement of Outcome 2. Respondents were participating predominantly in information activities, and in bike maintenance activities, which is consistent with the proportions taking part in these types of activities recorded on the project database. There was also a decrease in staff reporting a lack of facilities for showering and changing suggesting an increase or improvement in facilities, or an increase in awareness of these. There was a decrease in students reporting not having access to a bike as a barrier to cycling, which supports Outcome 2, and perhaps relates to the availability of hire bikes through the Ucycle scheme.

Awareness of Sustrans and Ucycle Nottingham has increased on average for staff and students in the travel surveys, and the proportion of RUIS respondents who had heard of Sustrans increased, demonstrating the success of the project outreach and advertising. This, along with the high numbers of staff and students engaged through project activities shows evidence for Outcome 3, as staff and students have the awareness and knowledge to enable them to promote the project.

Increases in use of wider infrastructure demonstrates evidence for Outcome 4, and success of the infrastructure improvements generally. Aggregated manual counts of users at three RUIS sites showed an increase in the number of trips being made by bicycle from 2010 to 2011. Data from automatic cycle counters near the university campuses also showed increases in average monthly counts from 2010 to 2011 with increases in average hourly counts during the morning and evening commuting periods. These increases suggest that not only are people using the routes more but they are also using them more to travel actively to and from work or university. The investment in infrastructure by the Ucycle project has had positive impacts on both health and the environment, as it has resulted in increases in the number of cycling trips being made. In addition, RUIS data showed that some of these cycling trips were replacing trips that were previously made by car and are not just new trips. Outcome 4 is further supported by the increases in numbers of parked bikes, as these may belong to visitors and the wider community as well as staff and students at the target sites, and this also demonstrates the value of the new cycle parking created by the project.

In summary, different aspects of the evaluation provided consistent results that show an achievement of project outcomes by the Ucycle project across all three project target sites, and these impacts should continue to be monitored throughout phase two of the project, to provide ongoing evaluation of the effectiveness of interventions.