



New cycle owners: expectations and experiences

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Executive Summary

The UK National Cycle Strategy set a target of doubling cycle use by 2002. Cycle sales have increased substantially during the past decade but overall cycle use has not risen correspondingly. The objective of this project is to investigate the expectations and experiences of new cycle owners in order to see how they can be encouraged to cycle more. It is part of a wider research programme into cycle policy initiatives commissioned by the Department of the Environment, Transport and the Regions (DETR) to understand a variety of ways in which an increase in cycle use can be encouraged.

The project comprised three stages. New cycle owners (defined as adults who did not regularly cycle, buying a new cycle for themselves) were interviewed in cycle shops immediately after their purchase about their planned cycle use and expectations about cycling. After approximately one month they completed a four-day travel diary which included a weekend. After another month, in-depth follow-up interviews were carried out regarding their cycle use, experiences and attitudes.

A total of 76 new cycle owners (55% female) were initially recruited, in four large cycle shops in Birmingham, Chelmsford/ Harlow and York. Of these, 48 completed travel diaries and 52 gave follow-up interviews. They represented a range of ages and social classes; almost all were car owners. Those who dropped out were similar to those who completed the survey in most respects, except that they were less likely to have cycled in the previous two years and were more likely to be buying a bicycle purely for leisure use.

The project found that leisure was the main purpose for purchasing the bicycle, although one quarter of new cycle owners were buying it mainly for commuting to work or education. Buying a bicycle to cycle with a partner or a child was common. The main personal benefits anticipated were keeping fit and healthy, speed/convenience and family involvement. Almost all new cycle owners who completed the follow-up interview were pleased with their purchase and used their bicycle at least once during the two-month survey period. The majority reported cycling at least once a week, some much more frequently. Leisure was the main journey purpose for most people; those who cycled to work or education tended to cycle more frequently.

Approximately half the new cycle owners cycled less often than they had planned and around one quarter cycled more often. Physical effort, practical difficulties, the weather and the danger and unpleasantness caused by motor traffic were the main difficulties encountered. One quarter said that they used their car less. This could not be verified however, and most continued to use their cars for the majority of journeys, including many of those under one mile. Case studies of individuals are provided.

Even allowing for the possibility of a survey effect, the study found that, in many respects, the cycling experiences of new cycle owners were positive. Yet with cycle use declining (despite cycle sales at record levels), significant deterrents to cycle use clearly remain. The report

concludes that a range of measures are needed to overcome practical barriers to greater cycle use and to make cycling more enjoyable, for both new and existing cyclists. Bicycle manufacturers, retailers, highway authorities, cycling organisations and others are recommended to provide cyclists with more practical advice, support and training at all stages; and to promote the sale of bicycles that are fully-equipped with lights, lock, etc. It is also recommended that the infrastructure for cycling is improved, and that noise, speed and emissions from motor vehicles are considerably reduced.

Leisure cycling is evidently a major motive in purchasing a bicycle but it does not necessarily lead to utility cycling. Cycling to work or college is more likely to help establish a regular cycling habit than occasional shopping or leisure journeys by bicycle. Utility cycling can be encouraged directly, for example by workplace facilities and Green Commuter Plans. It is important to also support existing cyclists - to keep them cycling - as those people most likely to cycle regularly are those who have previous or recent cycling experience. On the basis of the research, it is concluded that the bicycle can provide a viable alternative for many short journeys currently made by car, but measures to promote cycling need to be integrated with measures to reduce car traffic.

1 Introduction

In July 1996, the UK National Cycling Strategy was launched. This sets a target of doubling cycle use by the end of the year 2002 and doubling it again by 2012. Cycling is being promoted as an economical, healthy and an environmentally-friendly alternative to the car - an important part of an integrated transport policy.

However, National Travel Surveys show that although we purchase more bicycles now than ever before, the average distance cycled per person per year is declining. There are various reasons why this might be the case. For example, people may buy bicycles with the intention of using them, but find that they feel that road conditions are too dangerous or too polluted, and this discourages further use. Alternatively, this may simply reflect increases in disposable income - people may be buying bicycles as just another consumer product that is nice to own, without any particular commitment to using it.

To investigate this issue further, the Department of the Environment, Transport and the Regions (DETR) commissioned the Transport Research Laboratory (TRL) to research the expectations, and subsequent experiences of new bicycle owners. RSL Social Research Ltd (now IPSOS-RSL) were commissioned by TRL to undertake the field work.

The key objectives of the research were to understand the:

- Motivation behind bicycle purchase.
- Expectations upon buying a bicycle.
- Subsequent experiences of new owners.
- Use of the bicycle in terms of journeys and frequency of use.
- Changes in lifestyle and travel patterns of new cycle owners.
- Implications for promotional activity aimed at encouraging increased cycle use.

A pilot study was carried out in Autumn 1996 and the main fieldwork was undertaken in three stages during Summer 1997. This report summarises the findings from all stages of the research.

2 Research method

The research involved a pilot study and three main stages:

- Stage 1: recruitment and initial interview at the time of purchasing the bicycle
- Stage 2: a travel diary, placed about a month later and posted back by respondents
- Stage 3: a follow-up interview administered face-to-face approximately two months after purchasing the bicycle.

The methodology used for each stage is outlined in more detail below.

A pilot survey was conducted in Autumn 1996 to test the survey methodology and various materials. The same three-stage approach was used but the layout and length of the travel diary were shown to require modification for the full

survey. The quantitative data contained in this report is based on the main fieldwork only, but the report takes into account the qualitative information collected at the pilot stage.

2.1 Stage 1: Recruitment and initial interview

Stage 1 comprised face-to-face interviews at the time of bicycle purchase, and (where appropriate) recruitment to Stages 2 and 3. The interviews were semi-structured and lasted approximately 20 minutes.

Recruitment took place in three areas, at four large cycle shops, all Halfords stores:

- Birmingham (Shirley Superstore).
- Essex (Chelmsford Chelmer Village Retail Park).
- Essex (Harlow).
- York (Foss Islands Road).

These sites were chosen because of reported high bicycle sales and good co-operation offered by Halfords. It had been intended to also include a smaller, independent cycle retailer in the survey but, after investigations, this proved impractical due to the lower turnover and the higher percentage of experienced cyclists using these shops. Recruitment of subjects took place over five weekends in May and early June 1997.

'New cycle owners' were defined as those people buying a new bicycle, who did not currently own a bicycle or cycle regularly. In order to identify new cycle owners, a screening process was used whereby anyone buying a new bicycle was eligible for interview, except:

- Children aged 16 or under.
- Anyone buying a bicycle for someone else.
- Anyone who is already a regular cyclist (i.e. cycles once a week or more).
- More than two people from the same household.

Furthermore, people who did not live within a reasonable distance of the store were interviewed, but were not recruited to Stages 2 and 3.

Interviewers approached people on a 'next available' basis, keeping a tally of any refusals. 76 interviews were achieved in total. There was a very low refusal rate. However recruitment was difficult as many people buying bicycles were ineligible because they were regular cyclists or they were buying them as gifts or for children.

2.2 Stage 2: Travel diary

Approximately one month after the initial recruitment, a self-completion travel diary was placed with those recruited. No-one was approached unless permission had been obtained at the recruitment stage. The travel diary was designed to collect information about all journeys made over a four day period (which included a weekend); including mode of travel, distance of journey, purpose of journey and time taken.

Interviewers visited each respondent in person, at which time they handed out the diary, and explained how to complete it. The diary was then left for the respondent to complete, and post back. Mid-way through the period in

which the diary had to be completed, interviewers telephoned the respondent to check whether they had any problems or queries with completing the diary and to remind them to return it.

Anyone who had not returned their diary by a set time was telephoned by an interviewer to remind them to return it. Up to three telephone chases were carried out. 48 diaries were completed and returned.

2.3 Stage 3: Follow-up interviews

Approximately two months after bicycle purchase, face-to-face follow-up interviews were carried out with recruits in their own homes. As at recruitment, the interview was semi-structured, and lasted around 25 minutes.

52 follow-up interviews were completed. Of these, 45 had participated in all three stages. Seven people completed only Stages 1 and 3, and three people completed only Stages 1 and 2.

2.4 Survey effect

In most surveys in which the respondents are aware of the issue being studied it is possible that the survey process itself will affect the responses. Respondents will sometimes try to 'help' by being more positive about the issue than they would otherwise be. In this case, participating in the study is likely to have made the respondents more 'cycle conscious' and perhaps more challenged to actually use the cycle during the survey period. A number of steps were taken to try to minimise such survey effects. In particular, the travel diary instructions to respondents stated:

'It doesn't matter if the four days are unusual for you, or if you don't make any cycle trips at all. Just record the details of any journey that you do make.'

'Record details of journeys by ANY METHOD OF TRANSPORT, for example by car or public transport, not just cycle trips. Don't forget to include journeys you have made on foot (walking).'

With regard to the responses to subjective questions, it appears that any survey effects were slight. The respondents were prepared to talk openly about sensitive issues (health, fitness, losing weight, etc.) and to acknowledge fear (particularly in relation to busy roads) and, in many cases, to admit that they used their bicycles less often than they thought that they would.

2.5 Drop outs

Of the 76 new cycle owners interviewed at Stage 1, 10 said that they were not prepared to take part in next stage and a further 14 did not complete the final stage (Stage 3), despite various 'chasing' and reminders. This is not unusual in a detailed study such as this, lasting several months. A careful comparison was made of the types of people who did and did not complete the survey to Stage 3. It was found that the 24 'drop outs' were similar to the 52 'completes' in most socio-demographic respects, including age, sex and marital status. They were also similar in terms of car-ownership and

the purchase cost of the bicycle. The 'completes' can therefore be said to be representative of the 76 new cycle owners. Differences in terms of previous experience and intentions regarding cycling are explained in section 5.1.

3 Stage 1: New cycle owners and their expectations

3.1 Profile of those interviewed

3.1.1 Location

The research was conducted in three areas: Birmingham, Chelmsford/Harlow and York. The locations were selected in order to include a range of cycle use levels and cycling conditions. Birmingham is a large metropolitan city with heavy traffic and relatively low levels of cycle use (1.5% of journeys to work are by bicycle); Chelmsford/Harlow are smaller, though busy areas with medium levels of cycle use (6% of journeys to work are by bicycle in Chelmsford). York has a reputation for being a bicycle-friendly city as it is flat and compact and almost 20% of journeys to work in York are by bicycle. It was not the intention to make comparisons between areas and the sample sizes were not large enough to do this reliably.

The number of interviews completed at each stage in each location are as follows:

	<i>Stage 1 Initial interview</i>	<i>Stage 2 Travel diary</i>	<i>Stage 3 Follow-up</i>
Birmingham	27	13	16
Chelmsford/Harlow	24	18	20
York	25	17	16
Total	76	48	52

3.1.2 Age and sex

Of the 76 people interviewed when buying a new bicycle, slightly more were women (55%) than men (45%). The majority (75%) of those interviewed were aged between 20 and 40 and the average age was 32 years. A minority (14 people) were aged over 40, and five people were aged under 20. The youngest person interviewed was 18 and the oldest was 56.

3.1.3 Family circumstances

Figure 1 shows the marital status of the people recruited, and whether or not they had children living at home.

As Figure 1 shows, a large majority (four fifths) of those interviewed buying new bicycles were either married or living with a partner, with one third having children living at home.

Those couples with children generally had either one or two children, and predominantly 'younger' children, aged under 16. None of the respondents aged 24 or less had any children.

3.1.4 Use of bicycles by others in the household

Previous research by Davies et al (1997) found that other people in the household owning a bicycle can be a

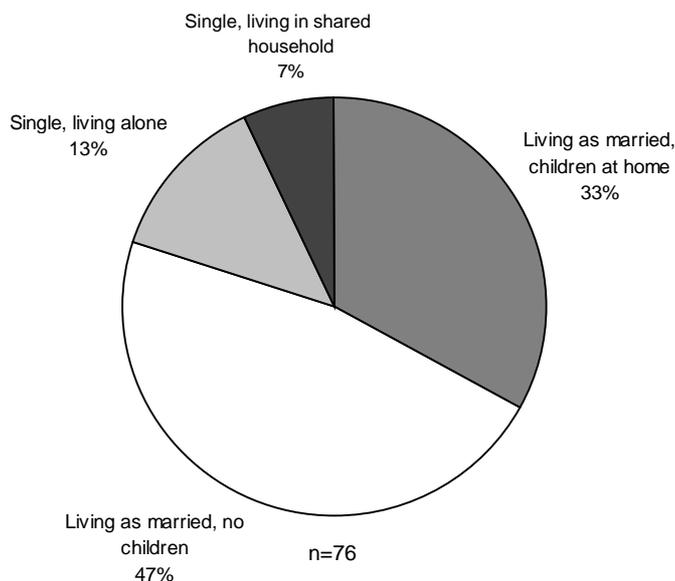
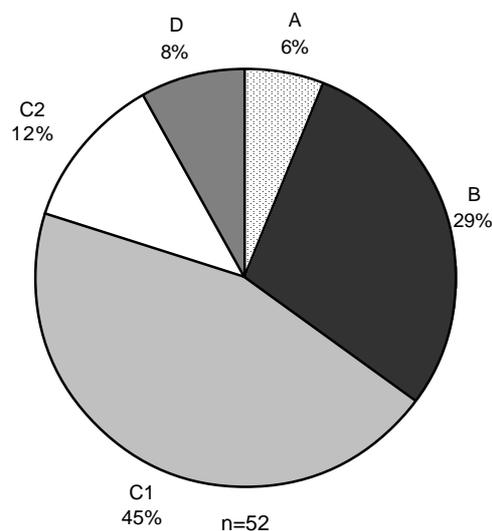


Figure 1 Household status



(Figure 2 is based on all respondents at Stage 3, since social class was collected at this point only).

Figure 2 Social class

motivating factor to cycle. Anyone living in a shared household was asked whether their partner, children or another member of their household cycled. Over three quarters (77%) of those either married or living as married said that their partner cycled. This was somewhat higher amongst women (86% of partners cycled) than men (65% of partners cycled). Of the 25 respondents with children living at home, just over three quarters (76%) had at least one child that cycled.

3.1.5 Access and use of car

Virtually everyone interviewed buying a new bicycle also had access to a car. Two of the three people who did not own a car were buying a bicycle as a means of transport to use for getting to work. They were not purchasing bicycles to replace a car. However, one couple were purchasing bicycles specifically so that they could sell their car to save money.

The proportion of people with access to a car remained roughly the same at Stage 3, indicating that bicycles are rarely purchased to replace a car.

The car was the primary mode of transport for almost all respondents. Just over four fifths of respondents (83%) usually used their car to go shopping and of those who commuted a similar proportion usually made the journey to work or college by car.

3.1.6 Employment status and social class

The vast majority (91%) of those interviewed were employed or in full time education at the time of bicycle purchase.

In terms of social class, the sample primarily consisted of classes B, C1 and C2. Nobody was classified class E, and a small minority were classified as classes A and D. A breakdown is shown in Figure 2.

3.2 Previous cycling experience and take-up of cycling

3.2.1 Past bicycle use

To be eligible for interview, respondents needed to be infrequent cyclists: anyone cycling once a week or more was 'screened out'. This screening process was designed to ensure that 'new' cyclists were interviewed rather than those who were already regular cyclists.

This proved to be successful in identifying a sample of people who, although they may have had some prior experience of cycling, were effectively 'taking up' cycling. At the time of purchasing their new bicycle, the majority (76%) did not already own a bicycle. Of these, only four had owned a bicycle within the last two years.

Less than half (45%) had cycled at all during the last two years. Of those that had cycled at all during the last two years, two thirds had cycled only once or a few times a year, and the remaining third had cycled around once or twice a month.

Figure 3 shows that almost all new cycle owners had some past experience of cycling; there was only one respondent who had never cycled at all. Nonetheless, there was a significant proportion who had not cycled for more than five years.

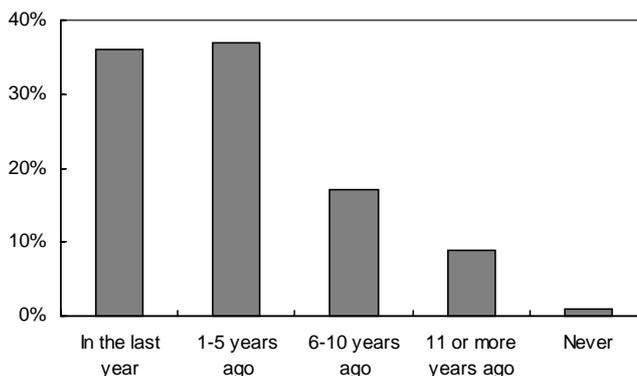


Figure 3 Last time ridden a bicycle

For just over half (53%) of those recruited, the last time they had ridden a bicycle it had been on their own bicycle. Others had usually either borrowed a bicycle, or hired one on holiday.

The last occasion on which they had ridden a bicycle was most commonly a leisure trip (64%). However, a fifth (19%) had last used a bicycle to commute either to work or college. The remainder had last used their bicycle for a variety of different reasons including education, shopping, business and social reasons.

3.2.2 Reasons for stopping cycling

Those who had not cycled at all within the last two years (41 people) were asked whether there was a reason they had stopped cycling. By far the most common reason cited for stopping cycling was because they had acquired a car (44%). Others cited a range of different reasons for giving up cycling. In order of frequency these included:

- they had acquired a car;
- bicycle fell into disrepair;
- grew out of it/ change in lifestyle;
- didn't own a bicycle;
- too busy, no time to cycle;
- roads became more dangerous;
- bicycle was 'no good';
- bicycle was stolen;
- couldn't find anywhere suitable to park.

3.2.3 Type of bicycle bought and price paid

Mountain bikes were by far the most popular choice, with 92% of new cycle owners purchasing this type of cycle. Of the six people who did not purchase a mountain bike, three bought a town bicycle, one a racer, one a hybrid (a mountain bike/town bike cross) and one 'other'.

The average price paid for a bicycle was £160. However, there was a large range in the price paid - from £79 to £800. The distribution is shown in Figure 4.

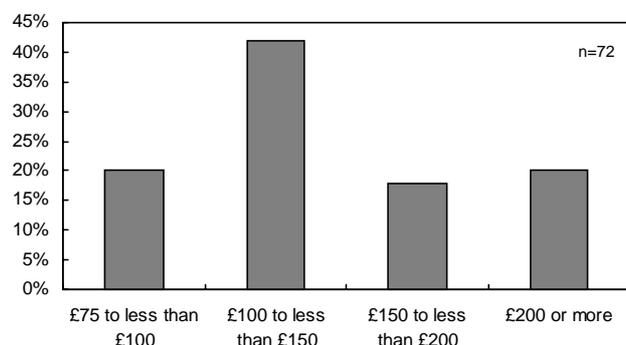


Figure 4 Price paid for new bicycle

Men were more likely than women to buy more expensive bicycles: around three quarters of those buying bicycles costing more than £200 were men. The average price paid by men for a bicycle was £187, compared with £138 by women.

3.2.4 Motivation behind bicycle purchase

At the time of purchasing their new bicycle, respondents were asked 'What made you decide to buy a bicycle now?'

Regardless of age, gender or household status, the most commonly cited reason was to get fit (and thereby more healthy); 'Needed more exercise - it's a good way to lose weight and get fit at the same time' and 'I thought it was about time I did some exercise'. 'Try to keep young and fit for as long as possible'.

The onset of summer 'the hot weather is coming' was obviously a motivating factor for a number of people, sometimes the primary factor; 'Probably the weather was the main influence. It's something I've been meaning to get round to but haven't due to the lack of good weather'. Several people also mentioned that they had purchased a bicycle specifically in 'preparation for a summer holiday'.

Friends, and particularly family, quite often play an important role in the decision to purchase a bicycle; 'Friends are doing it', 'Just a family thing, we can all go out together'. A number of people were purchasing a bicycle at the same time as their partner, because they had taken a joint decision to take up cycling together. For these people cycling was generally taken up as a means of sharing a pleasant activity together 'Now the kids are growing up we can all go out on our bikes as a family' 'My son also has a bike - so that I can keep him company'. A small number indicated that they were purchasing a bicycle under some pressure from another, 'My partner has one. He keeps nagging me to buy one'.

The decision to purchase a bicycle often coincides with a major change in life circumstances (generally moving house) which precipitates the decision to buy a bicycle or provides an opportunity to take up cycling 'Going to University in September and needed it for that and may as well use it for bike rides in the summer'. Respondents talked about moving to locations which seemed to actively 'invite' cycling, 'Just moved down to this part of the country where there's a cycle path and nice cycle routes' and 'Working in York at present - so with the terrain being as it is, so flat and bike friendly, it seems like the perfect opportunity to get back into it'. Other situations included moving house or jobs 'I am hoping to get a transfer from work' which would make the journey to/ from work acceptable by bicycle.

The primary motivations of fitness, friends and family, and change in circumstances were often linked with knowledge based on prior experience that cycling can be enjoyable. This was usually mentioned in a general way, looking back to some time ago, youth or childhood. However, a small number had been directly motivated by recent experience of cycling. For example, one woman, encouraged by her husband, 'tried it last week end and enjoyed it' and this was what made her decide to buy a bicycle.

Economic factors also play a role. One person said he had chosen to buy a bicycle because 'I can afford it at the moment'. For a minority without access to a car, the bicycle can represent a necessary means of transport 'I needed transport - no longer have a car'. For others, purchasing a bicycle was a way of saving money: one couple had purchased bicycles specifically so that they

could sell their car to save money.

In a number of cases, people mentioned that they had decided to buy a bicycle because it would enable them to use the car less often. For these people, using the car less often seemed to be reason in itself - only occasionally was the fact that this would be environment-friendly or cheap specifically cited.

3.3 Expectations at time of bicycle purchase

3.3.1 Planned use

At the time of purchasing their new bicycle, respondents were asked the question 'What purpose do you think you will mainly use this bicycle for?' Only one main purpose was allowed. The responses are summarised in Figure 5.

As Figure 5 shows, almost three-quarters of new cyclists expected that their main cycling purpose would be 'leisure' (including sport and exercise). Further, almost everyone (96%) anticipated using their bicycle for leisure purposes at some time.

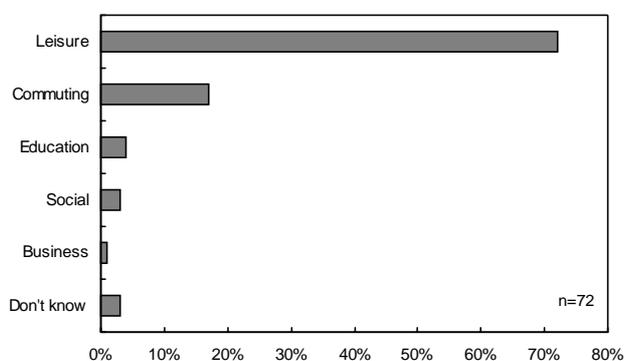


Figure 5 Main planned use of bicycle

When asked why they intended to cycle for leisure, most people mentioned either fitness or pleasant aspects of leisure cycling. Leisure cycling was seen as being 'fun', 'enjoyable' and sociable 'Seeing more things, sharing, we can stop'. People referred to the 'freedom' of cycling, which would enable them to explore their area 'you can go further riding a bike than you can on foot'. Cycling, they anticipated would enable them to enjoy the sensual pleasures of being in the outdoors, the 'wind in your hair', in particular contrast with driving 'get out in the fresh air rather than being stuck in a stuffy car'.

After leisure cycling the most common main planned use of the bicycle amongst new cycle owners was commuting (either to work or college). Significantly, those people who intended to cycle mainly for commuting expected to cycle more often than those who planned to cycle mainly for leisure. Whereas it was anticipated that leisure cycling would be undertaken once or twice a week, commuters anticipated cycling three to five days a week.

Whereas new cycle owners often intended cycling for leisure because they thought it would be enjoyable, the reasons given for cycling to work or college were almost exclusive reasons of utility. In the main, those who were

considering cycling to work or college did so because it was a reasonable distance 'too far to walk to campus and not far enough to drive' 'Moved closer to work - only four miles - was 11. With nice weather seemed a good idea'. If the journey to work or college could actually be made more quickly by bicycle than by car, this was a particular incentive. 'Quicker - only a couple of miles' 'To get through traffic more quickly'.

Although the vast majority (91%) of new cycle owners were employed or in full time education at the time of bicycle purchase, less than half were considering commuting by bicycle. Generally, this was because work was considered too far away to cycle. At the other extreme, some people felt that the journey from home to work was too short to warrant using their bicycle 'Its so near, where I work, its crazy to use the car - its eight minutes walk'. For others, the prospect of the traffic, 'I feel it is dangerous on the roads with the traffic' and the general 'dangers' implicit in cycling to and from work were enough to rule out commuting by bicycle 'too dangerous. that's the only reason'.

Although nobody mentioned shopping as being their main planned use of their bicycle (see Figure 5), when prompted, around two fifths (38%) said that they were considering using their bicycle to go shopping.

Those considering cycling to the shops cited various reasons of utility, including 'Easier for parking', 'Saves mileage on the car' and 'Not that far, saves on parking, makes me fit while I'm doing it.'

Where new cycle owners were considering cycling to the shops, these were for quite specific journeys where taking a bicycle would be quick and convenient, that is trips to local or corner shops 'Nice and easy - quick' to buy a small number of items rather than for a major shop 'Just for odd things', 'Just for small items. Can't be bothered to get the car out' 'Depends on what I'm buying - beats walking - quicker'.

Using the bicycle for shopping was seen as a 'secondary' purpose to leisure or commuting. When prompted, respondents often mentioned that they might go to the newsagent or local shops but that their bicycle was 'not bought for that reason'. As such, the reasons cited for cycling to the shops often reflected the reasons given for cycling for their 'main' purpose - for instance those who were cycling for leisure in order to get fit saw cycling to the shops as an 'additional' way of getting fitter.

9 people (12%) said that they were considering cycling for a purpose other than leisure, commuting or shopping. Primarily these were for social reasons such as visiting friends or relatives 'couldn't go without a bike - it's too far to walk' or to the pub.

3.3.2 Expectations

To find out people's expectations at the time of buying a bicycle, all respondents were asked what they thought would be the best and, conversely, the most difficult things about cycling.

Regarding benefits, one clearly stood out above the others: the majority of new bicycle owners (83%) cited 'keeping fit or healthy' as one of the things they expected

would be best about cycling. Various other benefits were mentioned but only by a relatively small minority or respondents. Table 1 lists the anticipated benefits of cycling, in order of frequency. More than one answer was allowed so the table does not sum to 100%.

Table 1 What new cycle owners expected to be the best thing about cycling

<i>'Best thing'</i>	<i>% of NCOs</i>
Keeping fit/ healthy	83%
Environmentally friendly	16%
Quick	14%
Freedom	13%
Family involvement	12%
Convenient	12%
Cheap/ cost/ saves money	5%
Seeing countryside, noticing more, getting to know the area	4%
Other	7%

Regarding difficulties, traffic and the danger that it posed was cited as the main problem anticipated. Over a third of new cycle owners expected that dealing with the traffic would be one of the most difficult aspects of cycling and almost one in six (16%) expected that they might suffer an accident or be knocked off their bicycle. Car drivers were also cited by 5% as a likely major problem. Traffic was much more of an issue for those who were planning to use their bicycle for non-leisure purposes. In particular, amongst those planning to commute, more than half (55%) anticipated that traffic would be a difficulty.

The other major difficulties cited related primarily to the physical hardships of cycling: struggling against bad weather (36%), hills (25%) or general lack of strength, fitness or stamina and getting sweaty as a result.

Given that danger is often said to be the reason why people do not cycle, it is interesting that almost as many people cited the weather and physical effort as the main problems, as cited traffic and the risk of accidents.

Again, Table 2 below lists the range of difficulties mentioned, in order of frequency:

Table 2 What new cycle owners expected to be the most difficult thing about cycling

<i>'Most difficult thing'</i>	<i>% of NCOs</i>
Traffic	38%
Weather	36%
Hills	25%
Accidents/ being knocked off	16%
Hard work, effort, fitness, pain,	14%
Car drivers	5%
Sweaty clothes	4%
Other	13%

4 Stage 2: Subsequent experiences of new cycle owners

In order to establish the level of use of the new bicycles, the type of bicycle journeys being made, and the overall travel patterns of the respondent, a travel diary was used. Strict instructions were provided to respondents against over-reporting of cycle use.

4.1 Travel diaries information

Approximately one month after the purchase of their new bicycle, recruits were asked to complete a travel diary recording details of all journeys that they made, including very short journeys on foot. A total of 48 valid diaries were completed and returned.

Respondents were asked to record the details of journeys made using any method of transport - including journeys made on foot. They were also asked to record journeys of any length - including both very long journeys e.g. a long-distance business trip, or very short trips such as posting a letter. A journey was defined as a trip with one main purpose e.g. to travel to work (even though this may include more than one mode of transport). The return journey (e.g. back home after a visit to the supermarket) was counted as a separate journey but with the same purpose. It is always likely that a few journeys are overlooked, particularly very short ones, but the respondents were fully briefed and appeared to complete the diaries very conscientiously.

Following the experience of the pilot survey it was decided to reduce the travel diary from seven days to four days and this greatly improved its accuracy. It was decided that a four-day diary was the maximum that the majority of respondents could be expected to accurately complete. Indeed, the National Travel Survey records details of very short journeys on only one day.

The diary covered four consecutive days, including a weekend. Diaries were completed as follows:

- Thursday to Sunday (42%).
- Friday to Monday (27%).
- Saturday to Tuesday (29%).

The balance of two weekdays and two weekend days means, however, that, when compared to a typical seven day week, the results are weighted in favour of weekend activities. As more leisure journeys and fewer work journeys are made at the weekend the diaries will tend to exaggerate the frequency of leisure trips and understate the frequency of commuting. Provided that this bias is kept in mind the data are still quite valid.

4.2 Journeys by all modes

4.2.1 Frequency of journeys

The 48 people who completed diaries recorded a total of 723 journeys by all modes of transport. This gave an average of 15 journeys per person across the four days, and an average of 3.8 journeys per person per day over the four days.

4.2.2 Modes of transport used

Journeys were primarily made by car; mainly as a driver. This reflects the high level of car ownership amongst the new cycle owners in the study. Walking was the next most frequently-used mode of transport, followed by the bicycle. Public transport accounted for only 4% of all journeys made. A breakdown is given in Figure 6.

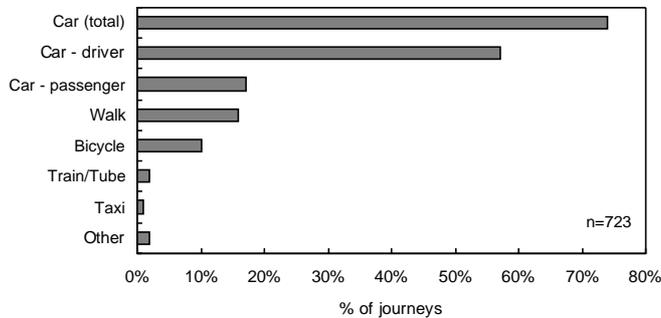


Figure 6 All journeys by mode used

Figure 7 shows how many people had used each mode of transport during the four days of the travel diary. Some 60% of respondents recorded cycling at some point during the four-day period. This is high compared average UK cycle use, as estimated by the National Travel Survey, and it may reflect the effect of the survey. However, as there is no other published data on levels of cycle use by new cycle owners, it may be that such levels are quite typical. (The National Travel Survey does not provide details of levels of cycling according to cycle ownership.)

People predominantly used just one mode of transport (95%) in order to make their journey with just 4% using two modes of transport, and 1% using three or more.

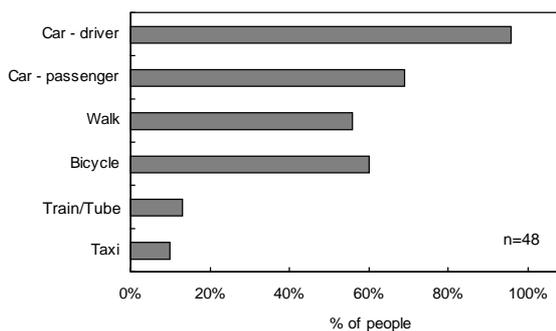


Figure 7 People using each mode of transport

4.2.3 Journey purpose

Respondents were asked to record the purpose of every journey. Most journeys were made for entertainment or social reasons (e.g. going to the pub, cinema or theatre or to meet friends), to commute to work or college, to go shopping, or for leisure/sport.

Over the four days (two week days plus the weekend) a

very similar proportion of journeys was made for each of these four main purposes, as is shown in Figure 8.

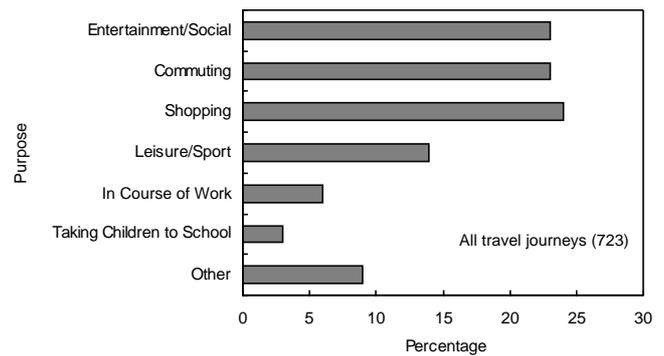


Figure 8 Purpose of trip

All respondents made at least one journey for entertainment or social reasons, 92% went shopping, 81% travelled to work and another 81% made a journey for leisure or sports purposes.

4.2.4 Length of journey by all modes

Respondents were asked to record, for all modes of travel, both the distance of their journey (in miles) and the length of time the journey took to complete.

The distance recorded for a single journey ranged from under a quarter of a mile to more than 100 miles. A significant proportion (22%) were very short journeys of less than one mile; two thirds of all journeys (67%) were between one and 25 miles long; and 11% of all journeys were over 25 miles. Five miles is often considered to be a reasonable upper limit for utility bicycle journeys, such as commuting, taking approximately 30 minutes. On this basis, over half the journeys made by all modes were within cycling distance.

A more detailed breakdown is provided in Table 3.

Table 3 Distribution of journey lengths (all modes)

Distance travelled	Percentage	Cumulative percentage
<1/4 mile	4%	4%
1/4, to less than 1/2	7%	11%
1/2 to less than 1 mile	11%	22%
1 to 2 miles	14%	36%
3 to 4 miles	18%	54%
5 to 6 miles	9%	63%
7 -10 miles	14%	77%
11-25 miles	12%	89%
25 - 50 miles	7%	96%
51-100 miles	2%	98%
101+ miles	1%	99%

All journeys (723)

The length of time taken to complete a journey varied tremendously depending on the distance travelled together with the mode of transport used. The average (median) time taken to complete a journey was 15 minutes. Table 4 summarises the times taken to complete each journey:

Table 4 Distribution of journey times (all modes)

Time taken	% of journeys
5 mins or less	15%
6-10 mins	18%
11-15 mins	16%
16-20 mins	10%
21-25 mins	5%
26-30 mins	8%
over 30 mins	26%
Missing	2%

All journeys (723)

4.3 Bicycle journeys made

29 (60%) of the 48 people who completed a travel diary made at least one cycle journey over the four day period. In total, 74 cycle journeys were made, accounting for 10% of total journeys. This gave an average of 0.39 cycle journeys per person per day or 0.63 cycle journeys per day for those who had cycled at least once.

More men than women cycled. Of the 22 men who completed a travel diary, more than three-quarters (17) had cycled at least once during the four day period, compared with less than half (12) of the 26 women who completed a diary.

4.3.1 Purpose of cycle journeys

By far the most common reason for cycling was for leisure or sport, as Figure 9 shows. A smaller number of journeys were made to work, to the shops or for social reasons (primarily to the pub or to meet friends).

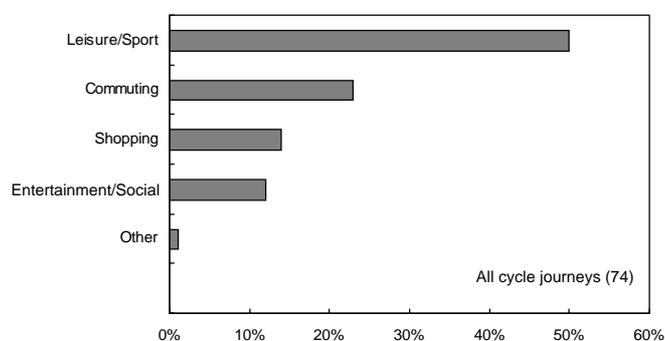


Figure 9 Purpose of cycle journey

4.3.2 Length of cycle journeys

The majority (70%) of all cycle journeys were between one and six miles long. Some cycle journeys of between seven and 25 miles were made (18%), but there were no cycle journeys of over 25 miles. Given that most journeys by all modes are below 5 miles, and that cycling long distances requires considerable time and stamina, this is not surprising. However, it is also the case that the bicycle was only used occasionally for very short journeys. Only 12% of all cycle journeys made were under one mile, compared with 23% of journeys made using any other modes of transport. Of the 161 journeys of under one mile that were made, 81 (50%) were made by car, 75 on foot and only nine (6%) by bicycle. Since almost a quarter of

all the journeys made were under one mile, this may represent an area where the bicycle is under-used.

The average (median) time taken to complete a cycle journey was 24 minutes. However, the length of cycle journeys varied by journey purpose: the average duration for leisure journeys was 43 minutes whilst the average for commuting was 11 minutes. Weekend journeys averaged 28 minutes compared to 19 minutes for weekday journeys. The National Travel Survey (1994/96) states that the average journey time for cyclists is 18 minutes. Although the findings of this study give slightly higher average journey times, the differences, especially for weekday journeys, are small and suggest that the results of this research are comparable with national results. Any survey effect does not appear to have significantly influenced the length of journey. In addition, the slightly higher than average journey times could be attributed to bicycles being recently purchased and their owners using them more due to their novelty value.

No cycle journey was recorded as taking five minutes or less, although nine journeys of under one mile - about five minutes of brisk cycling - were made by bicycle. By contrast, people did make a large number of very short journeys by car: a total of 82 journeys of five minutes or less were made by car (15% of all car journeys). Obviously this may reflect factors such as the greater distance that a car can travel in the same amount of time - assuming no serious congestion - and the car's greater carrying capacity. It may also reflect that, as some respondents reported, the car is often more readily available for use - parked outside the house - whilst the bicycle is locked in the shed (see Section 6.2.5).

4.3.3 Days when cycle journeys are made

Relative to journeys by other modes, more cycle journeys were made at the weekends than during the week. Two thirds (66%) of all cycle journeys were made at weekends, compared with 45% of journeys using other modes of transport. This probably reflects that the majority of cycle journeys in the survey were made for sport or leisure, which is more likely to be a weekend activity. If the results are extrapolated for a full week and corrected for the weekend bias, weekend cycle journeys would account for 44% of total cycle journeys per week.

5 Stage 3: After two months

5.1 The sample

Approximately two months after purchasing their bicycles, everyone recruited was contacted to take part in a face to face follow-up interview to find out about their experiences since purchasing their bicycle. 52 Stage 3 interviews were achieved. (A few of those respondents who did not complete the travel diaries agreed to be interviewed.)

Of these, all but two still had their bicycle. One person had had their bicycle stolen two weeks after they got it; 'maybe I will get one next year but it is a case of saving up for another one. If I did, I might decide to get fit and try to

The following ten case studies represent a range of cycling types and some of the more interesting experiences from amongst the 52 cases fully recorded in the survey.

Case studies

1 Male, 31, C2, single, employed full-time

Bought bicycle primarily for fitness/ relaxation and as something to do rather than watch television. Was hopeful he may use it for work once or twice a week, but aware it may be 'hard work'. Found that cycling was more enjoyable than he had thought, he felt healthier and the reaction of his friends had been positive; he 'felt very good about getting others to try and get fit'. He had experienced no difficulties when leisure cycling. He had cycled to work once or twice a week as expected, but found coping with the traffic difficult.

2 Female, 35, B, married, no children, employed

Planned to cycle for leisure only, for fitness and to spend time with her husband, who already cycled. Never mentioned traffic as a potential difficulty. Did not cycle to work (too far) or shops (does big shop) as anticipated. Found cycling more enjoyable than expected (often went cycling with friends, 'fresh air' 'seeing a lot' increased fitness, spent more time with husband). Had also used the bicycle to visit friends. However, found the experience of cycling on roads 'quite scary' and said 'if there were more cycle lanes I would definitely use my bicycle more on the roads'.

3 Male, 35, C1, married, no children, employed full-time

Bought bicycle because moved house to York and only four miles from work. Planned to cycle mainly to work (3-5 days a week) and thought this would be quick, convenient (no traffic jams etc.). Also planned to cycle for leisure. Cycled to work as often as expected, and found this 'relaxing - less stressful, and you see a lot more'. This journey was not on busy roads which he found 'harrowing'. Had also used his bicycle occasionally for shopping but found it harder to carry the weight than he expected, and securing the bicycle was a problem. Never cycled for leisure at all, due to lack of time.

4 Male, 21, D, living with partner, no children, employed

Bought the bicycle so that he could cycle to work (no other way apart from walking and its a lot cheaper than the car), 3-5 days a week. Also planned to cycle for leisure for fitness. Found that he cycled for leisure more often than expected ('the countryside is pleasant') but had cycled to work less often (1-2 days per week). Had found cycling to work 'a lot harder than driving a car, cycling up hill difficult' and had been put off by the weather.

5 Female, 18, B, single, student

Bought bicycle primarily for university where she would have no other form of transport, hoped to use it over the summer, but was not too sure 'how much or what for'. After two months, had only used her bicycle for leisure, and less often than expected, mainly because 'I haven't the energy...I've had the opportunity of using a car - I've just been lazy'. Although she clearly felt a sense of achievement from cycling when she went, she had 'thought it would be less strenuous' and 'didn't think the traffic would be such a problem'.

6 Male, 56, C1, married, employed full time

Experience was very much as expected. Only anticipated cycling for leisure; bicycle is 'not suitable' for shopping, 'need to be smart' for work and when working late 'the last thing I want is to have to cycle five miles home'. This was what happened. He cycled for leisure as often as expected and never for other purposes (nor was he considering this), even though he had not been concerned about cycling on busy roads, and found this 'fine'. Felt perhaps he could have bought a more suitable bicycle (i.e. tourer instead of mountain bike, and had found seat uncomfortable).

7 Male, 50, B, married, one child living at home, employed

Had purchased bicycle for family reasons and planned to cycle primarily for leisure. Also planned to cycle to work once or twice a week which he thought would be 'fun' if tiring, and would enable him to get to work quicker. Cycled for leisure about as often as expected. However, had never cycled to work and had given up considering this, solely because it is 'too dangerous, cars just don't give enough room'. His experience of cycling on busy roads for leisure had been 'dangerous, life threatening' and had reduced the amount of cycling he'd done.

8 Male, 40, A, married, three children, employed full time

Bought bicycle primarily to cycle for leisure with children and family. Anticipated probably shopping once or twice a week for short trips when it was not worth getting the car out. Had cycled for leisure about once a month (but had only anticipated cycling about once a fortnight) - felt he cycled whenever they were all available. The experience was very much as he expected; enjoyed countryside and quality time together. But had never used the bicycle for shopping trips or any other journey.

9 Female, 44, C1, married, no children at home, employed

Bought bicycle at same time as husband because the summer was coming. Planned to cycle primarily for leisure (for fitness) as a change from walking. Also thought may cycle for small shopping trips. Cycled less than expected. Found that did not have enough time to cycle as much as planned, and busy roads prevented going as far as would have done. Decided not to cycle for shopping in the end, because her husband was 'not happy at me carrying shopping on my bicycle'. They had found the traffic heavy and 'unnerving'.

10 Male, 26, C1, single, employed full time

Bought bicycle to get fit and 'for something to do'; expected to cycle primarily for leisure ('a summer time activity') but also planned to cycle to work once or twice a week - thought this journey would be 'quick, easy and enjoyable'. Cycled for leisure as often as expected, but never cycled to work at all because the changing facilities had been altered.

cycle the journey to work'. The other person who no longer had their bicycle had cycled regularly but had lent their bicycle to a relative on a temporary basis.

As noted in section 2.5, those new cycle owners who did not complete Stages 2 and 3 were similar to those who did in respect of socio-demographic characteristics. However, those who completed all stages were more likely to have recent cycling experience and were more likely to be buying the cycle mainly for utility use, such as cycling to work or college (Table 5). The level of motivation towards cycling was generally higher amongst those who completed all stages. For obvious reasons, it was not possible to compare their subsequent actual cycle use.

Table 5 Differences in cycling characteristics of new cycle owners completing the survey and those dropping out

<i>Characteristic</i>	<i>'Completes'</i>	<i>'Drop-outs'</i>
Cycled during past 2 years	52%	29%
Expect to use cycle mainly for commuting	27%	12%
Expect to use cycle mainly for leisure	69%	79%
Expect to use car less	43%	29%
Considering using cycle to go shopping	48%	17%

n=72

5.2 Actual bicycle use

5.2.1 Frequency of cycling

All but two respondents had cycled at least once since they had purchased their bicycle. Of those who had not cycled, one had realised that she was pregnant soon after purchasing the bicycle. The other was the woman who had had her bicycle stolen before she had a chance to use it. She had planned to ride 3-5 days per week.

Of the 50 who had been cycling over the two months since purchasing their bicycle, almost half (23) had generally cycled once or twice per week. Approximately a fifth cycled 3-5 days per week; and a further fifth cycled once a fortnight. A minority (3 people) cycled six or seven days a week; and these were all people who used their bicycle to commute. Five people had cycled very infrequently (about once a month or less often).

Those who had been cycling at all were asked whether overall they felt that they had ridden their bicycle more or less often than they had thought they would when they bought their bicycle. Whereas almost half (24 people) cycled less often than they had anticipated, almost a quarter (11 people) had actually cycled more often. The data collected seems to suggest that women more than men tended to cycle less often than they expected to (17 women compared to seven men said they cycle less often than planned), perhaps showing that barriers to cycling affect women more than men.

Those who had ridden their bicycle less often than they had anticipated were asked why they thought this had been the case. Generally reasons of 'time' or 'effort' were cited as the primary reason 'Time - busy at work, so tired so only at weekends'. Responses indicated that these people had considered cycling on other occasions, but were put off by feeling it would be hard-work: 'I'm too lazy and the

thought of it puts me off'; 'too tired when I get in from work...although I feel more relaxed once I've done it'; 'I'm lazy. I don't have the time. It nearly killed me. I'm not fit enough.'

Other reasons cited as to why they had cycled less than anticipated were bad weather, and the lack of someone to cycle with 'my partner is too tired and I don't feel safe going alone, both for traffic and personal safety'.

5.2.2 Length of cycle journeys

Those who had cycled at least once a fortnight (45 people) were asked how far they generally rode. The majority (28 people) said one to five miles, with a third (15 people) saying they generally rode six to ten miles and two people generally cycling 11 miles or more. Nobody said that they generally cycled less than one mile, which reinforces the data collected at the diary stage indicating that new bicycle owners rarely use their bicycles to make these shorter journeys.

5.2.3 Journey purpose

All those who had cycled at all (50 people) were asked what purpose they had mainly used their bicycle for. Over four fifths had mainly used their bicycle for sport or leisure. Around a fifth had used their bicycle for commuting to or from work. Other main purposes were shopping and social journeys (e.g. to visit friends) but these were only mentioned by a small number. These figures reflect not only the popularity of the cycle for a particular journey purpose but also the relative frequency with which these journeys are made by any mode. Work and education trips are, for example, made more frequently than shopping and leisure trips. This also means that, although leisure was cited as the main purpose for most new cycle owners, those using their cycles for work and education tended to cycle more frequently than those using them for leisure.

5.2.4 Cycling for leisure

All but three of the 52 respondents interviewed at Stage 3 had ridden their bicycle on leisure trips, and generally cycled about once or twice a week.

Six of these people said that they already cycle for leisure as often as they can. The others said that improved cycle lanes (12 mentions), better weather (10 mentions) and less heavy traffic (8 mentions) would encourage them to cycle for leisure more often.

5.2.5 Cycling to work or college

Around a quarter (11 out of 43) of those who were in work or full time education had used their bicycle to commute at some time during the survey period, and a further four were thinking about it.

More men than women had commuted by bicycle (7 out of the 11 people who had used their bicycle to commute were men). Both of the people who participated in the follow-up interview who did not have access to a car had regularly used their bicycle to commute.

Of those who had used their bicycle to commute, most were cycling to work or college on a regular basis; half (6

people) cycled between three and seven days per week and three generally cycled once or twice a week. However, only one person had only used their bicycle to commute. All those with access to a car had sometimes driven to work.

There were several instances where individuals simply would not consider cycling to work or college. The main reason was that work or college was simply too far away. Other cases included having to carry things, for example medical equipment, or give other people a lift, which was simply not practicable on a bicycle. Other things that discouraged people from cycling to work or college included a lack of changing facilities 'difficult - wearing smart clothes to work' having to leave more time to get in to work 'would have to get up earlier' and having to cycle either at night 'I am not comfortable cycling in the dark' or in busy traffic 'because its just too dangerous, cars just don't give enough room'.

Respondents who started cycling to work often got some reaction from colleagues. This tended to be a mixture of approval and mild mockery 'Some think I'm mad, others admire me for taking the exercise.'

When asked what would encourage them to cycle to work or college, the incentives most popularly cited were better cycle paths and showers or changing facilities at work. Those who were already commuting by bicycle also mentioned that if the traffic was less heavy and the weather better they may cycle more often.

5.2.6 Cycling to the shops

Around a third (15 out of 50) of those who had cycled had ridden to the shops, and a further nine were considering it - primarily for small local errands 'I might cycle on a Sunday morning to get the paper'. A number of people referred to doing a 'big shop' which was simply impractical except by car.

Shopping trips by bicycle were not made very often. The most anyone had cycled to the shops was once or twice a week (3 people), the remainder had cycled about once a fortnight or less with three out of the 15 cycling less than once a month.

Virtually everyone who had cycled to the shops had also used other modes of transport (primarily the car) to go shopping (although one person had only used their bicycle to travel to the shops).

A number of people (13) said that nothing would encourage them to cycle to the shops, and others simply considered that the car was generally 'less hassle' in terms of carrying things (which required carriers and panniers), parking and speed 'Cars are quicker - I'm always in a hurry'. People were discouraged from cycling to the shops by problems associated with cycling in built up areas; for example the traffic, bicycle security 'there are no facilities to leave your bike in a safe place - you'd go in the shop and the bike would be gone' and personal safety 'If you're a girl on your own you're conscious of the fact that you're on your own and worry about someone stopping you and pushing you off. Or what if I were to get a puncture?' Shopping by bicycle was a particular problem for people with small children who either had to be carried 'too much to carry especially with a child on the back of the bike' or were slow when cycling.

When asked what would encourage them to cycle to the shops, people tended to cite better cycle paths and weather. Several people also mentioned better security '...safe area... without having to remove the front wheel or the saddle' and owning better equipment for carrying shopping e.g. a basket or panniers.

5.3 Experience of cycling

5.3.1 Reaction of others

All those who had been cycling since the purchase of their new bicycle were asked what the reaction of others had been to them cycling.

Generally reactions to new cyclists seemed to be very positive. Respondents referred to others as being 'congratulatory' 'impressed' and 'encouraging'. Sometimes however, this was qualified by saying that, for instance, some people laughed at first, thought they were 'mad' or didn't think they would keep it up. 'Some think I'm mad, others admire me for taking the exercise.'

For some people the reaction of others seemed not to be an issue 'Doing it for myself, wouldn't care'. Others indicated that the reaction of others had made them feel good because cycling had changed the way others thought about them 'Surprise! They thought I would not do it'.. '[The reaction of others has been] quite good. It gives others the impression you're athletic, they think differently of you'.

On the whole, respondents seemed to focus on the reactions of the family and friends, rather than colleagues.

A number of people mentioned that their having taken up cycling had prompted others to consider taking it up 'Some of them are now thinking of it' or to get out their bicycles again. 'Seems to have encouraged others to use their bikes.' One respondent said that her sister had since bought a bicycle, encouraged by her experiences.

5.3.2 Personal benefits of cycling

Most of those respondents who cycled (42 out of 50) said that they had obtained personal benefits from cycling. Often, these related to improved physical health and fitness and the benefits this implies. These involved becoming 'slimmer', having better levels of fitness and becoming more 'muscular'. Many respondents also referred to physiological and psychological benefits of cycling, including feelings of satisfaction, and well-being. 'Seem to have more energy - that feeling of well-being' and 'Feel a lot healthier when you do more exercise...you have more energy'. Another benefit was felt in terms of raised self-esteem 'You feel good about yourself' 'You feel you've achieved something'.

Enjoyment and relaxation are seen as a key benefit of cycling for some people; 'You feel like a kid again, helps you to unwind'. Others refer more generally to the pleasure of cycling - 'fun', 'enjoyment' and the 'feelgood factor'. The fresh air, 'seeing the countryside' and the pleasures of finding 'pubs, something to eat or drink' are seen by some people as personal benefits in themselves.

For others, the advantage they have enjoyed from cycling have been primarily in terms of their social life - cycling has afforded them new experiences 'seeing more,

going where cars can't' and enabled them to meet new people or to spend more 'quality' time with their friends or particularly their families.

5.3.3 Busy roads and traffic danger

Most of those who had cycled at all had cycled on busy roads at least once since purchasing their new bicycle (39 out of 50). However, a proportion of new cycle owners, particularly those who cycled only for leisure and had a cycle route convenient to their home, never even attempted to cycle on busy roads. Those with children generally rejected cycling on busy roads where it is 'frightening especially with the baby on the back. Traffic comes too close and goes too fast'

For those who did cycle on busy roads, many portrayed their experiences in a very negative way - cycling on busy roads was described as 'life threatening' 'horrible' 'stressful' 'harrowing' and 'absolutely petrifying'. Clearly many new cycle owners found the traffic intimidating 'I didn't like it. I kept stopping. You stop peddling, waiting for the car to pass you' ; 'Hated it, it's horrible. I'm not very confident. I just don't feel safe on roads, rather be in countryside'; '(it is) frightening, traffic thunders past'.

The roads were often perceived as very dangerous; traffic, particularly large vehicles, come 'Too close, don't give enough room' and the speed of traffic also frightened some respondents. A respondent referred to the 'terrifying experience of cars speeding and cutting corners - it is inconsiderate and dangerous'. The lack of consideration shown to cyclists by drivers sometimes left new cyclists feeling angry or upset.

A few people referred to the general unpleasantness of cycling where it is 'noisy, smelly and potentially hazardous', where you can 'smell or taste the exhaust fumes' and to specific hazards on roads, such as pot holes.

The amount of cycling was affected by the experience of cycling on busy roads, since it 'puts you off' and makes them 'think twice about going out in peak periods'. Alternatively, it can mean that new cycle owners 'keep to quieter roads, which is restricting'. Given the vehemence of the terms used to describe cycling on busy roads, it is perhaps surprising that the experience had affected only a quarter (26%) of new cycle owners, in terms of the amount of cycling they had undertaken.

None of the new cycle owners experienced an injury accident while cycling during the two-month survey period; one person reported falling off once, apparently without injury. However, five people (one in ten of those who had cycled at all) had said that they had experienced a 'near miss'. Generally this involved motor vehicles coming too close or cutting corners, either forcing the cyclist into the pavement or causing them to have to brake suddenly. For example, 'Going round a roundabout a driver pulled out in front of me.' 'A bus cut me up. It forced me onto the pavement.' 'A driver just pulled out at a junction.' 'They were coming towards me on my side of the road, purely because they were cutting the corner. We passed within a foot of each other.'

Although these respondents could recall these incidents vividly, none of them said that the near misses had affected the amount of cycling that they had done, perhaps

suggesting that cyclists are reasonably resilient to the experience of near misses. However, more serious or repeated incidents are hardly likely to encourage people to remain cyclists.

5.3.4 Likes and dislikes about the bicycle

Everyone interviewed, without exception, said that they were pleased that they had bought their bicycle. Almost all (45 out of 52) were also generally satisfied that they had bought the right type of bicycle. The remainder were not sure whether or not they had bought the right type of bicycle, because they did not feel that they knew enough about it to say; 'Maybe you could do with more help and information when buying a bike on what is suitable for your purpose - size, gears, type of frame'.

Respondents were asked what they liked or disliked about the bicycle, and whether or not this had affected the amount of cycling they had done. The aspects that some people particularly highlighted as being good about their bicycle were gears ('it means if you're not fit you can still ride'); the gears made it 'less strenuous and easier to operate') and the lightness or the sturdiness of their bicycle. For a small number of people these benefits did encourage them to cycle more, either because it made the ride more comfortable 'I do more cycling because I like the bike', or because it increased their confidence. For example, one woman who had purchased a bicycle that she felt was 'sturdy' and which had fat tyres said 'I'm doing more because it's good on the road, it's confident feeling'.

Turning to dislikes, people regularly mentioned that they found the saddle uncomfortable or hard. For many of these it did not really affect the amount of cycling they had done, but for a number it meant that they made fewer, or shorter journeys.

Other problems mentioned included 'Getting used to handling it, i.e. changing gears and signalling' and the bicycle being 'too slow'.

Other 'dislikes' related primarily to accessories rather than the bicycle itself; these included lack of a child seat and lack of bicycle lights, meaning 'I can't cycle at night or have to leave early'), and not having a helmet ('I sometimes feel vulnerable on busy roads') and not having a car bicycle-carrier (would cycle more if they had one). This indicates that, as one respondent commented, 'When you buy a bike, a better package of accessories would be good'.

As virtually everyone was pleased with their purchase it was not possible to detect any relationship between the price paid for the cycle and subsequent satisfaction derived. Those people who paid more than £150 for their bicycle were marginally more likely to use it each week than those paying less than £150. Those few new cycle owners who never used their cycles had all paid less than £150; yet all respondents who had paid over £200 used their cycles only 1-2 days per week or less, suggesting mostly leisure use.

5.3.5 Storing the bicycle

People generally stored their bicycle outside the house, under cover, either in a garage or shed. Storage caused problems for about one in five respondents. Problems did

not appear to be linked to any particular place of storage, although upstairs flats were inevitably problematic. Rather it was a general problem of 'the effort of getting it out', sometimes made more difficult by having to deal with hefty locks or security measures; 'My husband has it so secure it takes ten minutes to get it out of the shed'. This may partly explain why most respondents continued to use the car for many very short trips.

5.4 Changes in attitudes towards cycling

5.4.1 Views towards car use and drivers

Almost all those interviewed at the follow-up stage had access to a car. For the majority of these (35 out of 50) ownership of their bicycle has made no difference to the amount of driving they have done. However, over a quarter of new cycle owners (14 people) said that they had used their car less often. However, this was not possible to verify. Just one person said that they had actually used their car more often since owning a bicycle.

Just over a third of cyclists reported a change in their feelings towards drivers over the two months since taking up cycling. As the views towards cycling on busy roads would suggest, this was primarily a shift towards seeing drivers in a more negative light, epitomised by the view 'As a driver, I used to see cyclists as a hindrance, now I see car drivers more as a danger.'

Similarly, those with access to a car were asked whether as a driver, their feelings to cyclists had changed since they had bought a bicycle. Approximately two fifths said that their feelings had changed. In almost all cases the change they had experienced was that they had become 'more aware' and more thoughtful towards cyclists; 'I'm more considerate, I give them a wider berth and I slow down'.

5.4.2 How cycling matched expectations

When asked 'Was it what you expected?' cyclists gave a mixed response. Some felt it involved more effort than they had anticipated 'I thought it would be less strenuous' or that the various hassles involved such as getting their bicycle out, getting changed, supervision of children made cycling 'a better idea than it is in practice'. Others mentioned the difficulties of busy roads 'It was totally different to what I expected its a lot busier than I thought and I thought it would be easy like when I was a child but it isn't'.

Conversely, others (particularly those cycling solely for leisure), found that it was easier or more enjoyable than they had expected, 'It's easier than I thought it would be - better than what I thought'; 'I've enjoyed it more than I thought I would. Its been easier than I thought not so uncomfortable and been doing longer rides than I thought I would. I've become ambitious. I would like to do a cycling holiday'.

A third of people said that their attitude to cycling generally had changed since purchasing their new bicycle. Typically this was a positive change following an enjoyable experience of cycling; people felt that they had become more interested, 'A lot more interested in it - cycling generally' or enthusiastic 'More keen to go on it'; 'I will encourage my son to ride as I know how good you feel'.

Overall, however, those who felt that the experience of cycling had differed from their expectations tended to make more negative than positive comments: cycling was somewhat more difficult or dangerous than they had hoped.

5.4.3 Plans for future use

Despite interviews taking place at the end of the summer, just over half of all respondents said that they planned to use their bicycle 'more often' in the future. Of the remainder almost all said that they would use their bicycle 'as often' and only three people said 'less often' or 'never'.

5.5 Discussion and other studies

5.5.1 Decision making

The cycling decision-making model, in TRL Report 266 'Attitudes to cycling' (Davies et al 1997, p17) incorporates time availability, task, physical circumstances and antecedent state as important factors. This also seems to be a useful way of understanding the cycling decision making process amongst new cycle owners. The new cycle owner's cycling experience comprises a series of decisions about whether to cycle on a particular occasion, which (regardless of the journey purpose) generally operate in terms of this model (e.g. It's raining and security is difficult, so I won't cycle to the shops today; I feel energetic and it's a pleasant route to work, so I will cycle). These decisions compound each other; for example if an individual is busy at work and therefore short of time they are likely to cycle less often and to have lower fitness which, in turn, affects their antecedent state (lower energy levels) and they are likely to find cycling harder.

At the time of purchase, new cycle owners vary in the extent of their motivation and realism of their expectations. Although some are very determined, many are not sure how they will get on in practice. Those with a clear and defined picture of how they will use their bicycle are more likely to use their bicycle in this way, whereas others generally adapt according to their experiences.

The nature of the task makes certain types of cycling more difficult than others (e.g. shopping with lots to carry, cycling to work when it is a long distance) and it is very unusual that a new cycle owner will cycle in these instances, unless they specifically bought their bicycle with the intention of doing so.

The 'physical circumstances', or the pleasure/pain principle is important. Where new cycle owners have managed to keep up cycling either for leisure or for work, it tends to be because they find it enjoyable or satisfying; for example new cycle owners who cycle to work tend to be more accepting of the problems caused by traffic or are cycling on quiet roads.

5.5.2 Action research

This was a non-interventionist study, i.e. it attempted to record the expectations and experiences of new cycle owners without influencing them. However, it could be adapted into an action research project to assess the effectiveness of various support and encouragement mechanisms, such as those suggested in Section 6.2. Such a

study - 'CykelBus'ers' - has been undertaken in Arhus, Denmark: 200 motorists were given a new bicycle, full servicing, accessories, information and a free bus pass for one year on the basis that they would try to use their cars less for daily commuting (Bunde, 1995). BAA Heathrow has also carried out a similar initiative as part of its efforts to reduce traffic congestion around Heathrow airport, with support from the Government's Cycle Challenge funding. These initiatives, and others in Green Commuter Plans elsewhere, have shown that cyclists are receptive to practical and psychological encouragement, and that they will themselves lend support to such initiatives.

6 Summary and recommendations

6.1 Summary of findings

The main findings of the research were:

Motivations behind bicycle purchase

- Most people taking up cycling were motivated by a desire to get fit and healthy, and expected that this would be the best thing about cycling. A change in life circumstances such as moving house, or the onset of good weather, often precipitated the decision to buy a bicycle.
- Adults taking up cycling often have a partner who cycles, and for many of them cycling is a way of spending time with their family or friends.
- Most new cyclists buy their bicycle with the intention of using it primarily for leisure, although around a fifth plan to use it mainly to commute. Around two fifths considered cycling to the shops, although this was seen very much as a 'secondary' purpose to either leisure or commuting.

Expectations upon buying a bicycle

- Expectations depended partly on the new cyclist's planned purpose. Those who intended to cycle for leisure generally anticipated that it would be pleasurable, whereas the perceived advantages of cycling to work were generally reasons of utility such as cost or speed.
- Some people expressed concern about the physical challenges of cycling (the weather, hills, fitness) and over a third expected that dealing with traffic would be one of the most difficult aspects of cycling. Traffic was more of a concern for those who were planning to commute.

Subsequent experience of new cycle owners

- Most new cycle owners used their bicycles reasonably often in the couple of months after purchase, cycling around once or twice a week. However, around half cycled less often than they expected to. This tended to be because people had found they had been too tired or 'lazy' to cycle, or that they had discovered that the practicalities of cycling involved more hassle than they had anticipated. Conversely, around a quarter cycled more often than they had expected. These tended to be people who had found cycling enjoyable

- People generally cycled for the purposes they planned to when purchasing their bicycle - most commonly for leisure purposes. However, cycling on busy roads was seen as a very negative experience for most new cycle owners and this had affected the type of cycling done for around a quarter. Leisure-only cyclists did not tend to naturally 'progress' to utility cycling. Those who cycled most frequently tended to use their cycle mainly for commuting to work.
- Those people who cycled more frequently tended to be fitter, 'hardier' individuals who were prepared to put up with motor traffic, physical effort and occasional discomfort. Men were generally more prepared to accept these deterrents than women.
- Those new cycle owners who did not complete Stages 2 and 3 were similar to those who did in respect of age, sex, purchase cost of cycle, etc. However, those who completed all stages were more likely to have recent cycling experience and were more likely to be buying the cycle mainly for utility use, such as cycling to work or college.
- The car continued to be the primary mode of transport used after purchase of a new bicycle. However, over a quarter said that they used their car less often since owning a bicycle.
- Most cycle journeys made were between one and six miles. Very few journeys of under one mile were made by bicycle although many new cycle owners still made frequent journeys of this distance by car.
- Many car drivers said that they had become more considerate to cyclists since taking up cycling.
- Those who had cycled generally experienced personal benefits including improved fitness, self-esteem and a sense of well-being. The reaction of others towards their cycling tended to be very positive and there were signs that their decision to take up cycling had encouraged others to consider it. After two months of bicycle ownership virtually everyone wanted to increase their amount of cycling, and everyone was pleased that they had bought their bicycle.
- The type of bicycle purchased was important: a bicycle which was comfortable and inspired confidence encouraged cycling. People felt more thought needed to be given to accessories at the time of bicycle purchase. Security details, such as removable parts and secure yet accessible storage at home, could significantly affect the practicality of using the bicycle.

6.2 Recommendations

As a result of this study the following recommendations are made:

Conditions for cyclists need to be substantially improved and utility cycling made more enjoyable if new cycle owners are to become regular cyclists. In particular, the unpleasantness and danger created by motor vehicles need to be greatly reduced. This should be addressed by the following:

- The construction standards of motor vehicles should be raised to reduce external noise and emissions.
- The infrastructure should be made more 'cycle-friendly' by reduced speed limits, reallocation of road space to cyclists and modifications to main roads and busy junctions.
- Convenient facilities, such as secure parking and showers, should be provided at the end of the journey, particularly at the workplace. More Cycle Centres, such as those in Leicester and Covent Garden, would be beneficial. Secure and convenient cycle parking is also required in residences.
- Practical advice and support should be provided for new cycle owners, with regard to riding skills, coping with traffic, choosing routes and basic cycle maintenance.
- Cycling skills, including maintenance, should be taught more widely in schools and information offered to adult cyclists. The emphasis should be on enjoyment and enabling skills, rather than 'pure' road safety. Local authorities, bicycle shops, cycling organisations and other bodies should assist with information hotlines, leaflets, maps, etc.
- Promotion of cycling to work should be targeted, through Green Commuter Plans, etc. as this is most likely to lead to regular cycle use.
- Cycling should be promoted as a viable alternative to the car for many short journeys.
- Measures are needed to reduce the attractiveness of car use for short journeys, for example by the location and price of car parking.
- The views and needs of existing cyclists should not be overlooked in the effort to attract 'new' cyclists.
- Attitude changes are required: cycling must be promoted as a normal, attractive mode for transport and leisure, emphasising the benefits to the individual from cycling, and reinforced by incentives such as cycle mileage payments and priority parking locations.
- Bicycle manufacturers and retailers need to consider how to reduce the physical effort of cycling which many new cycle owners found to be greater than anticipated. More design and sales emphasis should be placed on cycles that are lightweight, with practical gears, easy to use and to maintain.
- Bicycle manufacturers and retailers should assist customers to purchase bicycles that best fit their needs and abilities, and that are equipped with lights, carriers, locks and other accessories.
- A follow-up study would be useful to assess the experiences of new cycle owners over a longer time period.

6.3 Conclusion

The experience of new cycle owners was generally positive and most were fairly enthusiastic about cycling more in the future. Yet the National Travel Survey and the DETR's annual traffic census show that cycle use has continued to decline. If the National Cycling Strategy targets are to be achieved, it is evident that more practical support and encouragement needs to be given to both new

and existing cyclists. There will also need to be more 'sticks', such as workplace parking restraint, so that people perceive a direct personal need to seek alternatives to the car for some journeys.

7 References

Davies D G, Mayes M and Pocock R (1997). *Attitudes to cycling: A qualitative study and conceptual framework.* TRL Report TRL266. Transport Research Laboratory, Crowthorne.

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Abstract

Cycle sales have increased substantially but overall cycle use has not. This project investigated the expectations and experiences of new cycle owners to see how they might be encouraged to cycle more, particularly for utility purposes. 76 adults who did not regularly cycle, who were buying a new cycle for themselves, were interviewed in cycle shops immediately after their purchase, about their planned cycle use and expectations. After one month they completed a four-day travel diary. After another month, they were interviewed in-depth regarding their cycle use, experiences and attitudes. Almost all those who completed the survey were pleased with their purchase. The majority cycled at least once a week, some much more frequently. Leisure was the main journey purpose but those who cycled to work tended to cycle more frequently. Physical effort, practical difficulties, the weather and the danger and unpleasantness from motor traffic were the main deterrents. One quarter reported using their cars less. However, most continued to use cars for the majority of journeys, including many under one mile. The report concludes that measures are needed to overcome practical barriers to greater cycle use, and to make cycling more enjoyable, for both new and existing cyclists.

Related publications

- TRL365 *Achieving the aims of the National Cycling Strategy: Summary of TRL research* by D G Davies, P Emmerson and G Gardner. 1998 (price £35, code H)
- TRL266 *Attitudes to cycling: a qualitative study and conceptual framework* by D G Davies, M E Halliday, M Mayes and R L Pocock. 1997 (price £25, code E)
- TRL346 *Cycling for a healthier nation* by L M Pearce, A L Davis, H D Crombie and H N Boyd. 1998 (price £35, code J)
- TRL347 *Transport implications of leisure cycling* by G Gardner. 1998 (price £25, code E)
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