Walking and Cycling and Survey 2004

FINAL REPORT

Prepared for the London Borough of Croydon.

Copies of this document can be downloaded from the website below.

BNR Consulting, 10 October 2005

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Executive Summary

The Study

The London Borough of Croydon (LBC) were keen to establish the issues that deter people from cycling and walking in the local area and in particular what cyclists and pedestrians see as the dangers/hazards associated with walking and cycling in Croydon. A previous survey found that more people in Croydon would cycle if the right environment was created and it was therefore also important to establish the measures that would encourage walking and cycling.

The LBC commissioned BNR Consulting to assist them in undertaking this study. The study was managed, for the LBC, by the Croydon Cycling Campaign. Data collection, entry and tabulation was performed by Advanced Data Tabulation Services (ADTS) with BNR Consulting undertaking further analysis and reporting.

The Croydon Walking and Cycling Study was the 11th TalkAbout questionnaire to be distributed. 575 questionnaires were returned from the 962 that were distributed (a 60% response rate). To counteract non-response bias, responses were weighted according to area, gender and age to reflect the characteristics of the whole of the Borough.

Results and Conclusions

The Croydon Walking and Cycling Survey has provided a useful and representative insight into current travel patterns within the Borough of Croydon. It has also provided an understanding of the issues that deter residents from cycling and walking and has identified some specific locations where attention may be needed.

Just over three quarters of the sample owned a car and 28.4% of respondents stated that they owned a bicycle.

For journeys of one mile or less, walking represented the most popular mode of travel - accounting for 65.5% of responses. Car as driver was the second most popular choice, accounting for just under a quarter of respondents. Bus was the third most popular option for journeys of 1 mile or less (5.1%) with cycling mentioned by only 1.1% of respondents. Walking was not surprisingly less popular among the car owning portion of the sample.

For journeys of three miles or less, the popularity of the car predictably increases, representing over half of all choices. Bus was someway behind, as the second most popular choice, being mentioned by only 28.6% of respondents. Tram/rail was third with 8.3%. Walking fell to 2.2% and cycling increased its popularity slightly, reaching 1.4%. For journeys of over three miles in length, car as driver was again the most popular choice accounting for just over a quarter of responses.

Amongst these choices there are some indications of differences in behaviour between residents in each of the three Croydon constituencies and these may, in part, reflect differences in the environment and in transport provision among the three. The residents of South Croydon seem to have adopted a more car dependent lifestyle and walking consequently appears to make less of a contribution in this constituency. This is reinforced to some extent by the higher figures recorded for walking as an alternative mode in this constituency. Bus services appear to be more popular in North Croydon.

The variations between the constituencies suggest that there is scope to increase the share of cycling and walking by examining and tackling the deterrents that have been pointed out in the survey.

Respondents appeared to have two sets of motivations for walking. There are the "practical" reasons like time savings and convenience, as well as the more "principled" reasons like health and environment. One benefit of walking, illustrated by the results, is its ability to a fulfil various needs: it is for example possible to travel cheaply from A to B, get exercise and walk the dog at the same time. In a modern society where time is precious, this may provide one of the best opportunities to promote walking.

Most walking trips were made for shopping and leisure purposes. Walking appears less popular for non-discretionary trips such as business, commuting and trips to school/college.

The most common deterrent to walking was bad weather, mentioned by nearly half of the respondents. Distance and fear of crime were roughly equal second and were mentioned by just over a quarter of the sample. 16% of the sample had to restrict their walking for reasons of disability. 12.2% of respondents stated that they just did not want to walk.

The findings suggest that existing highway designs are having a deterrent effect on walking. Of course a radical shift to pedestrian priority could have wide reaching effects; but further work could be undertaken to determine the scale of this problem and to develop highway related solutions.

When asked about the state of existing walking facilities in the Borough respondents, in general, considered them acceptable, but there may still be sections of the community that are being deterred from walking by highway design issues.

Respondents were asked to consider a number of policies to help encourage walking. The most popular policies were the provision of wider pavements and increased numbers of pedestrian crossings. Car owners were significantly less positive with regard to improvements in pedestrian facilities and it is possible that motorists have given a less positive response in an attempt to reduce future restrictions on car use.

Other issues that appeared to concern respondents were problems associated with existing facilities. It may be that insufficient attention is being paid to keep the existing pedestrian routes clean, safe and clear of obstructions. Better cleaning, maintenance and enforcement of existing laws, for example, concerning parking and obstructions on the pavement might therefore generate a significant improvement in the walking environment. Better enforcement would also increase the feeling of safety amongst pedestrians.

Pedestrian subways were unpopular and this feeling was exacerbated at night. Women were significantly less positive than men - even during the day. Where subways are required they should be designed to create direct walking routes that are secure and inviting for the pedestrian.

Respondents were asked for the locations where they thought new pedestrian crossings were most needed. The most popular locations were described as outside

schools. The most popular geographically specific location was in London Road, Thornton Heath.

The sample could not be described as regular cyclists and nearly 9 in 10 respondents made no use of a cycle in a typical week. Of the respondents that did cycle, just over 70% of the respondents considered health and fitness part of the reason for cycling. This was followed closely by convenience (65.2%) and then by leisure/fun (51.3%). Cost and journey time were mentioned by about a third of respondents and the environment by just under 20%.

Leisure/fun was given the most frequently as the type of cycling trip made with shopping the second most commonly made trip. Nearly 50% of the sample did not cycle as they had no bicycle: this is in part due to a the inability or unwillingness of people to cycle; but it is also in part related to a lack of cycle storage space - which was mentioned by 10% of respondents. Local Planning Authorities can help resolve this issue by ensuring that there are adequate storage/parking facilities in all new developments.

Heavy and fast traffic appeared to be important deterrents to cycle use. This issue can best be tackled by improved highway design and more effective segregation of cyclists from traffic would also ease concerns about the effects of pollution.

There was some concern regarding the difficulty of taking cycles on public transport. This is a contentious issue as cycles take up space on vehicles that could be used by regular passengers. Even if it is difficult to allow the carriage of conventional cycles during peak hours, better provision could be made for the carriage of folding cycles in the peak and for regular cycles in the off-peak. Better parking could also be provided at public transport stops to encourage multimodal trips.

Respondents were again asked to consider policies that could be implemented to encourage cycling. The most popular measure, for the sample as a whole, was fully segregated on-road cycle lanes, this was followed by partly segregated on road cycle lanes and marked on-road cycle lanes without segregation. There were significant divergences of opinion between car owners and non-car owners, with the former less positive about all, but one, of the measures. Car owners seemed to be particularly interested in removing cyclists from traffic; while non-car owners appeared to be more concerned with giving cyclists priority over other traffic. It is believed that Policy Bias is responsible for much of the difference between the two groups and for this reason care should be taken when interpreting the findings of the car owning part of the sample. Taking this into account increases the importance of the following three policies: advanced cycle stop lines at traffic lights, camera enforced bus lanes (cycles allowed) and 20 mph speed limit in residential streets.

The concerns of the cycling respondents suggest that it may be worthwhile attempting to identify such impediments, particularly along major corridors to trip attractors, to see where cycle contraflows might prove effective.

Respondents were asked to identify potential new cycle routes. Thornton Heath to Croydon was uppermost in the minds of respondents being mentioned by 18.3% of those that completed the question. The second most popular suggested route was from Norbury/Streatham to Croydon. These routes are, paradoxically, existing London Cycle Network routes: this suggests that there is either a lack of awareness of existing cycle routes, or that the routes are not considered to be of a sufficiently high standard.

Respondents made clear their desire for more cycle parking at destinations within the area. Over a quarter, of those that responded to the question, considered there to be a greater need for parking in the Town Centre and at shopping precincts. Railway stations were the third most popular location for additional parking. Interestingly nearly 10% of respondents suggested additional cycle parking at car parks. The introduction of free cycle parking is such areas would be an effective way of increasing the visibility of cycling as a cheap and realistic mode of transport to car users.

Cycle parking in retail areas can be encouraged through the Council's development control policies. More cycle parking at railway stations would encourage multimodal trips and to some extent ameliorate the difficulties associated with not being able to take cycles on trains.

A cycle parking audit may be useful to determine locations where there is insufficient parking. This could, for example, identify locations where cycles are parked inappropriately parked because of a lack of facilities; or where cycle parking is provided but is full.

There is some evidence of a conflict between pedestrians and cyclists on pavements. The breaking of highway rules by cyclists creates a poor impression of cycling as a mode of transport and does not encourage the wider community to support cycling. For this problem to be properly addressed cyclists need to be provided with safe, alternative, direct routes and once this has been achieved a more effective enforcement regime should be implemented. It is suggested that further research should be undertaken where there is perceived to be significant pedestrian/cycle conflict to fully investigate this issue.

Acknowledgements

The author would like to thank the following people and organisations.

- The Croydon Cycle Campaign who had made a significant contribution to the study particularly in the design of the questionnaire, commenting on the draft report and providing photographs for the final report.

- Advanced Data Tabulation Services[1] who maintain the Croydon Talkabout Panel and were responsible for the distribution of the questionnaire, the data entry and the tabulation of the results.

[1] Advanced Data Tabulation Services, 45A Town Street, Old Malton, North Yorkshire YO17 7HB.

Contents

1 Introduction

In recent years there has been growing recognition that the transport system, particularly in urban areas, is struggling to cope with ever increasing demand. The consequent congestion is having a serious impact on environmental quality and thus sustainability.

These problems can be tackled both through the introduction of demand restraint measures (which reduce the need to travel) and by encouraging a switch from car to more sustainable forms of transport (public transport, walking and cycling). Central Government have recognised the need to tackle these issues and their advice to Local Authorities reflects this. PPG 13 states that planners should "give priority to people over ease of traffic movement and plan to provide more road space to pedestrians, cyclists and public transport in town centres, local neighbourhoods and other areas with a mixture of land uses;". The development of walking and cycling has therefore been recognised as one way of tackling some of the problems currently associated with urban transport.

According to the Transport 2000 Trust, over a quarter of all trips are made on foot and improvements to pedestrian facilities, that encourage walking, can produce reductions in traffic congestion. The same study identifies examples where traffic congestion has been reduced by nearly a tenth as a result of travel awareness programmes: more than half of the miles saved are the result of switching from car to walking. Walking and cycling also help to counter the increasingly sedentary lifestyles of the population and can therefore generate associated health benefits.

Cycling's potential can be seen from comparisons with neighbouring European countries. The UK National Cycling Strategy notes that "Cycling accounts for less than 2% of trips in the UK, compared to 10% in Sweden, 11% in Germany, 15% in Switzerland and 18% in Denmark." Although there are differences between the UK and these other countries, there is no reason to believe that a significant increase in cycling is an impossible dream - there are already sixteen districts in the UK where more than 10% of journeys to work are made by bicycle (Cycling in Great Britain, 1996).

The London Borough of Croydon (LBC) were keen to establish the issues that deter people from cycling and walking in the local area and in particular what cyclists and pedestrians see as the dangers/hazards associated with walking and cycling in Croydon. A previous survey[2] found that more people in Croydon would cycle if the right environment was created and it was therefore also important to establish the measures that would encourage walking and cycling.

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[2] 6th Talkabout Survey. London Borough of Croydon (December 2001).

2 Approach

A draft questionnaire was designed by the Croydon Cycling Campaign which comprised of questions suggested by groups and individuals from the Council's Cycle Forum and elsewhere. The final survey design was done by Croydon TalkAbout. After piloting, the questionnaire was distributed to the members of the Croydon TalkAbout Panel. At the time of the exercise, the panel consisted of 962 people.

Members of the panel are volunteers who have been selected to form a representative sample of the resident population of the Croydon. Various criteria (for example, area, gender and age) are used to ensure that the panel closely reflects the population recorded in the 2001 census. Panel members were selected randomly. Difficulties with recruiting 17-24 and 25-37 year olds meant that some additional recruitment took place in these categories. Members usually remain on the panel for two years and are then replaced by new members. Members who consistently fail to respond to surveys are removed earlier.

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3 Sample Characteristics

The following tables show both the weighted and unweighted characteristics of the respondents in the survey. Table 3.1. illustrates the difficulties in obtaining representative samples of 17-24 and 25-34 year olds: responses from these group have therefore been factored up by ADTS to ensure that the opinions of this hard to reach group are not under-represented.

Table 3.1. Age Categories of Respondents.

Age	Unweighted	Weighted
17-24	5.4%	14.1%
25-34	16.7%	23.4%
35-44	18.3%	18.3%
45-54	19.3%	14.5%
55-64	16.7%	12.1%
65+	23.7%	17.6%
Total	100.0%	100.0%

Table 3.2. Sex of Respondents

Sex	Unweighted	Weighted
Male	44.9%	47.4%
Female	55.1%	52.6%
Total	100.0%	100.0%

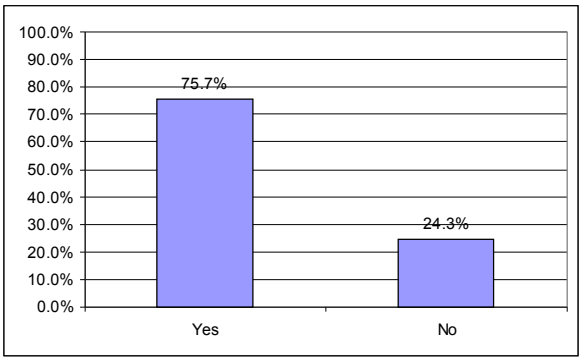
4 General Travel Choices

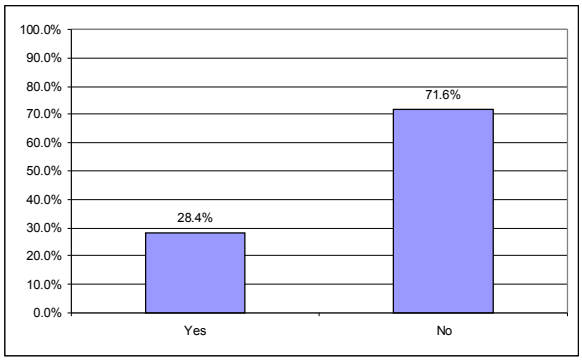
Just over three quarters of the sample owned a car. As would be expected car ownership was highest amongst the 35-44 age group (reaching 85.6%) and amongst those sampled from higher socio-economic groups. Interestingly, Asians showed the highest level of car ownership among ethnic groups at 83.4% (statistically significant at the 95% level). This corresponds with the relatively high Asian car ownership reported in Transport for London's February 2004 report, The London Cycling Action Plan.

28.4% of respondents stated that they owned a bicycle, this is close to the nationally recorded level of ownership of 30% (Cycling in Great Britain, 1996). It is interesting to note that males (34%) recorded significantly (@ 99.9%) higher levels of cycle ownership than females (23.4%) and that a higher proportion of females, within the sample, stated that they could not cycle. This gender difference is also noted in The London Cycling Action Plan. This disparity may reflect differing attitudes to cycling between the sexes and it is tempting to draw the conclusion that women cycle less; however, experience from the continent[3] and in Cambridge where there are high levels of cycling, suggests that this is not necessarily the case[4]. In fact a recent report by London Analytics states that, "A more even balance of male-female cycling tends to be correlated with more cycling, reflecting a more mature, well-developed cycling market".[5]

Looking at the survey data in more detail, significantly (@ 98.29%) more women are concerned about fast traffic and this suggests that policies which separate cyclists from speeding traffic may help to encourage female cycling.

Figure 4.1. Car Ownership (Q1 left) and Figure 4.2. Cycle Ownership (Q2 right)
Figures exclude non-responses.



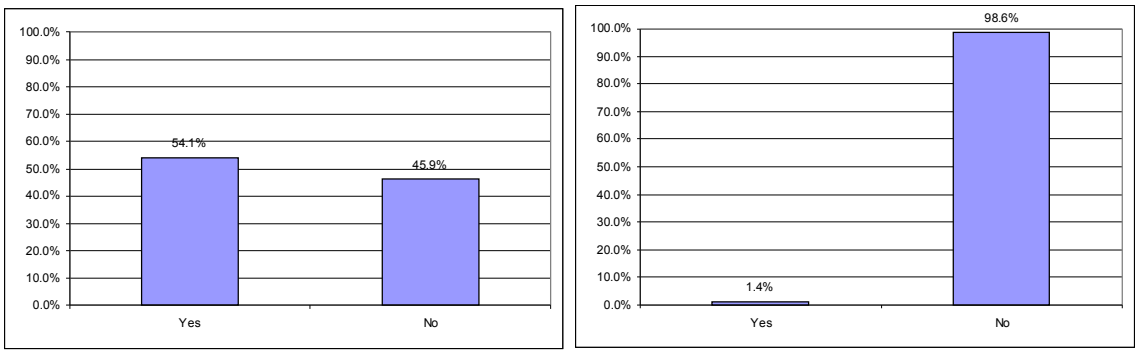


[3] The London Cycling Action Plan notes that, in the Netherlands, women make 31.6% of all journeys by bicycle; men make only 24.8% of their journeys by bicycle.
[4] According to Cycling in Great Britain (1996), in Cambridge, a greater proportion of women cycle to work: a quarter of men and nearly a third of women.
[5] Gender and Critical Mass: Do high cycle flows correlate with a high proportion of female cyclists? London Analytics Research Journal. issue 1 (2005).

Just over half of the sample held a current Bus Pass, Travel Card or Freedom Pass. The highest proportions of holders are among retired people: 96.1% of whom were holders - presumably of Freedom Passes.

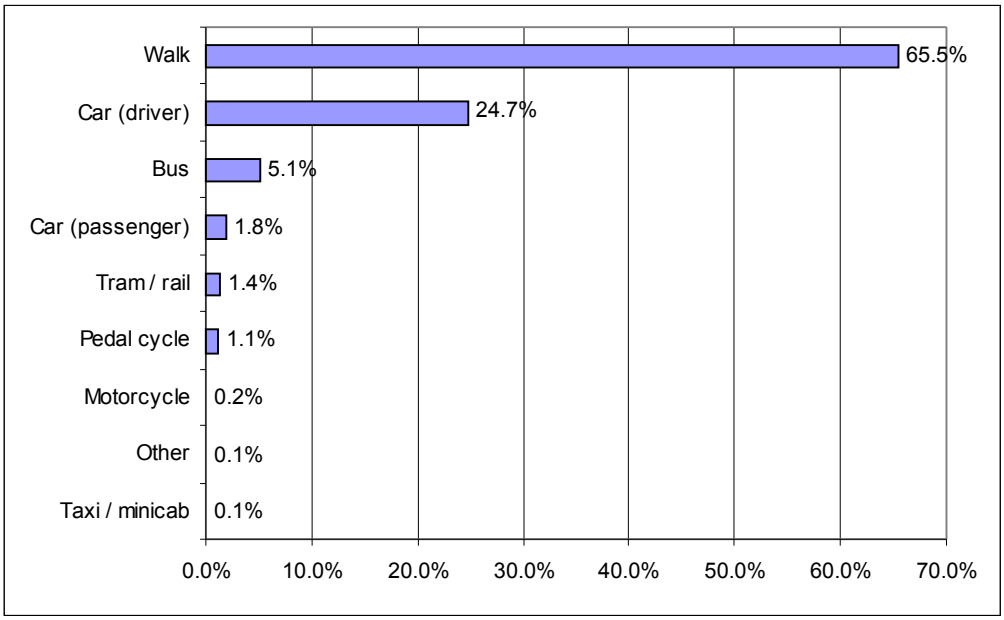
Only 1.4% of the sample made use of a wheelchair or mobility scooter, the majority of users in the sample were retired people.

Figure 4.3 (left). Current BusPass, TravPass, Travel Card or Freedom Pass (Q3).
Figure 4.4 (right). Use of Wheelchair or Mobility Scooter (Q4).
Figures exclude non-responses.



For journeys of one mile or less, walking represented the most popular mode of travel - accounting for 65.5% of responses. Walking was more popular with students and less popular with retired persons. Walking was not surprisingly less popular among the car owning portion of the sample.

Figure 4.5. Usual Mode of Travel on Journeys of 1 Mile or Less (Q5).
Figures exclude non-responses.



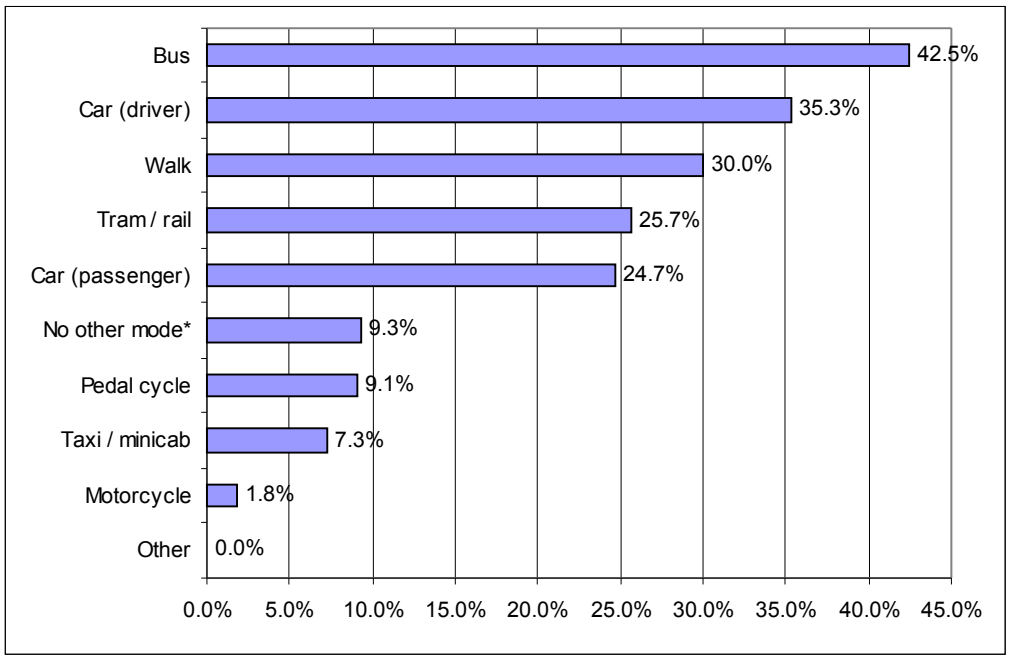
Car as driver was the second most popular choice, accounting for just under a quarter of respondents. It is useful to note that in a study of short trip making behaviour, The Centre for Transport Studies (University College London) observed that, "when the car is used for short trips it tends to be for escort, shopping, personal business and social trips. ... The car tends to be used for short trips to work because of its availability rather than because it is necessary." Some of these short distance

trips have to be made by car because of disability, or the need to carry heavy items; but it is likely that a number of them could be made on foot or by cycle if the appropriate policies were put in place. For example, a policy of selective parking restraint coupled with effective enforcement and improved cycle/walking facilities might help generate a switch away from car.

Bus was the third most popular option for journeys of 1 mile or less (5.1%) with cycling mentioned by only 1.1% of respondents.

Respondents were also asked to specify the other modes which they used for journeys of less than one mile. Bus was the most common second choice mode and was mentioned by 42.5% of respondents: bus appeared to be a more popular alternative among respondents in the Croydon North Constituency (Croydon North 51.5%, Croydon Central 38.8%, Croydon South 36.6%). Car as driver was again the second most popular option (35.3%) with walking third (30%). Cycling was one of the less popular alternatives and was only mentioned by 9.1% of respondents.

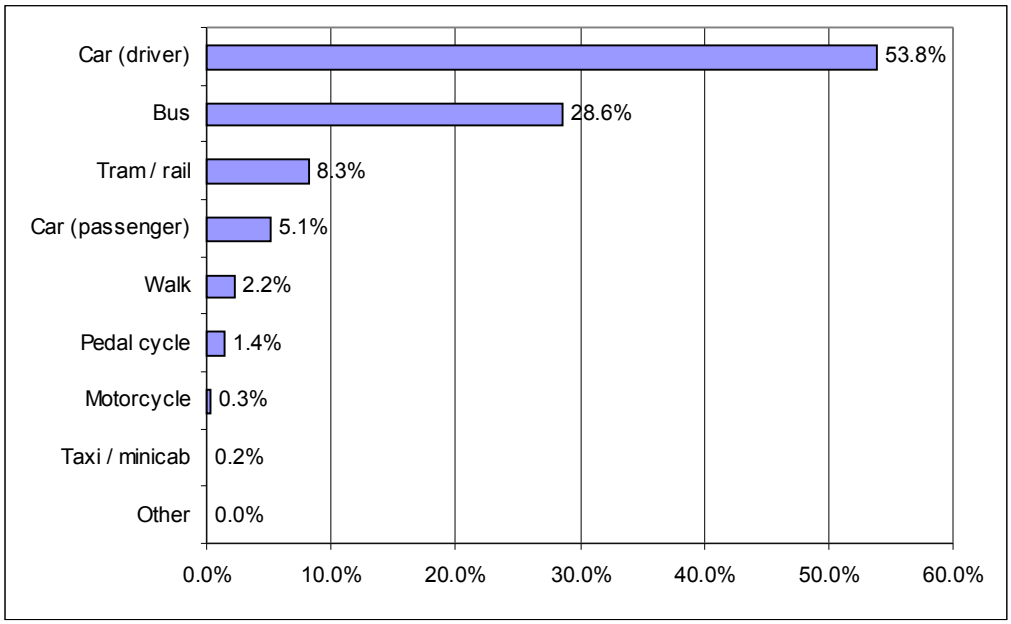
Figure 4.6. Other Modes of Travel on Journeys of 1 Mile or Less (Q6).
Other modes used at least twice per month.



*includes non responses

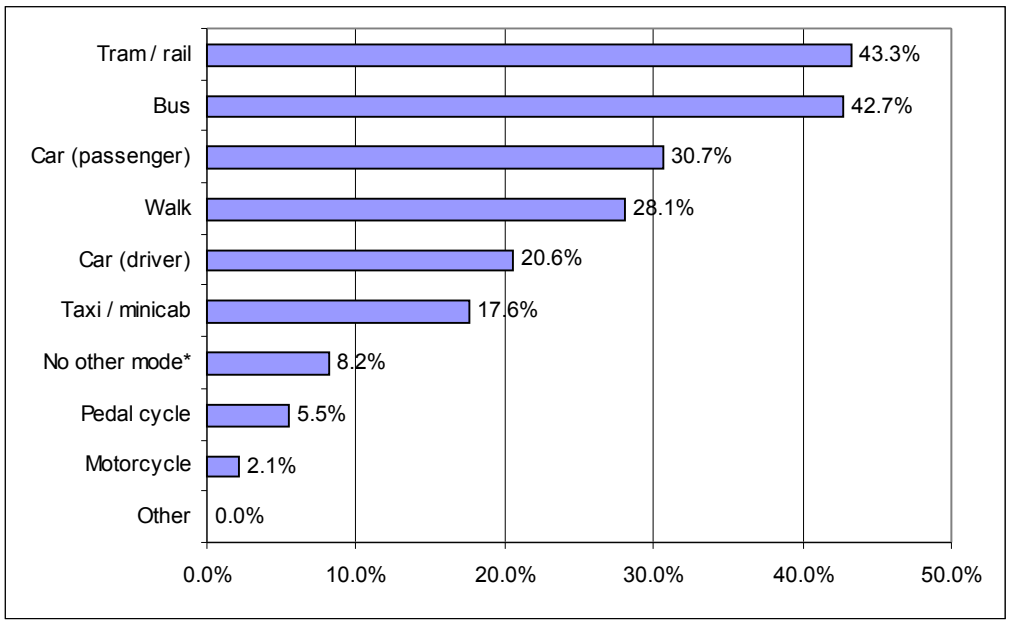
For journeys of three miles or less, the popularity of the car predictably increased, representing over half of all choices. This level of popularity was greater amongst respondents in the Croydon South Constituency. Bus was someway behind, as the second most popular choice, being mentioned by only 28.6% of respondents. Tram/rail was third with 8.3%. Walking fell to 2.2% and cycling increased its popularity slightly, reaching 1.4%.

Figure 4.7. Usual Model of Travel on Journeys of 3 Miles or Less (Q7).
Figures exclude non-responses.



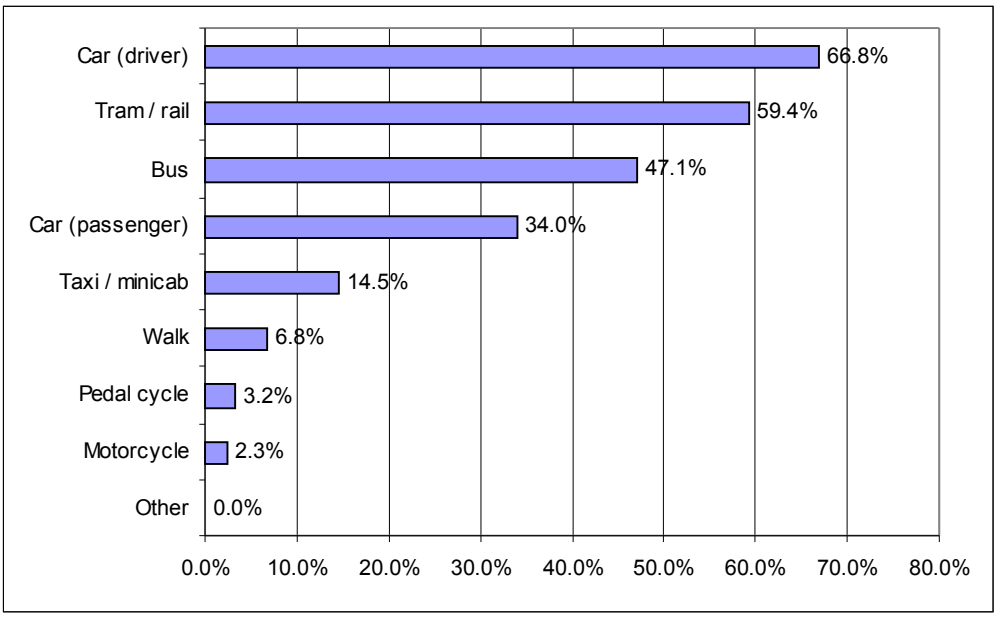
Amongst second choice modes of travel, for journeys of 3 miles or less, tram/rail was the most popular being mentioned by 43.3% of respondents. Tram/rail appeared more popular amongst younger respondents in the Central Croydon Constituency. Bus came a close second with 42.7% and car as passenger third with 30.7%. This was followed by walking (28.1%) and cycling, which was mentioned by 5.5% of respondents.

Figure 4.8. Other Modes of Travel on Journeys of 3 Miles or Less (Q8).
Other modes used at least twice per month.
*includes non responses



For journeys of over three miles in length, car as driver was again the most popular choice accounting for just over a quarter of responses. Car was more popular in the South Croydon Constituency (99.9% significant). Car use seemed to exhibit a positive correlation with income and relatedly appears more common amongst those members of the sample who were employed. Tram/rail came second and bus third. Walking was mentioned by 2.9% of respondents and cycling by 1.4%.

Figure 4.9. Usual Mode of Travel on Journeys of Over 3 Miles (Q9).
All modes used at least twice per month.
Figures exclude non-responses.

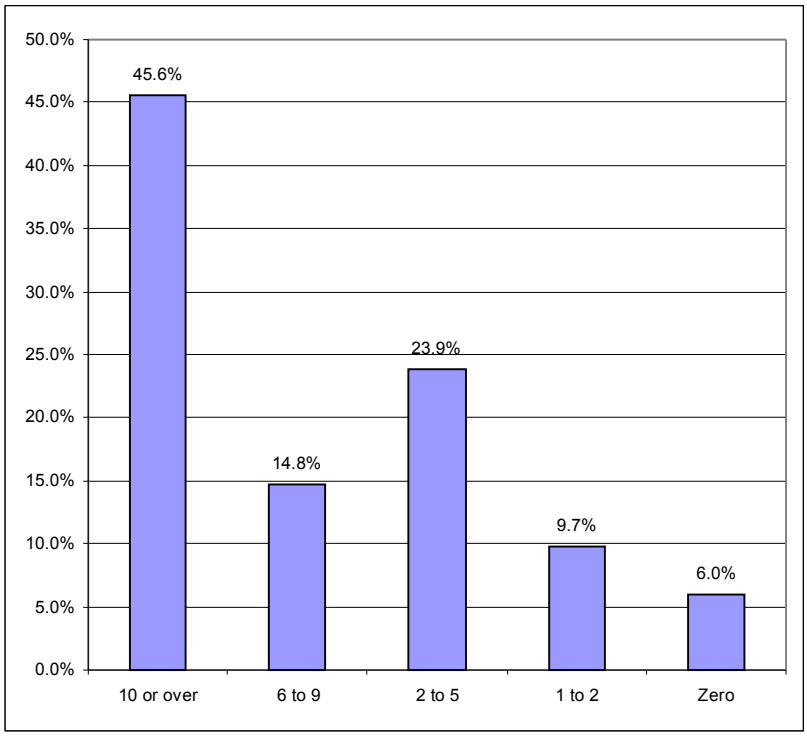


5 Walking Results

5.1 The Current Position

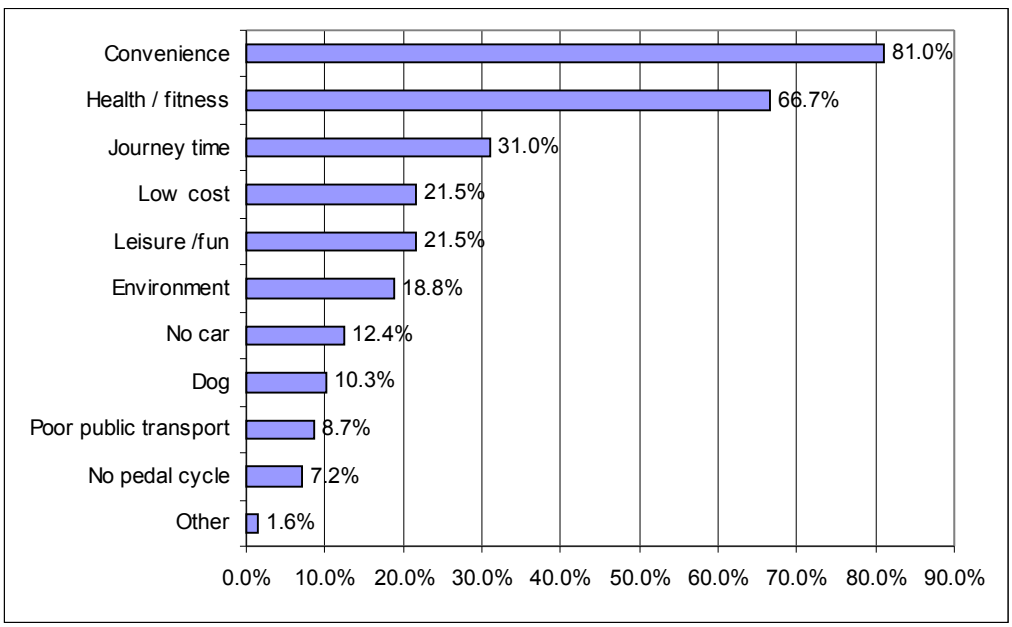
Respondents were asked how many walking journeys they made, of five minutes or longer, in a typical week. Nearly half of the sample made 10 or more journeys per week and it is estimated that, on average, members of the panel made 7.68 such walking journeys per week. The greatest number of walking journeys were made by Central Croydon panel members (8.36) followed by those of South Croydon (7.44) and North Croydon (7.21). The difference between Central Croydon and the other constituencies is significant at the 99.9% level.

Figure 5.1. Number of Walking Journeys of 5 Minutes or More (Q10).
In a typical week.
Figures exclude non-responses.



81% of respondents walked because they considered it to be convenient. Health/fitness was the second motivation, being mentioned by 66.7% of respondents. Journey time was the third most common reason, however, this was only mentioned by 31% of respondents.

Figure 5.2. Reasons for Walking (Q11).
Figures exclude non-responses.

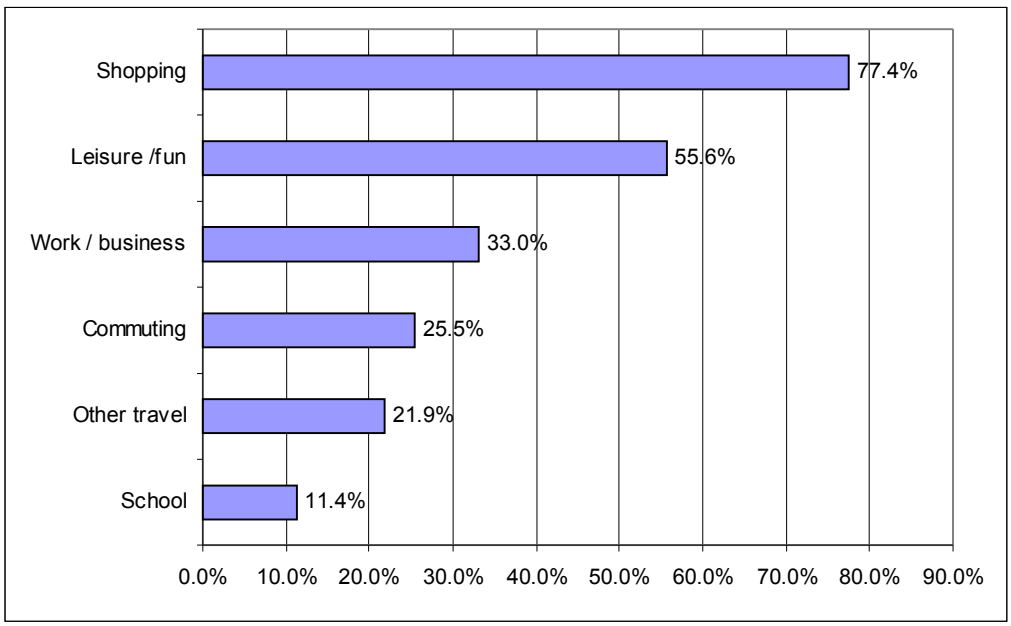


It is interesting to note that there appear to be two forms of motivation for walking. There are the "practical" reasons like time savings and convenience, as well as the

more "principled" reasons like health and environment. One benefit of walking, illustrated by the results, is its ability to a fulfil various needs: it is for example possible to travel cheaply from A to B, get exercise and walk the dog at the same time. In a modern society where time is precious, this may provide one of the best opportunities to promote walking.

Just over 77% of respondents made walking trips for shopping purposes and just over half made walking trips for leisure/fun. Walking appears less popular for non-discretionary trips such as business, commuting and trips to school/college. Walking to work appears to be less popular, amongst the panel, in North Croydon (17.9%) than in Central (29.3%) and South Croydon (29.2%). This finding relates to the greater popularity of buses among the sample for short trip making in North Croydon. Understanding the mechanism behind these differing choices could provide an opportunity to develop a walking strategy in North Croydon.

Figure 5.3. Types of Walking Trips Made (Q12).
Figures exclude non-responses.

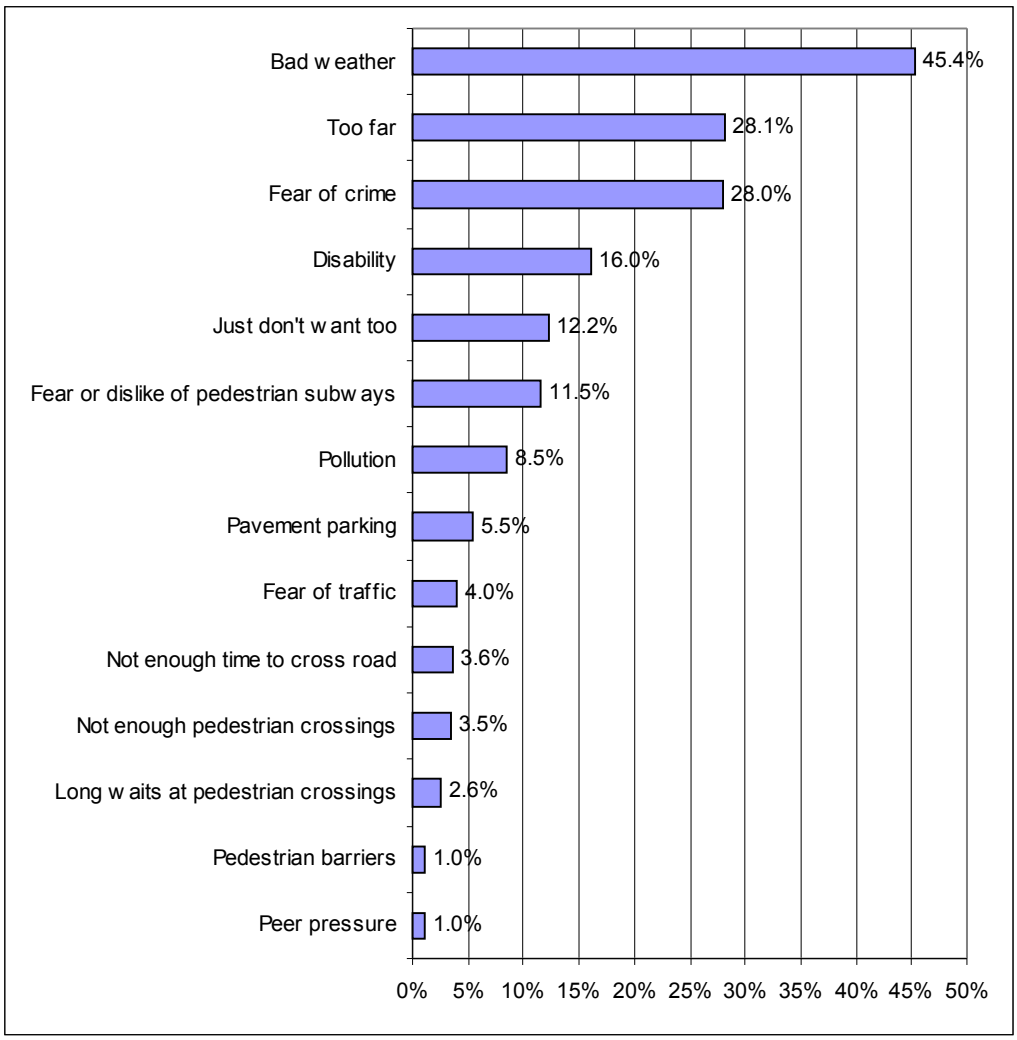


Respondents were asked for their reasons for walking less than they might otherwise do. The most common reason was bad weather, mentioned by nearly half of the respondents. Distance and fear of crime were roughly equal second and were mentioned by just over a quarter of the sample. 16% of the sample had to restrict their walking for reasons of disability. 12.2% of respondents stated that they just did not want to walk.

It is interesting to note that a number of the deterrents are related to pedestrian unfriendly highway design, for example (in order of occurrence), fear or dislike of pedestrian subways, pavement parking, fear of traffic, not enough time to cross the road, not enough pedestrian crossings, long waits at pedestrian crossings and pedestrian barriers. Other issues that do not immediately appear related to highway design could, in fact, be. Fear of crime could be exacerbated by poor pedestrian

provision, for example through the poor design of underpasses. The effects of the weather can be exaggerated by exposed walking routes and both the actual and perceived length of a walking trip can be extended because of indirect walking routes and the time taken to cross roads.

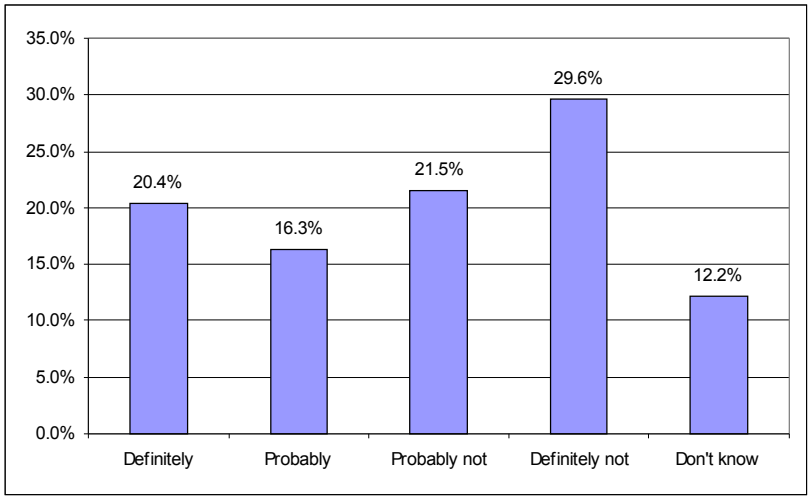
Figure 5.4. Reasons for Walking Less (Q13).
Figures exclude non-responses.



These findings suggest that existing highway designs are having a deterrent effect on walking. Of course a radical shift to pedestrian priority could have wide reaching effects; but these results suggest that further work should be undertaken, for example a pedestrian audit, to identify problem areas and develop highway related solutions.

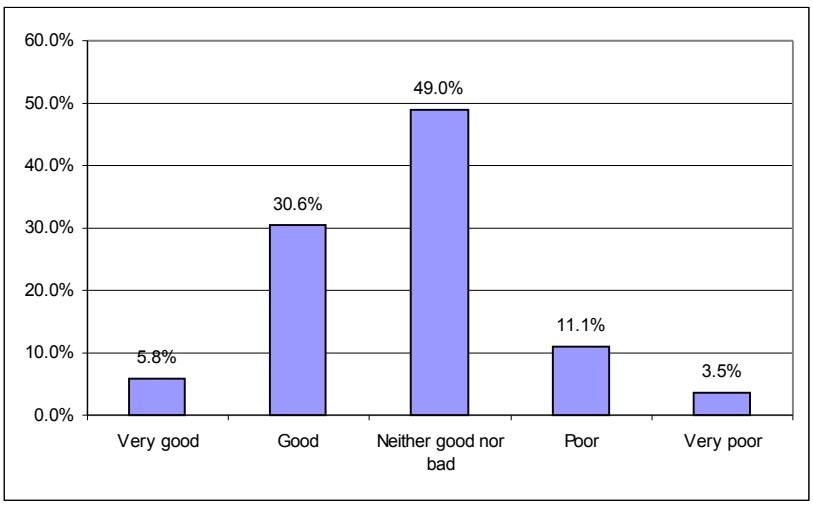
Respondents were asked to consider an increase in shared-use walking and cycling on the pavement. The response was, on balance, unfavourable with 51.1% of the sample against the proposal and only 36.7% in favour. Even if those respondents who did not know were to be persuaded of the benefits of such a proposal, the majority were still against.

Figure 5.5. Views on Increase in Shared-use Walking and Cycling Facilities on the Pavement (Q14).
Figures exclude non-responses.



The panel rated the existing conditions and facilities in Croydon: nearly half considered them to be neither good nor bad. The remaining members of the panel were on the whole positive, although non-car owners were less so. Interestingly, the majority of the respondents that considered fear of traffic do be a deterrent to walking in Question 13, did not consider the conditions and facilities for pedestrians in Croydon positively. This implies some variation in the quality of pedestrian facilities across the study area and further analysis of the data suggests that some disadvantaged groups (for example, the elderly and the disabled) may hold a less positive view.

Figure 5.6. Rating of Existing Conditions and Facilities for Walking in Croydon (Q15).
Figures exclude non-responses.



5.2 Encouraging Walking

In Question 16 respondents were asked whether a series of measures would encourage them to walk more. Most of these measures involved placing restrictions on the motorist and not surprisingly these measures were considered less likely to be successful by car owners. Despite this, nearly half of the car owners in the sample

considered the most effective measure, wider pavements, likely to be effective. The greatest divergence of opinion occurred with what was seen as the second most effective measure, more pedestrian crossings: nearly two thirds of non-car owners considered this positively, compared to approximately one third of car owners. The other three measures (20 mph speed limits, safety cameras and speed cushions) were not supported by the majority of either car owners, or non-car owners.

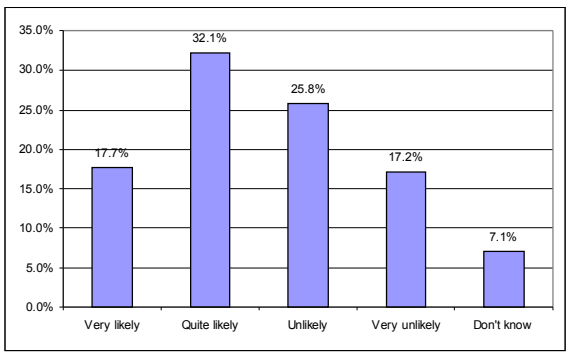
Table 5.1. Policies Considered Likely, or Very Likely, to Encourage Walking.
Figures exclude non-responses and don't knows.

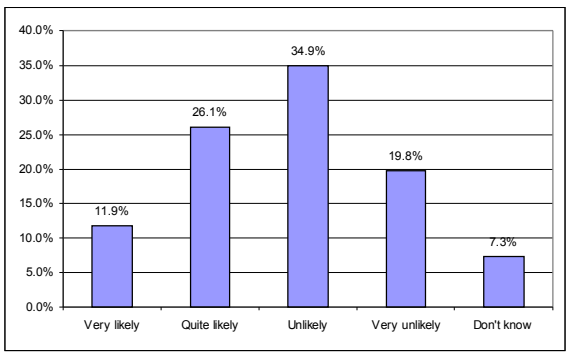
Policy	All Respondents	Non car-owners	Car Owners
Wider pavements	53.7%	66.8%	49.9%
More pedestrian crossings	41.1%	63.0%	34.5%
20 mph speed limits	26.0%	42.7%	21.3%
Safety cameras	18.1%	35.4%	13.0%
Speed cushions	18.5%	32.5%	14.7%

Wider pavements were seen as the most effective measure proposed and over half the sample, that expressed a view (7.1% of respondents did not know), believed that wider pavements would encourage more walking. Car owners within the sample were significantly (@ 99.9%) less positive. This finding may have implications for the policy of permitting parking on the footway in certain parts of Croydon. Parking on the footway appears to be contrary to the guidance given in PPG 13[6] and it could be argued that the Council is encouraging a perception, among motorists, that parking on the footway is acceptable. It may be better to give residents the use of a car, through the development of car clubs, rather than encouraging them to own one by allocating scarce highway land to on-street parking.

As noted previously there was a significant difference (@ 99.9%) between the attitudes of car owners and non-car owners with regard to the effectiveness of more pedestrian crossings: nearly two thirds of the latter believed that more pedestrian crossings would encourage them to walk more.

Figure 5.7 (left). Views on Wider Pavements (Q16e).
Figure 5.8 (right) Views on More Pedestrian Crossings (Q16d).
Figures exclude non-responses.



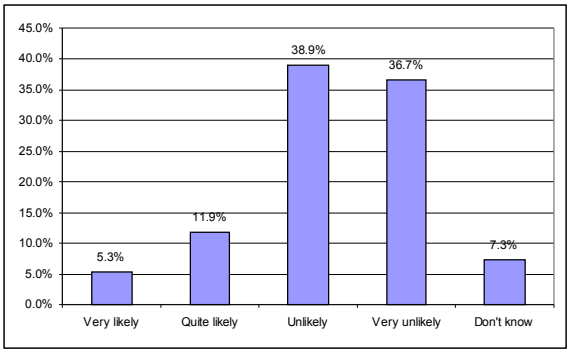


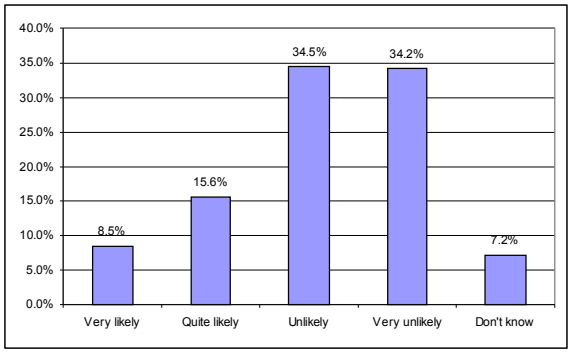
20 mph speed limits, in residential streets, were not considered likely to encourage walking by nearly 70% of the sample. However, such a policy may have other favourable impacts, for example a reduction in pedestrian casualties. Speed

[6] PPG 13 states that Local Authorities should: "use parking policies, alongside other planning and transport measures, to promote sustainable transport choices and reduce reliance on the car..." and "give priority to people over ease of traffic movement and plan to provide more road space to pedestrians, cyclists and public transport...".

cushions and speed tables were also considered unlikely to encourage more walking (75.6% of the sample).

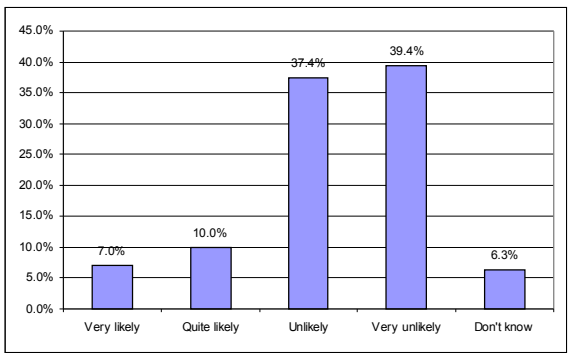
Figure 5.9 (left). Views on 20mph Speed Limits in Residential Streets (Q16a).
Figure 5.10 (right). Views on Speed Cushions and Speed Tables (Q16b).
Figures exclude non-responses.





Safety cameras were similarly thought unlikely to have a positive effect on walking, with 76.8% of the sample taking this view. Considering the political sensitivity of the issue, it is not surprising that the car drivers within the sample considered speed (safety) cameras the most negatively.

Figure 5.11. Views on Speed (Safety) Cameras (Q16c).
Figures exclude non-responses.

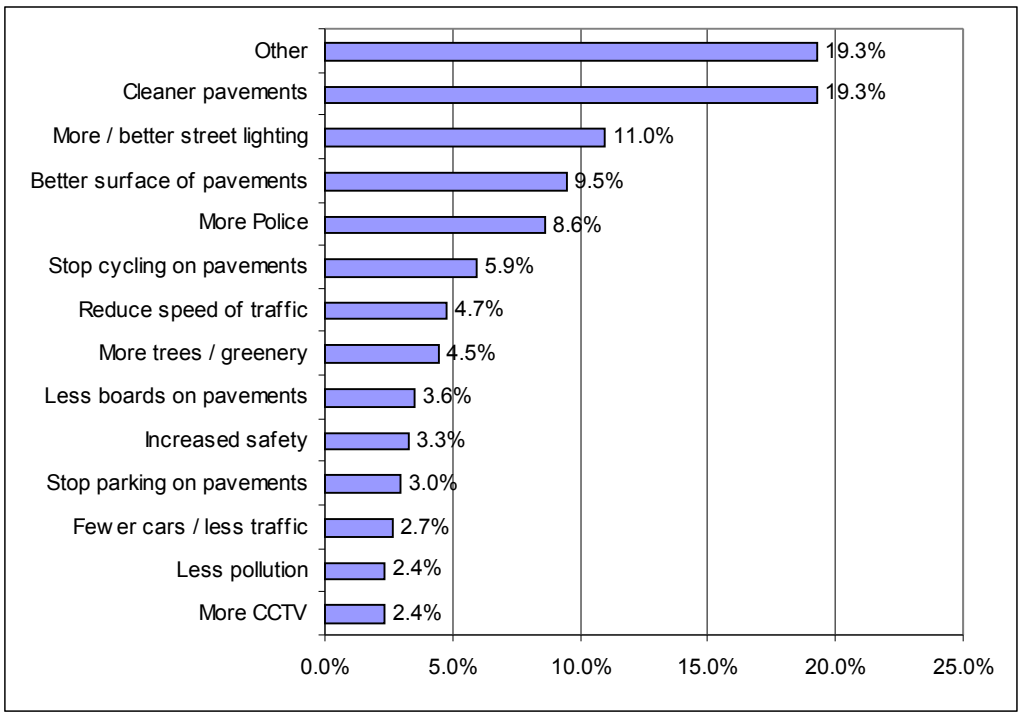


The differing attitudes of car owners and non car owners suggests that there may be an element of Policy Bias in the responses to some of these questions. A number of the proposed measures effectively give priority to pedestrians at the expense of car users. It may be that some of the car users in the sample have responded negatively to these measures in an attempt to manipulate the results. Some car users may have responded negatively, not because they believe that the proposals would fail to encourage walking but rather, because they believe the measures would place restrictions on the journeys they wish to make by car. To investigate this more fully would require the use of a more in depth survey technique; but this issue should be borne in mind when considering the results.

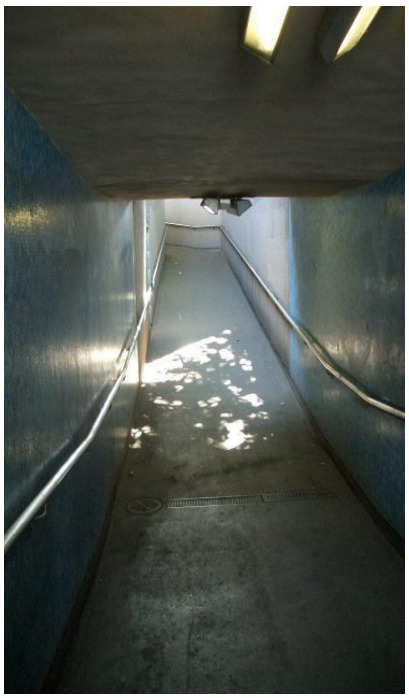
Respondents were asked for other measures that would encourage walking. The most commonly mentioned of these were cleaner pavements, this was followed by better street lighting, better surfaces on pavements and more police. These additional comments fall into two broad categories: environment/maintenance/ cleanliness and safety/security. It may be that insufficient attention is being paid to keep the existing pedestrian routes clean, safe and clear of obstructions. Better cleaning, maintenance and enforcement of existing laws, for example, concerning

parking and obstructions on the pavement might therefore generate a significant improvement in the walking environment. Better enforcement would also increase the feeling of safety amongst pedestrians.

Figure 5.12. Views on Other Measures that Would Encourage Walking (Q16f).



Respondents were asked to consider the impact that having to use a pedestrian subway would have on their choice of walking route both during day time and at night.



During the day, the majority of the respondents in the sample believed that having to use a pedestrian subway would discourage them from using an associated walking route. The night-time use of a pedestrian subway was rated far more negatively and nearly 90% of the sample suggested that it would discourage them from using the associated walking route. In fact 67.1% of the sample stated that having to use a subway at night would greatly discourage them from using the associated route.

It is revealing to explore gender differences with regard to pedestrian subways. As expected, women were significantly less positive than men and these differences are, interestingly, statistically more marked during the day. Consequently two thirds of women stated that would be discouraged from using a route, with a pedestrian subway, during the day - a third of women stated that they would be greatly discouraged.

There are clearly strong negative feelings associated with the use of pedestrian subways. This suggests that, wherever possible, pedestrians should not be forced to

use them. Where subways are required, for example where a surface route would create unacceptable delays or have significant safety concerns, subways should be designed to create direct walking routes that are secure and inviting for the pedestrian.

Figure 5.13. During the Day, Would Having to Use a Pedestrian Subway... (Q17).
Figures exclude non-responses.

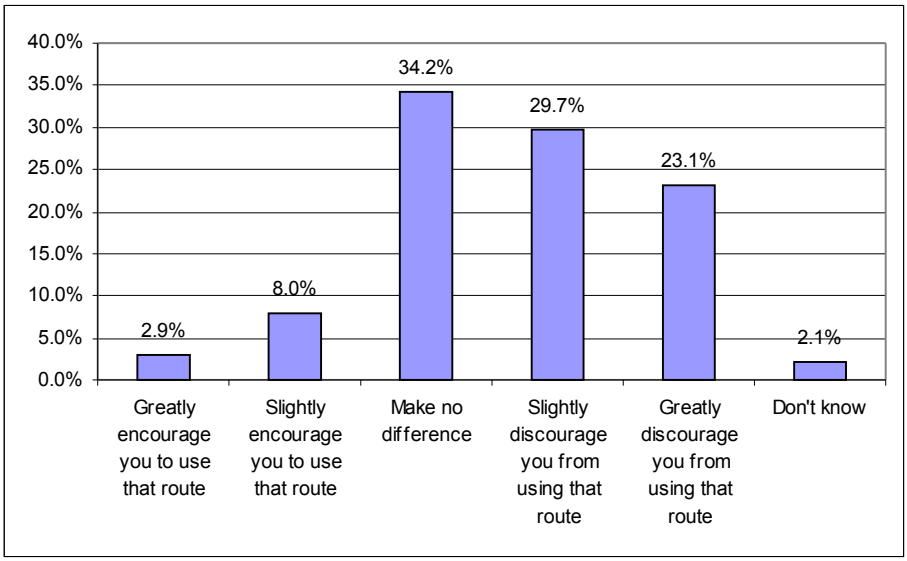
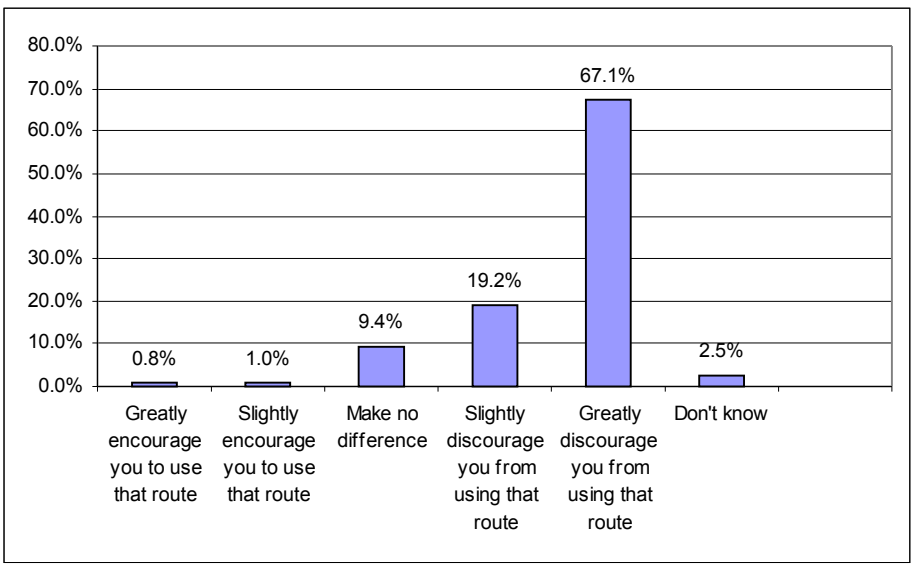


Figure 5.14. At Night, Would Having to Use a Pedestrian Subway... (Q18).
Figures exclude non-responses.



Although the replacement of subways by pedestrian crossings may slow traffic, it is important to consider the bigger picture. For example, improved pedestrian routes are likely to increase pedestrian flows, potentially reduce car use and reduce the problems of anti-social behaviour associated with subways. To further encourage walking, account should be also taken of the delays created to pedestrians in the design of highway schemes.

Respondents were asked for the locations where they thought new pedestrian crossings were most needed. The most popular locations were described as outside

schools. The most popular geographically specific location was in London Road, Thornton Heath.

It is notable that a large part of the sample failed to provide a response to these questions, without further investigation it is hard to ascertain the reasons for this: it could be the result of respondent fatigue, or because they found it hard to specify locations where they considered there to be inadequate provision.

Table 5.2. Most Requested Locations for Pedestrian Crossing (Q19).

Location	Number of Respondents
Outside schools	24
London Road, Thornton Heath	11
Godstone Road	9
Wellesley Train Station	8
Purley Way	8
Woodside Tram Station	8
Brighton Road	8
Spring Lane	8
Coombe Road	7
Sanderstead Roundabout	6
Mitcham Road	6
Marlpit Lane	6
Orchard Avenue	6
Katherine Street to Fairfield	5
Central Parade, New Addington	5
Whitehorse Road	5
Wickham Road	5
Other	191
No response	681

Respondents were asked to identify locations where pavement parking should be removed. The most common location was everywhere which suggests that there could be a problem with parking enforcement in Croydon. This finding again poses questions about the policy of allowing parking on the footway in some of Croydon's streets. The second most requested area was outside schools and the first geographically specific location was in Albert Road.

Table 5.3. Most Requested Locations for Pavement Parking to be Removed (Q20).

Location	Number of Respondents
Everywhere	43
Outside schools	11
Albert Road	9
Brigstock Road, Thornton Heath	6
Various locations	6
Whitehorse Road	6
London Road	5
Other	87
No response	832

Again this question suffered from a considerable lack of response: it may be that illegal parking is so widespread that it is difficult to specify locations where it is a particular problem, or again it could be a question of respondent fatigue.

Respondents were asked to consider what other pedestrian friendly measures they would like at specific locations. More speed cushions was the most popular

response followed by the re-siting of the pedestrian crossing to the Park Street/High Street Junction. This question also suffered from a high level of non-response.

Table 5.4. Other Pedestrian Friendly Measures at A Particular Locations (Q21).

Issue	Number of Respondents
More speed cushions	29
Re-siting pedestrian crossing to Park St/High St junction	27
Stop cars parking on pavements	12
More drop kerbs	12
Cleaner footpaths	9
Pavement along Tower View Shirley	8
More pedestrianised areas	8
More lights to indicate when safe to cross	8
More time to cross	8
More double yellow lines	7
Metal posts to stop parking on pavements	7
Wider pavement	6
More pedestrian crossings on London Road	6
Pedestrian bridge	6
Crossing attendants	5
Other	88
No response	759

In the final part of the walking survey respondents were asked if they would like to make any other comments concerning walking in Croydon. 319 out of the 1,000 respondents made comments. 63 people were concerned with the cleanliness of the streets, making this the most popular issue. Fear of crime was the second most commonly mentioned. Many of the other issues mentioned relate to two main factors: ease of movement and personal security/safety. The former encompasses issues like: dirt/clutter on the streets, cycles and cars on the pavement, inadequate crossing points, poorly maintained and narrow pavements etc.. The latter elicited comments on: fear of crime, lighting and the perceived lack of a police presence. It may be that the Local Authority can improve conditions for pedestrians by considering measures to tackle some of these issues.

Table 5.5. Other Comments Concerning Walking in Croydon (Q22).

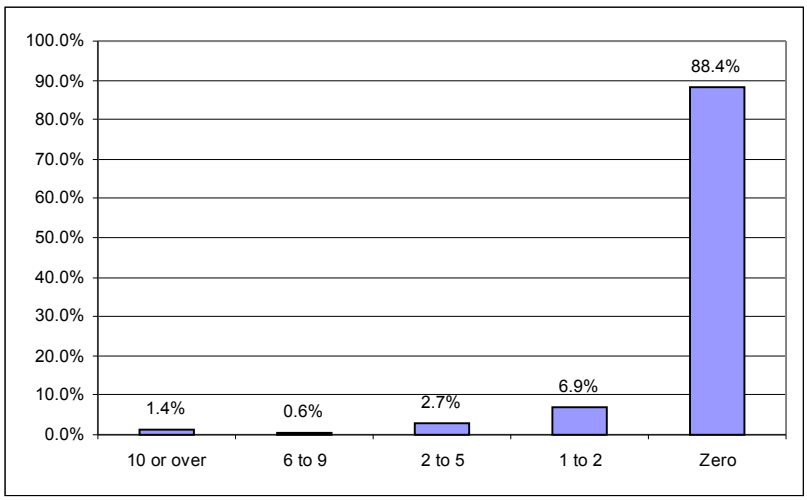
Issue	Number of Respondents
Dirty streets	63
Fear of crime	53
More/better lighting	24
Stop cycling on pavements	22
More police	18
Stop cars parking on pavements	13
Clear pavements of advertising boards	13
Better quality pavements	13
Volume of traffic	9
More organised walking groups	8
Wider pavements	7
Less pollution from cars	6
Safer tram crossings	6
More trees/greenery along pavements	5
Improving standards of driving	5
Other	68
No response	681

6 Cycling

6.1 The Current Position

The sample could not be described as regular cyclists and this is reflected by the findings in section 4. Nearly 9 in 10 respondents made no use of a cycle in a typical week and only 2% of the sample used a cycle more than 5 times per week.

Figure 6.1. Number of Cycling Journeys Made in a Typical Week (Q23).
Figures exclude non-responses.



It is useful to look at the motivations of the respondents that do currently cycle. Just over 70% of the sample considered health and fitness part of the reason for cycling. This was followed closely by convenience (65.2%) and then by leisure/fun (51.3%). Cost and journey time were mentioned by about a third of respondents and the environment by just under 20%. Cycling appears to be seen more as a leisure activity, than as a mode of transport and this suggests an opportunity to develop the latter.

Figure 6.2. Reasons for Cycling (Q24).
Of those who make at least one cycling journey in a typical week

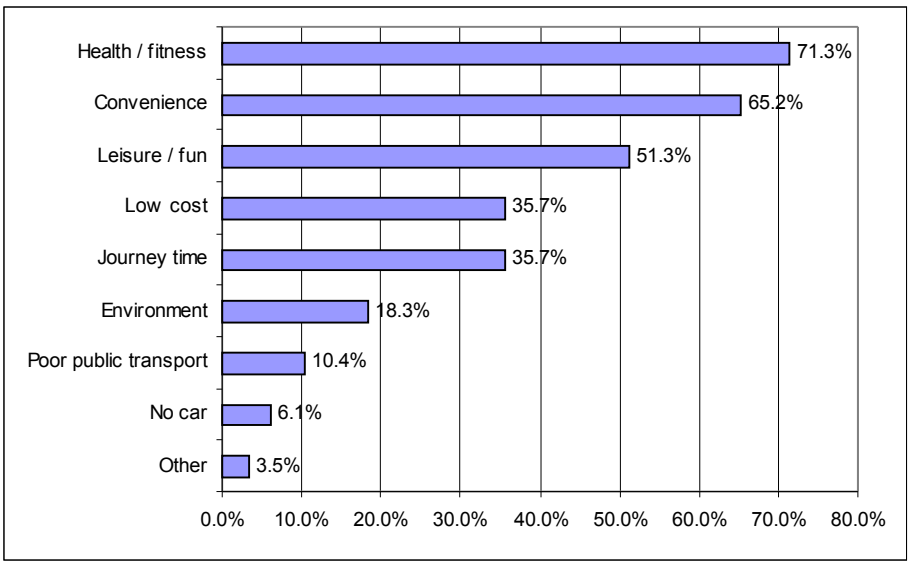
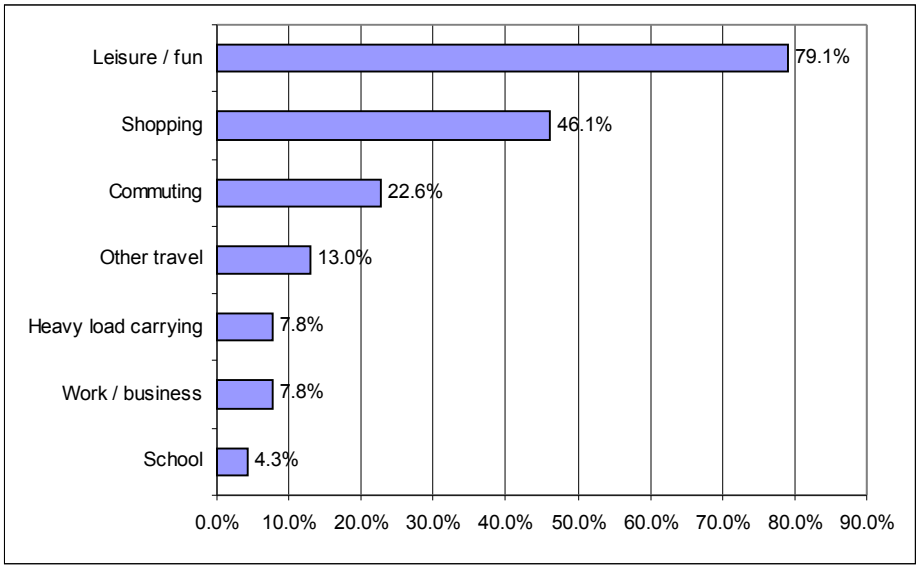
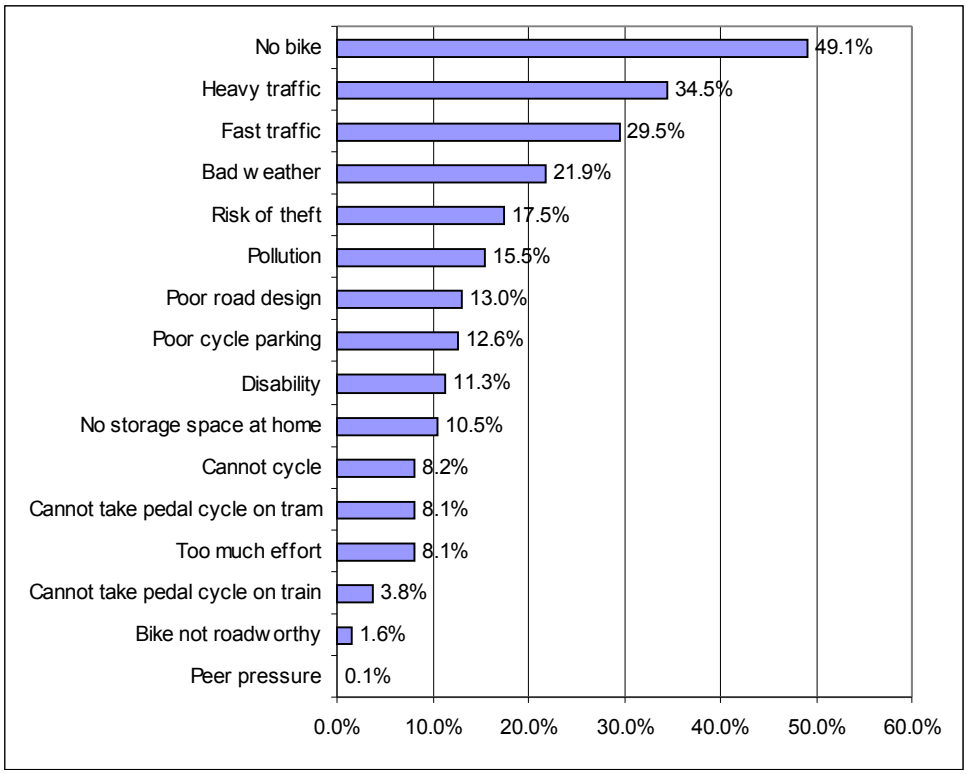


Figure 6.3. Type of Cycling Trips Made (Q25).
Of those who make at least one cycling journey in a typical week
Figures exclude non-responses.



Leisure/fun was given the most frequently as the type of cycling trip made with nearly 80% of cyclists making trips for this purpose. Shopping was the second most commonly made cycling trip, mentioned by just under half of the sample.

Figure 6.4. Deterrents to Cycling (Q26).
Figures exclude non-responses.



Nearly 50% of the sample did not cycle as they had no bicycle: this is in part due to a the inability or unwillingness of people to cycle; but it is also in part related to a lack of cycle storage space - which was mentioned by 10% of respondents. Poor cycle

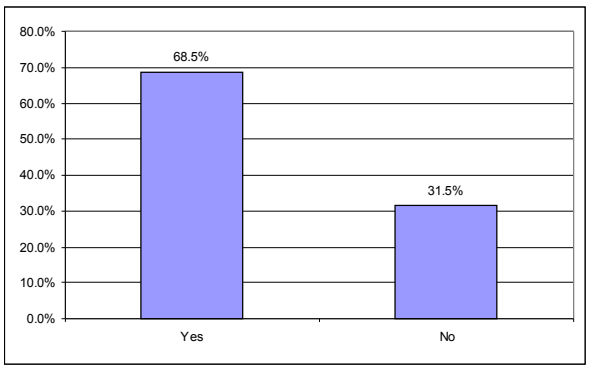
parking and lack of storage space at home appeared to be a greater issue in North Croydon which has lower levels of cycle ownership (significant at 99.9%). This seems to suggest that there may be a correlation between cycle parking/provision and cycle ownership. Local Planning Authorities can help resolve this issue by ensuring that there are adequate storage/parking facilities in all new developments. It is possible that some of the respondents who considered cycling to be "too much effort" might be encouraged if it were easier to store and access their cycles. Cycle security is related to parking/storage provision and theft was mentioned as a deterrent by 17.5% of the sample.

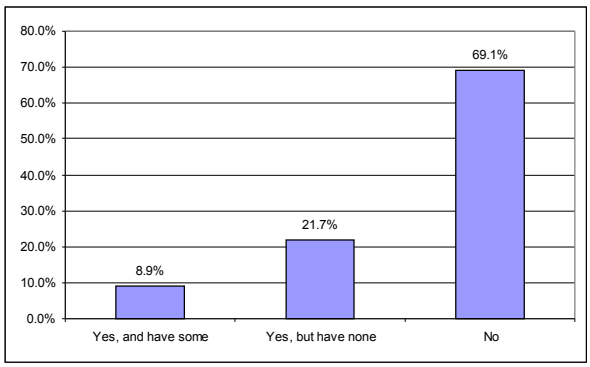
Heavy (34.5%) and fast (29.5%) traffic appeared to be important deterrents to cycle use. This issue can best be tackled by improved highway design - mentioned by 13% of the sample. More effective segregation of cyclists from traffic would also ease concerns about pollution (15.5%).

There was some concern regarding the difficulty of taking cycles on public transport. This is a contentious issue as cycles take up space on vehicles that could be used by regular passengers. Even if it is difficult to allow the carriage of conventional cycles during peak hours, better provision could be made for the carriage of folding cycles in the peak and for regular cycles in the off-peak. Better cycle parking could also be provided at public transport stops to encourage multimodal trips.

68.5% of the sample had heard of the London Cycle Network: this appears quite a positive finding, considering the limited numbers of regular cyclists within the sample. Knowledge of the free London Cycle Route maps was less apparent with nearly 70% of respondents unaware of their existence.

Figure 6.5 (left). Knowledge of the London Cycle Network (Q27).
Figure 6.6 (right). Knowledge of Free London Cycle Route maps (Q28).
Figures exclude non-responses.

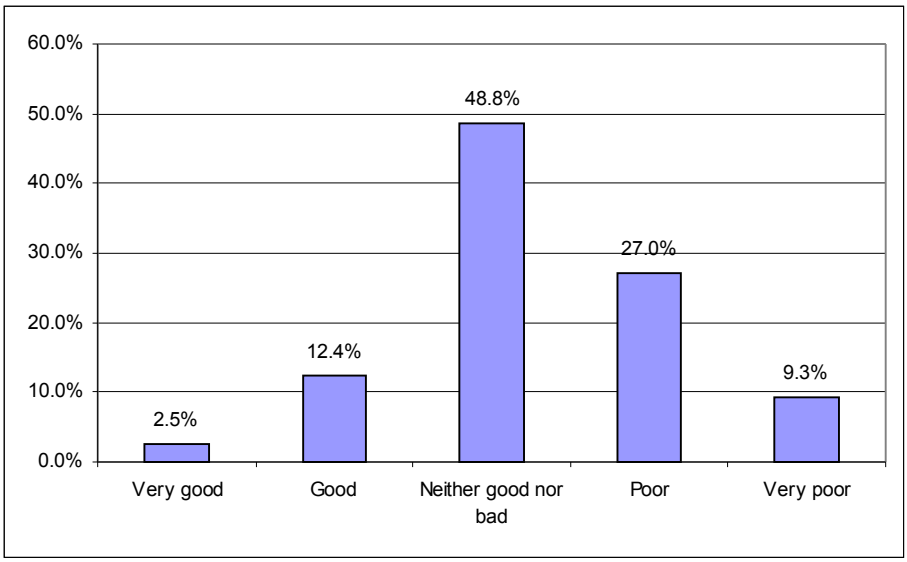




Respondents were asked to rate existing cycle facilities in Croydon. Nearly half the sample rated facilities as neither good or bad. The remainder of the sample were more negative than positive, with 36.3% expressing a negative view. Respondents who owned a cycle tended to be slightly more negative. Relatedly those in the sample who cycled the most frequently, also gave more negative responses. As the majority of respondents are not regular cyclists and therefore have little first hand experience of the facilities, care should be taken in the interpretation of this result: concentrating on the overall figures could therefore give rise to complacency. A

further complication arises because of the lack of a "don't know" category: as a consequence it is likely that "neither good nor bad" category is has been inflated possibly masking a more negative result.

Figure 6.7. Rating of Existing Conditions and Facilities for Cycling in Croydon (Q29).
Figures exclude non-responses.



6.2 Encouraging Cycling

Respondents were asked to consider whether a series of measures might encourage them to cycle more. The most popular measure, for the sample as a whole, was fully segregated on-road cycle lanes, this was followed by partly segregated on road cycle lanes and marked on-road cycle lanes without segregation.

Table 6.1. Policies Considered Likely, or Very Likely, to Encourage Cycling (Q30).
Figures exclude non-responses and don't knows.
(Grey Shaded Cells Represent Measures Considered Effective by more than 50% of the Sample)

Policy	All Respondents	Non car-owners	Car Owners
Fully Segregated On-Road Cycle Lanes	61.6%	63.8%	60.8%
Partly Segregated On-Road Cycle Lanes	46.0%	45.6%	46.0%
Marked On-Road Cycle Lanes Without Segregation	40.8%	50.1%	38.2%
Advanced Cycle Stop Lines at Traffic Lights	38.8%	52.7%	34.8%
Shared Use Walking/Cycling on Pavements	38.6%	41.1%	38.1%
Camera enforced bus lanes (cycles allowed)	37.2%	50.2%	33.5%
Contraflow Cycling on One-Way Streets	36.6%	39.2%	36.0%
20 mph Speed Limit in Residential Streets	33.9%	48.2%	30.1%
On-Road Cycle Training	28.5%	31.9%	27.3%
Speed Cushions and Speed Tables	20.5%	30.2%	17.9%
Safety Cameras	16.7%	24.5%	14.6%

There were significant divergences of opinion between car owners and non-car owners. Car owners were less positive about all, but one, of the measures. These differences can be seen in Table 6.2 which lists the top five policies for both non-car owners and car owners. The majority of non-car owners considered four of the policies likely to be effective; while the majority of car owners considered only one measure likely to be so. Car owners seemed to be particularly interested in removing cyclists from traffic; while non-car owners appeared to be more concerned with giving cyclists priority over other traffic.

Table 6.2. Top Five Policies for Non-Car Owners and Car Owners.
(Grey Shaded Cells Represent Measures Considered Effective by more than 50% of the Sample)

Non-Car Owners
Fully Segregated On-Road Cycle Lanes
Advanced Cycle Stop Lines at Traffic Lights
Camera enforced bus lanes (cycles allowed)
Marked On-Road Cycle Lanes Without Segregation
20 mph Speed Limit in Residential Streets

Car Owners
Fully Segregated On-Road Cycle Lanes
Partly Segregated On-Road Cycle Lanes
Marked On-Road Cycle Lanes Without Segregation
Shared Use Walking/Cycling on Pavements
Contraflow Cycling on One-Way Streets

There are two possible explanations for the differences between the two groups. Car owners are likely to be less frequent cyclists and it may be that certain policies are more effective at encouraging infrequent cyclists. Alternatively it may be that the responses given by car owners are affected by Policy Bias, that is to say that car owners are only responding positively to policies that do not constrain car use, in an attempt to influence the future decisions of policy makers.

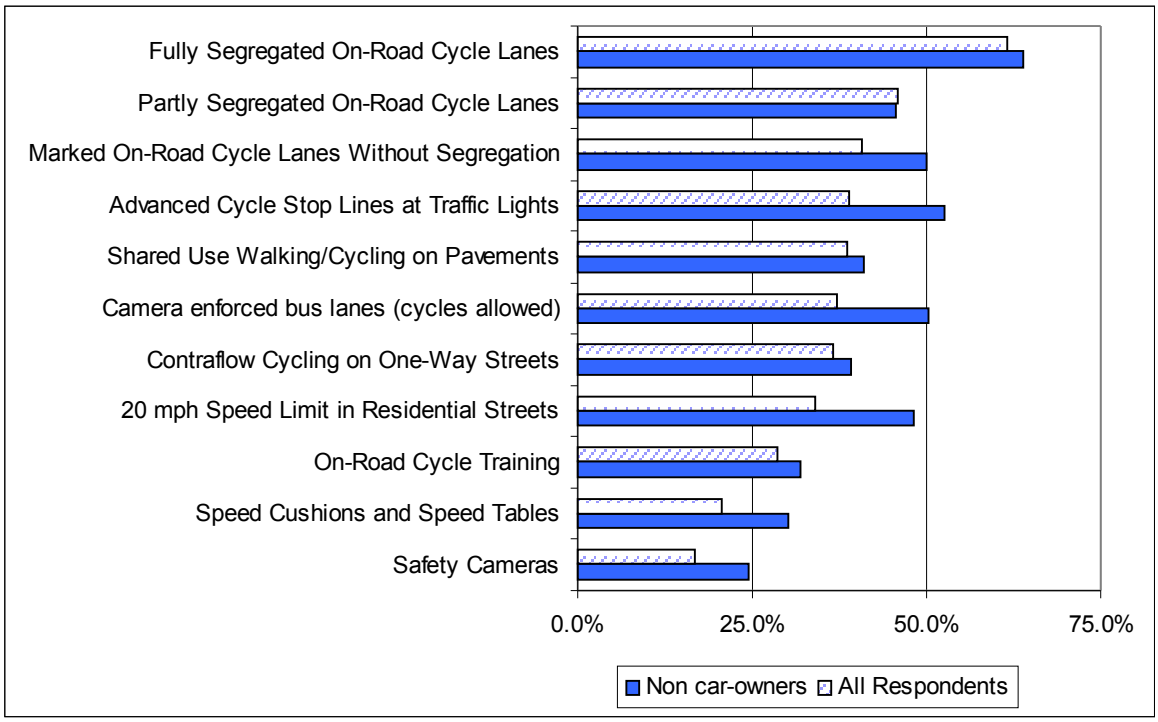
The following policies were all rated at least 10 percentage points lower by car owners: 20 mph speed limits in residential streets (18.1 percentage points), advanced cycle stop lines at traffic lights (17.9 percentage points), camera enforced bus lanes (16.7 percentage points), speed cushions and speed tables (12.3 percentage points) and marked on-road cycle lanes without segregation (11.9 percentage points). The fact that these are, perhaps, the five policies that would disadvantage motorists the most, suggests that Policy Bias explains a major part of the difference between the two groups. On this basis it may be prudent to put more emphasis on the findings of the non-car owning part of the sample. Figure 6.7 gives an indication of this overall effect by comparing the results of the sample as a whole with the results of non-car owners.

It is useful to look at the individual policies in more detail and to consider any differences in views between cycle owners and non-cycle owners.

Fully segregated on-road cycle lanes were considered positively by both cycle owners and non-cycle owners; there was, however, a statistically significant difference between the two groups (@ 99.75%). Although non-cycle owners were positive about the policy (39.9% considered the measure likely to encourage them to cycle, while 36.8% thought it unlikely), cyclists were considerably more so (77.6% likely, 19.2% unlikely). Again there may be an element of Policy Bias in the results, as some non-cycle owners may expect the implementation of such a

scheme to take road space away from their cars.

Figure 6.7. Policies Considered Likely, or Very Likely, to Encourage Cycling (Q30).
Figures exclude non-responses and don't knows.



The results for partly segregated cycle lanes fell in between those of non segregated and fully segregated lanes. Although only 36.8% of the overall sample considered the policy likely to be effective, cycle owners were more positive and 59% thought that the measure would encourage them to cycle.

On road cycle lanes, without segregation, were seen as the third most effective measure: cycle owners were again more positive.

Shared use cycling and walking on pavements is a contentious issue and the majority of the sample considered this unlikely to be effective. The response was, however, somewhat polarised with cycle owners considering it positively and non cycle owners negatively.

The majority of the sample did not believe that advanced stop lines would encourage them to cycle more; but this is one of the proposals that appears to have been significantly affected by Policy Bias. Approximately half the cycle owners in the sample and the majority of non-car owners did consider this policy likely to be effective.

Opinions on camera enforced bus lanes were again likely to have been affected by Policy Bias. The measure was not considered positively by the majority of the sample; however, both cycle owners and non-car owners were more positive and the majority of the latter thought that the policy would encourage them to cycle more.

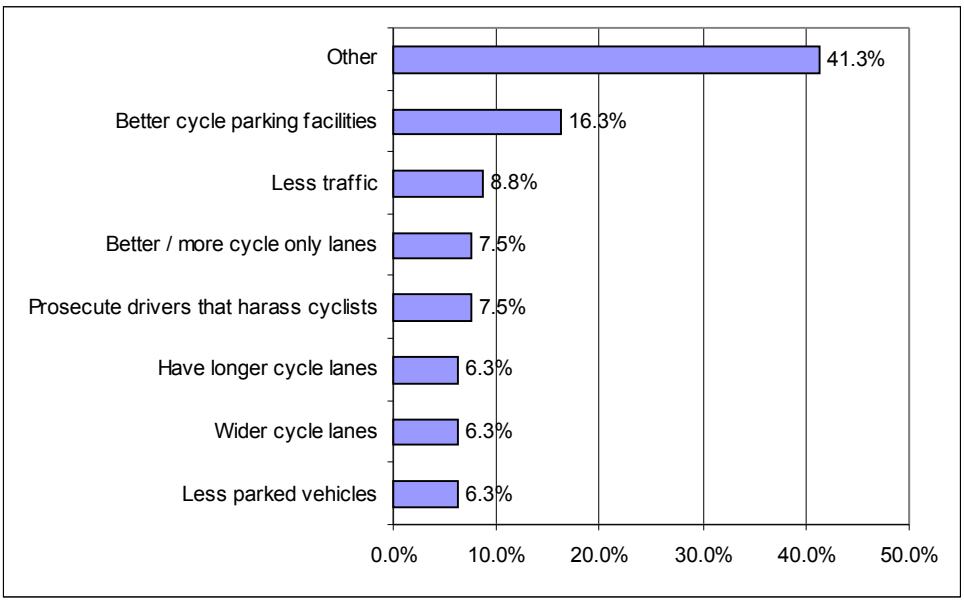
Contraflow cycling on one-way streets was not considered, by the majority of the sample, to be an effective means of encouraging cycling. Cycle owners were, however, more positive with approximately 50% considering this policy likely to be effective. Many central urban areas contain one-way systems, banned right turns and other traffic restrictions that create significant and sometimes hazardous detours for cyclists. Croydon is unlikely to be an exception and it may be worthwhile attempting to identify such impediments, particularly along major corridors to trip attractors, to see where cycle contraflows might prove effective.

20 mph limits in residential streets showed the greatest variation in its rating between car owners and non-car owners, with the latter and cycle owners much more positive. Despite this 20 mph limits were not seen as one of the most effective measures for encouraging cycling; there may, however, be other good reasons for the implementation of this policy.

On road cycle training was not considered likely to encourage cycling by the majority of either cycle owners, or non-cycle owners, within the sample. The policy may, however, have important road safety benefits.

The majority of the sample did not consider speed cushions and speed tables likely to encourage them to cycle - this was the case for both cyclists and non-cyclists, although the former were slightly more positive. Again there may be important road safety reasons for the implementation of this policy.

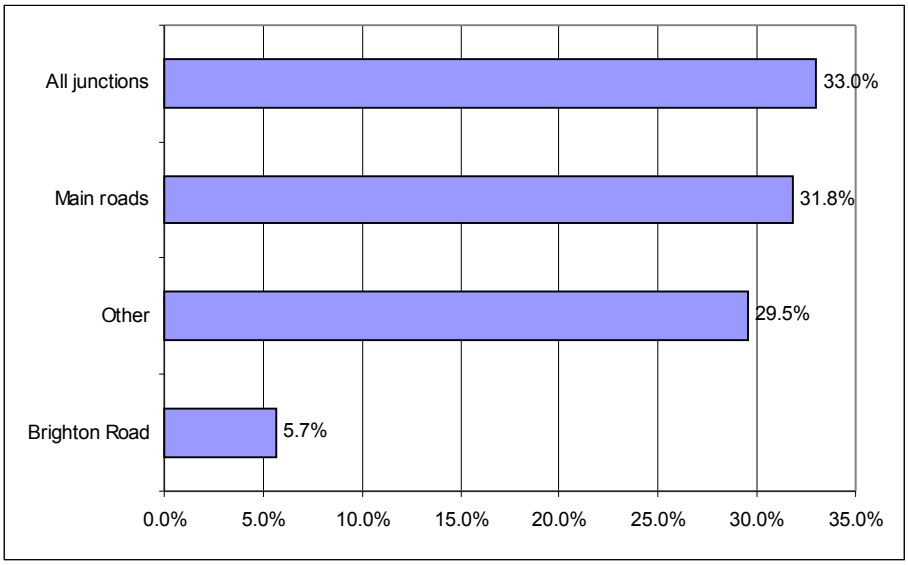
Figure 6.19. Other Measures that would Encourage Cycling (Q30l).
Figures exclude non-responses.



68.1% of the sample believed that safety cameras were unlikely to encourage them to cycle more. Surprisingly cycle owners, within the sample, were less positive than the non-cycle owners - with nearly 77% of the former holding a negative view. There appeared to be some uncertainty as to their potential among non-cycle owners with nearly a quarter of respondents undecided.

Respondents were asked to identify other measures that would encourage them to cycle. This question unfortunately drew a poor response with over 90% of respondents failing to identify any additional issues. The comments that were made covered a diverse range of issues with better cycle parking facilities the most commonly mentioned. Other issues related to conflicts between motorised traffic and cyclists and the consequent need for better cycling routes.

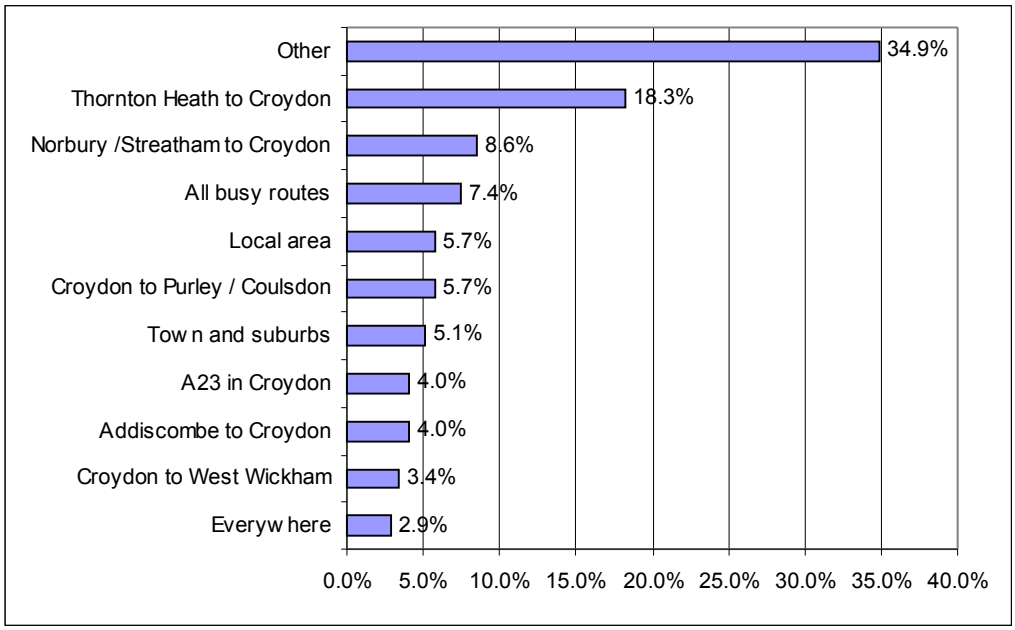
Figure 6.20. Location(s) where Cycle Crossings are Needed (Q31)
Figures exclude non-responses.



Respondents were asked where they would most like to see cycle crossings in the Borough. Most of the comments were not location specific and referred to "all junctions" and "across main roads". The only location that was consistently mentioned was on Brighton Road - this was, however, only mentioned by 5 respondents as nearly 93% of the respondents did not specify any type of location.

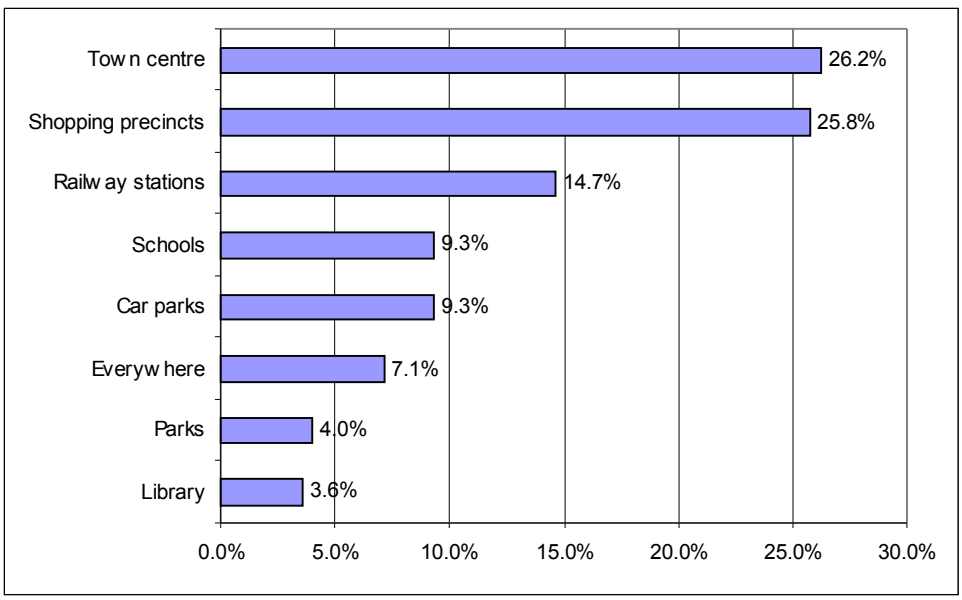
Respondents were asked to identify potential new cycle routes. The wide variety of responses proved difficult to categorise, but some core routes were mentioned multiple times. Thornton Heath to Croydon was uppermost in the minds of respondents being mentioned by 18.3% of those that completed the question. The second most popular suggested route was from Norbury/Streatham to Croydon. These routes are, paradoxically, existing London Cycle Network routes: this suggests that there is either a lack of awareness of existing cycle routes, or that the routes are not considered to be of a sufficiently high standard. General comments were also made referring to the need for improved cycle provision on all busy routes and across the local area.

Figure 6.21. Desired Cycle Routes (Q32).
Figures exclude non-responses.



Respondents made clear their desire for more cycle parking at destinations within the area. Over a quarter, of those that responded to the question, considered there to be a greater need for parking in the Town Centre and at shopping precincts. Railway stations were the third most popular location for additional parking. Interestingly nearly 10% of respondents suggested additional cycle parking at car parks. The introduction of free cycle parking in such areas would be an effective way of increasing the visibility of cycling as a cheap and realistic mode of transport to car users.

Figure 6.22. Desired Locations for More Cycle Parking (Q33).
Figures exclude non-responses.

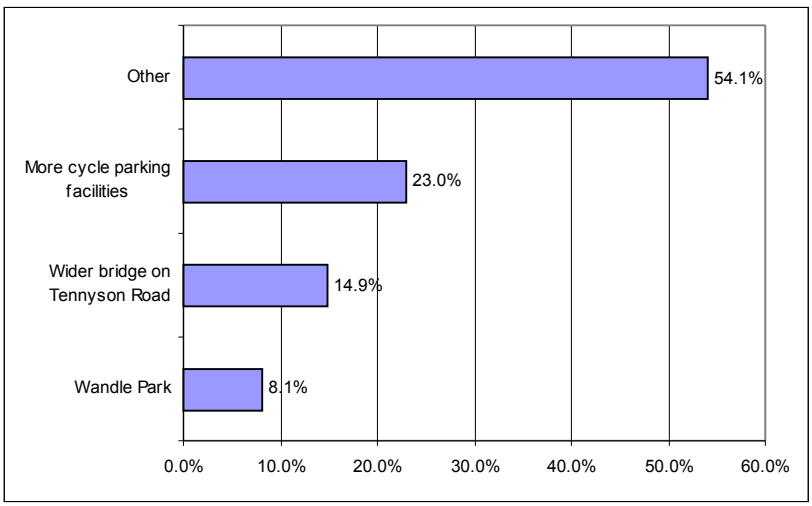


Cycle parking in retail areas can be encouraged through the Council's development control policies. More cycle parking at railway stations would encourage multimodal

trips and to some extent ameliorate the difficulties associated with not being able to take cycles on trains.

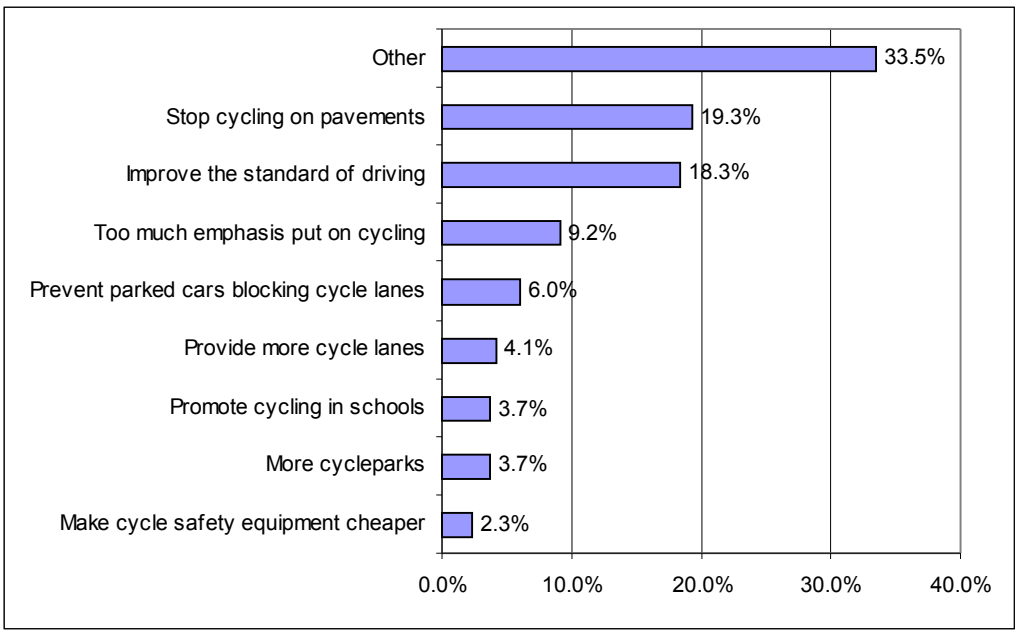
A cycle parking audit may be useful to determine locations where there is insufficient parking. This could, for example, identify locations where cycles are parked inappropriately parked because of a lack of facilities; or where cycle parking is provided but is full.

Figure 6.23. Other Desired Cycle-Friendly Measures at Particular Locations (Q34).
Figures exclude non-responses.



Respondents were asked for other cycle friendly measures they would like to see implemented at particular locations. Various comments were made and the most commonly mentioned were more cycle parking facilities, a wider bridge on Tennyson Road as well as improvements at Wandle Park.

Figure 6.24. Other Comments about Cycling in Croydon (Q35).
Figures exclude non-responses.



In the final question respondents were asked if they had any other comments to make concerning cycling in Croydon. As with the previous open questions there were a wide variety of responses. The most commonly made observation was the need to stop cycling on pavements.

For the problems associated with cycling on pavements to be properly addressed two issues need to be tackled. Some cyclists use pavements because there are no safe, alternative, direct routes available to them. Other cyclists use pavements where there is an acceptable cycle route and this problem is exacerbated by a lack of enforcement. The breaking of highway rules by cyclists creates a poor impression of cycling as a mode of transport and does not encourage the wider community to support cycling initiatives. This is reflected in the report of the Merton Cycle Campaign - Cycle Survey 2002.

> "There would appear to be a troublesome minority of cyclists who are creating a hazard for all other road users, including other cyclists and pedestrians. To some extent this apparent anti-social behaviour may be a response by cyclists to road designs that take little/no account of their needs. They may feel that they have to break traffic regulations for self-preservation in heavy/dangerous traffic or, for example, to short cut the long detours caused by one-way systems. It may be worth investigating areas where there are persistent violations by cyclists to see if this is the case. It may also be necessary to improve cycle training and in some cases to more effectively enforce road traffic regulations to this minority."

It is suggested that further research should be undertaken where there is perceived to be significant pedestrian/cycle conflict so that steps can be taken to alleviate them.

7 Conclusions

The Croydon Walking and Cycling Survey has provided a useful and representative insight into current travel patterns within the Borough of Croydon. It has also provided an understanding of the issues that deter residents from cycling and walking and has identified some specific locations where attention may be needed.

Just over three quarters of the sample owned a car and 28.4% of respondents stated that they owned a bicycle.

For journeys of one mile or less, walking represented the most popular mode of travel - accounting for 65.5% of responses. Car as driver was the second most popular choice, accounting for just under a quarter of respondents. Bus was the third most popular option for journeys of 1 mile or less (5.1%) with cycling mentioned by only 1.1% of respondents. Walking was not surprisingly less popular among the car owning portion of the sample.

For journeys of three miles or less, the popularity of the car predictably increases, representing over half of all choices. Bus was someway behind, as the second most popular choice, being mentioned by only 28.6% of respondents. Tram/rail was third with 8.3%. Walking fell to 2.2% and cycling increased its popularity slightly, reaching 1.4%. For journeys of over three miles in length, car as driver was again the most popular choice accounting for just over a quarter of responses.

Amongst these choices there are some indications of differences in behaviour between residents in each of the three Croydon constituencies and these may, in

part, reflect differences in the environment and in transport provision among the three. The residents of South Croydon seem to have adopted a more car dependent lifestyle and walking consequently appears to make less of a contribution in this constituency. This is reinforced to some extent by the higher figures recorded for walking as an alternative mode in this constituency. Bus services appear to be more popular in North Croydon.

The variations between the constituencies suggest that there is scope to increase the share of cycling and walking by examining and tackling the deterrents that have been pointed out in the survey.

Respondents appeared to have two sets of motivations for walking. There are the "practical" reasons like time savings and convenience, as well as the more "principled" reasons like health and environment. One benefit of walking, illustrated by the results, is its ability to a fulfil various needs: it is for example possible to travel cheaply from A to B, get exercise and walk the dog at the same time. In a modern society where time is precious, this may provide one of the best opportunities to promote walking.

Most walking trips were made for shopping and leisure purposes. Walking appears less popular for non-discretionary trips such as business, commuting and trips to school/college.

The most common deterrent to walking was bad weather, mentioned by nearly half of the respondents. Distance and fear of crime were roughly equal second and were mentioned by just over a quarter of the sample. 16% of the sample had to restrict their walking for reasons of disability. 12.2% of respondents stated that they just did not want to walk.

The findings suggest that existing highway designs are having a deterrent effect on walking. Of course a radical shift to pedestrian priority could have wide reaching effects; but further work could be undertaken to determine the scale of this problem and to develop highway related solutions.

When asked about the state of existing walking facilities in the Borough respondents, in general, considered them acceptable, but there may still be sections of the community that are being deterred from walking by highway design issues.

Respondents were asked to consider a number of policies to help encourage walking. The most popular policies were the provision of wider pavements and increased numbers of pedestrian crossings. Car owners were significantly less positive with regard to improvements in pedestrian facilities and it is possible that motorists have given a less positive response in an attempt to reduce future restrictions on car use.

Other issues that appeared to concern respondents were problems associated with existing facilities. It may be that insufficient attention is being paid to keep the existing pedestrian routes clean, safe and clear of obstructions. Better cleaning, maintenance and enforcement of existing laws, for example, concerning parking and obstructions on the pavement might therefore generate a significant improvement in the walking environment. Better enforcement would also increase the feeling of safety amongst pedestrians.

Pedestrian subways were unpopular and this feeling was exacerbated at night. Women were significantly less positive than men - even during the day. Where subways are required they should be designed to create direct walking routes that are secure and inviting for the pedestrian.

Respondents were asked for the locations where they thought new pedestrian crossings were most needed. The most popular locations were described as outside schools. The most popular geographically specific location was in London Road, Thornton Heath.

The sample could not be described as regular cyclists and nearly 9 in 10 respondents made no use of a cycle in a typical week. Of the respondents that did cycle, just over 70% of the respondents considered health and fitness part of the reason for cycling. This was followed closely by convenience (65.2%) and then by leisure/fun (51.3%). Cost and journey time were mentioned by about a third of respondents and the environment by just under 20%.

Leisure/fun was given the most frequently as the type of cycling trip made with shopping the second most commonly made trip. Nearly 50% of the sample did not cycle as they had no bicycle: this is in part due to a the inability or unwillingness of people to cycle; but it is also in part related to a lack of cycle storage space - which was mentioned by 10% of respondents. Local Planning Authorities can help resolve this issue by ensuring that there are adequate storage/parking facilities in all new developments.

Heavy and fast traffic appeared to be important deterrents to cycle use. This issue can best be tackled by improved highway design and more effective segregation of cyclists from traffic would also ease concerns about the effects of pollution.

There was some concern regarding the difficulty of taking cycles on public transport. This is a contentious issue as cycles take up space on vehicles that could be used by regular passengers. Even if it is difficult to allow the carriage of conventional cycles during peak hours, better provision could be made for the carriage of folding cycles in the peak and for regular cycles in the off-peak. Better parking could also be provided at public transport stops to encourage multimodal trips.

Respondents were again asked to consider policies that could be implemented to encourage cycling. The most popular measure, for the sample as a whole, was fully segregated on-road cycle lanes, this was followed by partly segregated on road cycle lanes and marked on-road cycle lanes without segregation. There were significant divergences of opinion between car owners and non-car owners, with the former less positive about all, but one, of the measures. Car owners seemed to be particularly interested in removing cyclists from traffic; while non-car owners appeared to be more concerned with giving cyclists priority over other traffic. It is believed that Policy Bias is responsible for much of the difference between the two groups and for this reason care should be taken when interpreting the findings of the non-car owning part of the sample. Taking this into account increases the importance of the following three policies: advanced cycle stop lines at traffic lights, camera enforced bus lanes (cycles allowed) and 20 mph speed limit in residential streets.

The concerns of the cycling respondents suggest that it may be worthwhile attempting to identify such impediments, particularly along major corridors to trip attractors, to see where cycle contraflows might prove effective.

Respondents were asked to identify potential new cycle routes. Thornton Heath to Croydon was uppermost in the minds of respondents being mentioned by 18.3% of those that completed the question. The second most popular suggested route was from Norbury/Streatham to Croydon. These routes are, paradoxically, existing London Cycle Network routes: this suggests that there is either a lack of awareness of existing cycle routes, or that the routes are not considered to be of a sufficiently high standard.

Respondents made clear their desire for more cycle parking at destinations within the area. Over a quarter, of those that responded to the question, considered there to be a greater need for parking in the Town Centre and at shopping precincts. Railway stations were the third most popular location for additional parking. Interestingly nearly 10% of respondents suggested additional cycle parking at car parks. The introduction of free cycle parking is such areas would be an effective way of increasing the visibility of cycling as a cheap and realistic mode of transport to car users.

Cycle parking in retail areas can be encouraged through the Council's development control policies. More cycle parking at railway stations would encourage multimodal trips and to some extent ameliorate the difficulties associated with not being able to take cycles on trains.

A cycle parking audit may be useful to determine locations where there is insufficient parking. This could, for example, identify locations where cycles are parked inappropriately parked because of a lack of facilities; or where cycle parking is provided but is full.

There is some evidence of a conflict between pedestrians and cyclists on pavements. The breaking of highway rules by cyclists creates a poor impression of cycling as a mode of transport and does not encourage the wider community to support cycling. For this problem to be properly addressed cyclists need to be provided with safe, alternative, direct routes and once this has been achieved a more effective enforcement regime should be implemented. It is suggested that further research should be undertaken where there is perceived to be significant pedestrian/cycle conflict to fully investigate this issue.

8 References

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London Travel Report. Transport for London (2003).

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Creating a chain reaction. The London Cycling Action Plan. Transport for London (February 2004)

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Merton Cycle Campaign Cycle Survey 2002. BNR Consulting (9 October 2002).

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Gender and Critical Mass: Do high cycle flows correlate with a high proportion of female cyclists? London Analytics Research Journal. issue 1 (2005).

9 Appendix One - Text from the TalkAbout Questionnaire.

CROYDON WALKING & CYCLING SURVEY

Welcome to the Eleventh TalkAbout Croydon Questionnaire. This questionnaire seeks your views on walking and cycling in Croydon.

The questionnaire should only take about 15 minutes to complete.

When you have completed the questionnaire return it to us in the enclosed envelope – no stamp required – by 24th March 2004.

Everything you say is confidential and we will never pass your name or address to any other organisation. What's more, if at any time, you wish to leave TalkAbout Croydon for whatever reason simply let us know.

If you would like any further information or have any queries regarding TalkAbout Croydon please contact Linda Oram or Carole Parnell on 020 8760 5410, or by writing to Croydon Council, Executive Office, Policy Unit – Room 6-09, Taberner House, Park Lane, Croydon, CR9 3JS.

Alternatively you can email linda_oram@croydon.gov.uk.

We hope you enjoy completing this questionnaire and we look forward to receiving your reply.

GENERAL TRAVEL CHOICES

Q1 Do you own a car?

1) Yes 2) No

Q2 Do you own a pedal cycle?

1) Yes 2) No

Q3 Do you have a current Bus Pass, Travel Card or Freedom Pass?

1) Yes 2) No

Q4 Do you use a wheelchair or mobility scooter?

1) Yes 2) No

If "yes" then for the purposes of this survey consider pavement use as walking, and road use with human-powered vehicles or with powered vehicles speed-limited to 16mph as cycling.

Q5 How do you *usually* travel on journeys of 1 mile or less?
(Please tick one box only)

1) walk 2) pedal cycle 3) car (driver) 4) car (passenger) 5) motorcycle 6) bus
7) taxi/minicab 8) tram/rail 9) other *(please specify)*

Q6 By what other ways do you travel on journeys of 1 mile or less?
(tick all that you use at least twice per month)

1) walk 2) pedal cycle 3) car (driver) 4) car (passenger) 5) motorcycle 6) bus
7) taxi/minicab 8) tram/rail 9) other *(please specify)*

Q7 How do you *usually* travel on journeys of 3 miles or less?
(e.g. Central Croydon to Norbury, Central Croydon to Purley)?
(Please tick one box only)

1) walk 2) pedal cycle 3) car (driver) 4) car (passenger) 5) motorcycle 6) bus
7) taxi/minicab 8) tram/rail 9) other *(please specify)*

Q8 By what other ways do you travel on journeys of 3 miles or less?
(tick all that you use at least twice per month)

1) walk 2) pedal cycle 3) car (driver) 4) car (passenger) 5) motorcycle 6) bus
7) taxi/minicab 8) tram/rail 9) other *(please specify)*

Q9 How do you travel on journeys of over 3 miles?
(tick all that you use at least twice per month)

1) walk 2) pedal cycle 3) car (driver) 4) car (passenger) 5) motorcycle 6) bus
7) taxi/minicab 8) tram/rail 9) other *(please specify)*

WALKING

Q10 How many walking journeys of 5 minutes or more do you make in a typical week? *(Please tick one box only)*

1) 10 or over 2) 6 to 9 3) 2 to 5 4) 1 to 2 5) zero *If "zero" then skip to question 13.*

Q11 Why do you walk? *(tick all that apply)*

1) convenience 2) journey time 3) health/fitness 4) leisure/fun 5) dog 6) low cost
7) environment 8) no car 9) no pedal cycle 10) poor public transport
11) other *(please specify)*

Q12 What sort of walking trips do you make? *(tick all that apply)*

1) leisure/fun 2) shopping 3) commuting 4) work/business 5) school 6) other travel

Q13 If you don't walk, or walk less than you wish, why is that? *(tick all that apply)*

1) disability 2) peer pressure 3) bad weather 4) fear of traffic 5) fear of crime
6) pollution 7) too far 8) just don't want to 9) fear or dislike of pedestrian subways
10) not enough pedestrian crossings 11) long waits at pedestrian crossings
12) pedestrian barriers 13) pavement parking
14) Not enough time to cross/pedestrian phases too short 15 other *(please specify)*

Q14 Are you in favour of more shared-use walking and cycling facilities on the pavement? *(Please tick one box only)*

1) definitely 2) probably 3) probably not 4) definitely not 5) don't know

Q15 How do you rate existing conditions and facilities for walking in Croydon? *(Please tick one box only)*

1) very good 2) good 3) neither good nor bad 4) poor 5) very poor.

Q16 How likely would the following measures be to encourage you to walk more? *(tick one per measure)*

a) 20mph speed limit in residential streets

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

b) Speed cushions and speed tables

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

c) Speed cameras

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

d) More pedestrian crossings

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

e) Wider pavements

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

f) Other measures that would encourage you *(please specify)*

Q17 During the day, would having to use a pedestrian subway.
(Please tick one box only)

1) greatly encourage you to use that route?
2) slightly encourage you to use that route?
3) make no difference?
4) slightly discourage you from using that route?
5) greatly discourage you from using that route?
6) don't know

Q18 At night, would having to use a pedestrian subway.
(Please tick one box only)

1) greatly encourage you to use that route?
2) slightly encourage you to use that route?
3) make no difference?
4) slightly discourage you from using that route?
5) greatly discourage you from using that route?
6) don't know

Q19 At what location(s) do you need a new pedestrian crossing?

Q20 Are there any specific locations where you would like pavement parking removed?

Q21 Are there any other pedestrian-friendly measures you would like at a particular location? *(please say what measures and where)*

Q22 Are there any other comments you would like to make about walking in Croydon?

CYCLING

Q23 How many cycling journeys do you make in a typical week?
(Please tick one box only)

1) 10 or over 2) 6 to 9 3) 2 to 5 4) 1 to 2 5) zero If "zero" then skip to question 26.

Q24 Why do you cycle? *(tick all that apply)*

1) convenience 2) journey time 3) health/fitness 4) leisure/fun 5) low cost
6) environment 7) no car 8) poor public transport 9) other *(please specify)*

Q25 What sort of cycling trips do you make? *(tick all that apply)*

1) leisure/fun 2) sport 3) shopping 4) commuting 5) work/business 6) school
7) heavy load carrying 8) other travel.

Q26 If you don't cycle, or cycle less than you wish, why is that?
(tick all that apply)

1) disability 2) cannot cycle 3) peer pressure 4) bad weather 5) risk of theft
6) poor cycle parking 7) fast traffic 8) heavy traffic 9) pollution 10) poor road design
11) too much effort 12) bike not roadworthy 13) no bike 14) no storage space at home
15) cannot take pedal cycle on tram 16) cannot take pedal cycle on train
17) no work shower/changing facilities 18) just don't want to 19) other *(please specify)*

Q27 Have you heard of the London Cycle Network?

1) Yes 2) No

Q28 Do you know about the free London Cycle Guide route maps?
(Please tick one box only)

1) yes, and have some 2) yes, but have none 3) no

Q29 How do you rate existing conditions and facilities for cycling in Croydon?
(Please tick one box only)

1) very good 2) good 3) neither good nor bad 4) poor 5) very poor.

Q30 How likely would the following measures be to encourage you to cycle more? *(tick one per measure)*

a) 20mph speed limit in residential streets

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

b) Speed cushions and speed tables

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

c) Marked on-road cycle lanes without segregation

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

d) Fully segregated on-road cycle lanes

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

e) Partly segregated on-road cycle lanes

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

f) Shared-use walking/cycling on pavements

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

g) Speed cameras

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

h) Camera-enforced bus lanes (cycles allowed)

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know.

k) On-road cycle training

1) very likely 2) quite likely 3) unlikely 4) most unlikely 5) don't know

l) Other measures that would encourage you *(please specify)*

i) Contraflow cycling on one-way streets

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

j) Advanced cycle stop lines at traffic lights

1) very likely 2) quite likely 3) unlikely 4) very unlikely 5) don't know

Q31 At what location(s) do you need a cycle crossing?

Q32 Where would you like to see cycle routes from and to?

Q33 At what location(s) would you like more cycle parking?

Q34 Are there any other cycle-friendly measures you would like at a particular location? *(please say what measures and where)*

Q35 Are there any other comments you would like to make about cycling in Croydon?

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE. PLEASE NOW RETURN IT TO US IN THE REPLY-PAID ENVELOPE PROVIDED.