Report Structure

Research Questions

Analyses of several research questions using the gathered data, usually responding to specific questions on the questionnaire:

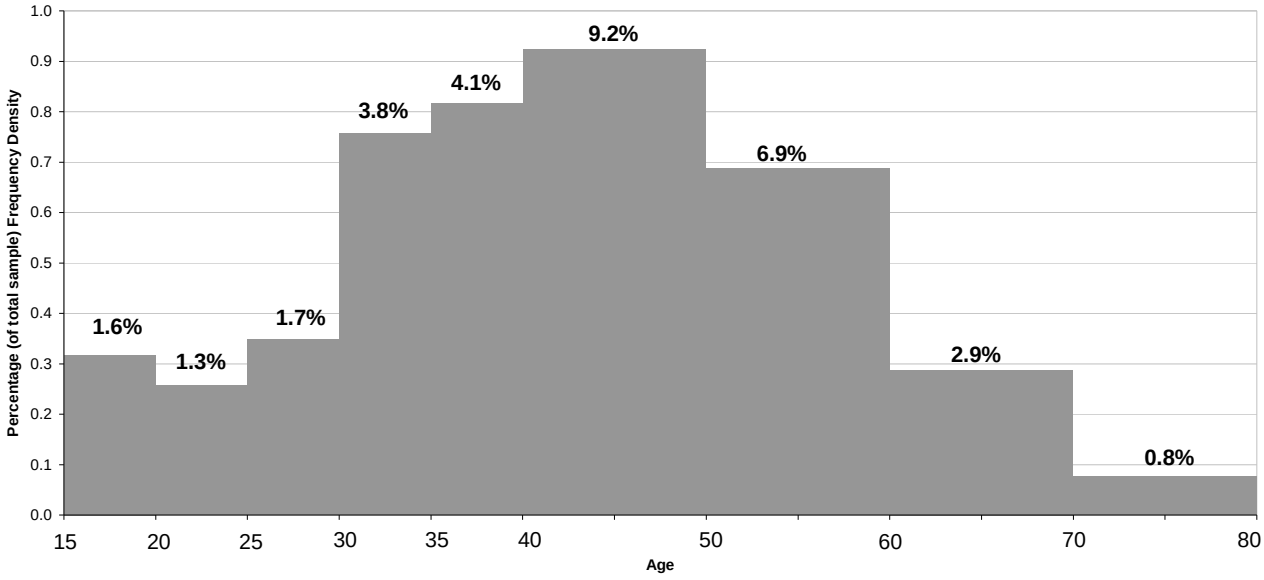
Sampling Overview

In total, 1322 usable responses were received from the cycling questionnaire. Blank or other non-valid responses have been excluded from this analysis.

The sample does not represent Medway residents completely accurately, and it includes a small number of people living outside Medway. It does not quite show an even gender distribution. Males make up just over half (53.9%) of the sample, females four tenths (43.5%).

Different age groups were more unevenly represented. 67.2% were aged ten to fifteen years. Over the rest of the sample, the best-represented age group are aged between forty and fifty, comprising 9.2% of those whose age was given; the distribution of stated ages trails off fairly regularly either side of this peak (see Fig. 1 below).

Fig. 1: Histogram of Respondent Age Distribution for Ages 16 and Up



There are several main reasons for this distribution skew, all due to the necessary non-random sampling methods used.

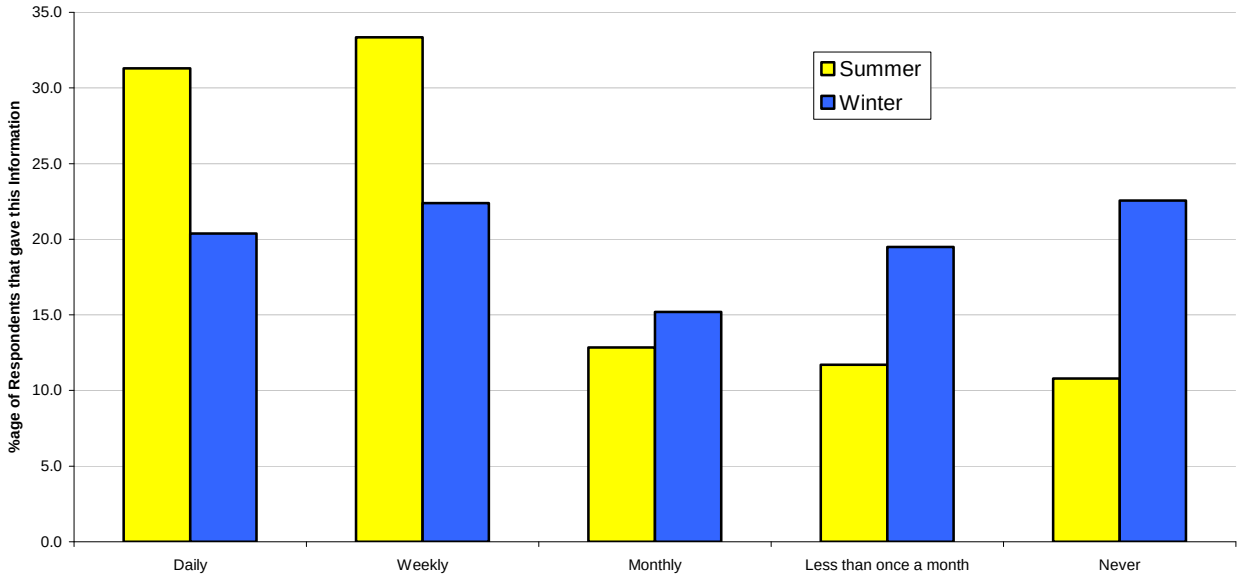
- Age is a direct factor because questionnaires can be distributed to schoolchildren directly through schools. In contrast, only adults volunteering to fill in the questionnaires will do so.
- Older adults are more likely to be retired, and consequently will have more time to fill in questionnaires.
- Age is an indirect factor because avid cyclists are far more likely to fill in a cycling questionnaire than those who do not cycle; adults of working age are most likely to use a car for transport, whereas schoolchildren cannot drive themselves around and the elderly are less likely to cycle over longer distances.

There is also a slightly skewed response by gender and age *combined*: the majority of the female respondents were schoolchildren, and the majority of adult respondents were male. However, these differences are small and should not distort the conclusions of this analysis too badly, as in most cases schoolchildren are considered separately.

Cycling Frequency

Q2 asked people how often they cycled in summer and winter. Almost all respondents said that they cycled more in summer than in winter. More people said that they never cycled in winter than said they never cycled in summer. Even so, there are still a considerable number of people cycling regularly in winter: only 23% of people who gave details of how often they cycled said that they did not cycle at all in this season. In general, the respondents comprised a fair mixture of regular cyclists, non-cyclists, and a broad spectrum in between (see Fig. 2 below).

Fig. 2: How Often Respondents Cycle



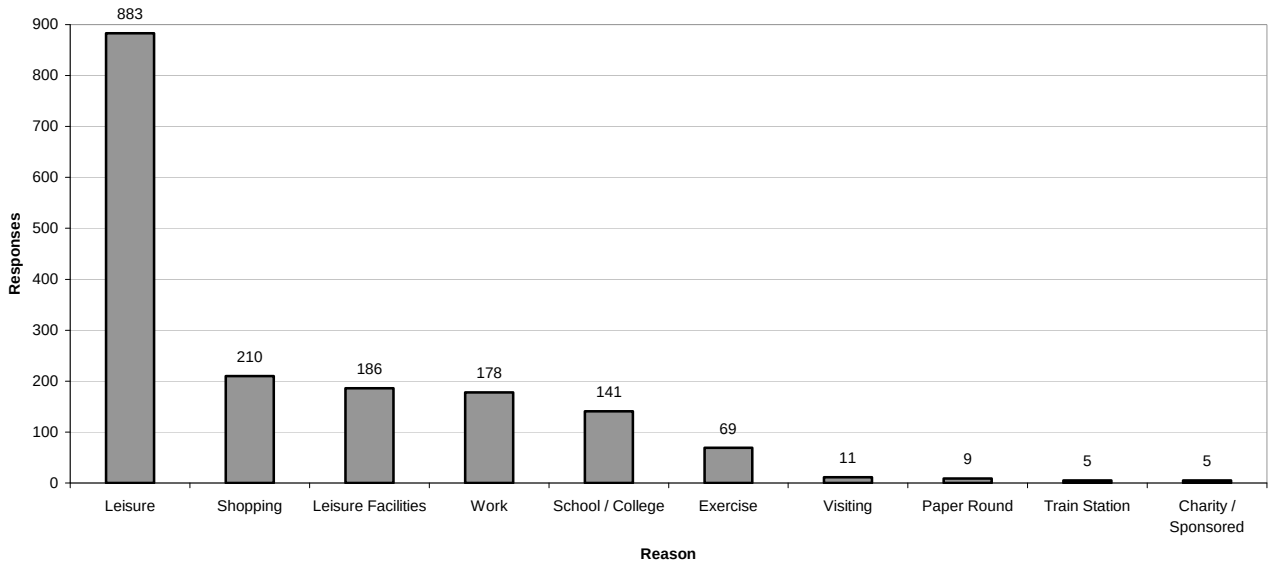
For which purposes do people in Medway cycle?

Q3 of the questionnaire asked cyclists *why* they usually cycled. The options offered were:

- To get to work
- Cycle for leisure
- To get to leisure facilities
- To get to school/college
- To go shopping

There was also a space left to list other uses. Three popular 'Others' were 'for fun' (which has been included with 'leisure' in the results), 'for exercise', and 'visiting'. In addition, some schoolchildren mentioned paper rounds and some commuters mentioned cycling to train stations; others also mentioned charity or sponsored cycle rides.

Fig. 3: Reasons Given for Cycling in Medway



Several things should be borne in mind about Fig. 3. Firstly, respondents usually gave multiple reasons for cycling, and, when they did so, leisure was usually ticked as one of those reasons. It would not be reasonable to assume that most cycling journeys in Medway are undertaken *just for fun*; the height of the 'leisure' column on the graph is in part due to people who cycle to work or to school and enjoy doing so (there is, however, a considerable number of cyclists who *do* only cycle for fun).

A second thing to consider is the height of the 'exercise' bar. There are almost half as many responses for 'exercise' as there are for 'school/college'. This is surprising because most of the respondents to the questionnaire were schoolchildren, and because 'exercise' was not a tick-box option; about seventy people went out of their way to explicitly mention it as a reason for cycling. This is significant given that many people *only* filled in 'tick-box' parts of the questionnaire, with few willing to write in their own words; it is likely that exercise is a far more important reason for cycling in Medway than the graph would at first indicate. Had it been a tick-box option, it may have rivalled 'leisure' in popularity.

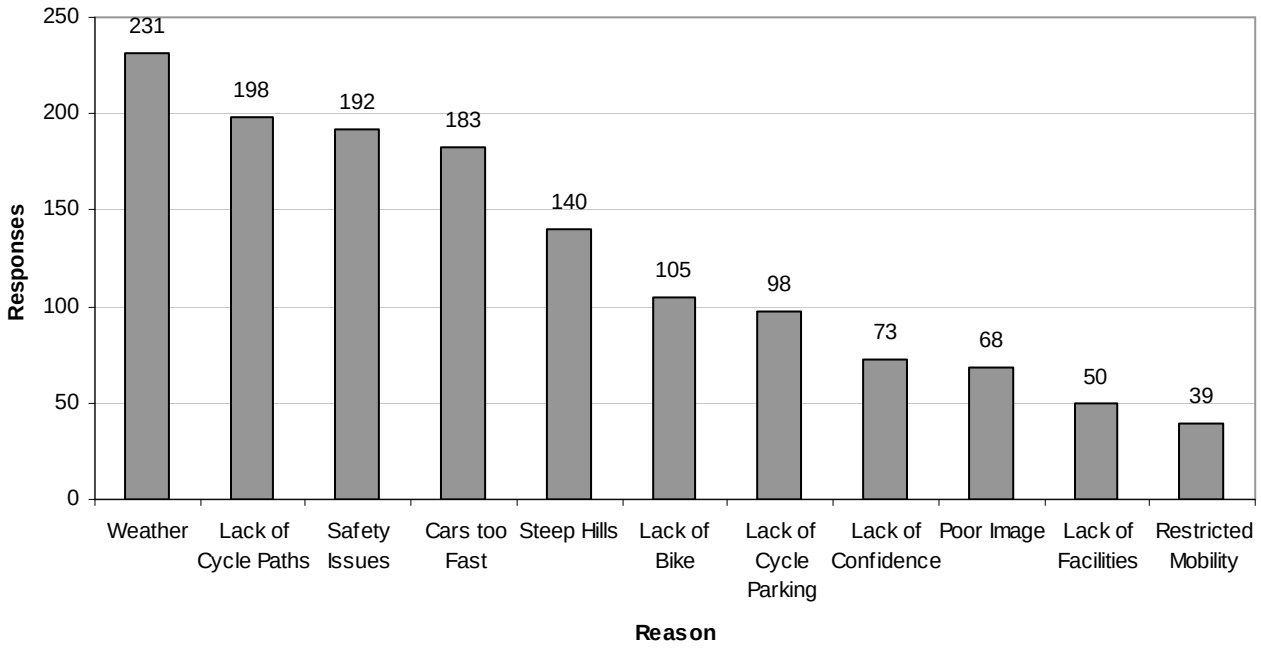
What prevents people from cycling?

Q5 was similar in structure to Q3. Rather than asking *why* people usually cycled, however, it asked why they *didn't*. The question was phrased to apply only to non-cyclists, but many cyclists answered it as well, taking it to be asking what prevented them from cycling *more*. The options were:

- Safety
- Restricted mobility
- Cars going too fast
- Do not have a bicycle
- Lack of confidence
- Lack of facilities
- Lack of suitable cycle paths
- Lack of cycle parking
- Steep hills
- Poor image of cycling
- Weather

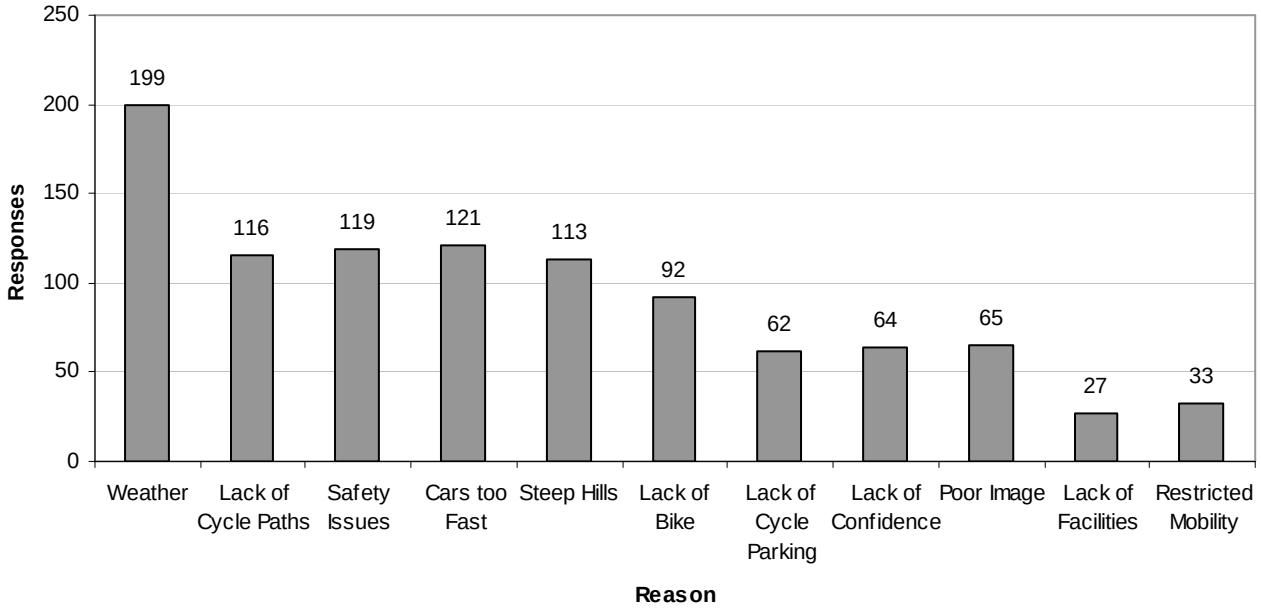
As can be seen in Fig. 4 below, the main reason given for not cycling was the weather. The next main concerns were the lack of cycle paths, safety issues, and the speed of cars, which together are more important than weather alone. Facilities, image and so on were not major concerns for most cyclists, though they mattered to some.

Fig. 4: Reasons given for Not Cycling



There were two categories of written-in 'other' reasons: one person cited medical reasons, and three people cited lack of time. It is likely that many people do not cycle because they feel that there would be insufficient time, or simply because they find car use more convenient.

Fig. 5: Reasons given by Schoolchildren for Not Cycling



Schoolchildren's reasons for not cycling (Fig. 5) understandably matched fairly closely to the overall results, which is not surprising given that the majority of these results *were* the responses of schoolchildren. They were more concerned with the speed of cars than other respondents, and poor image was a proportionately greater concern. In general, though, the same rough ranking of priorities applies. The same can be said for non-cyclists, although a major preventative factor for *that* group is a lack of a bike.

Which types of cycle provision are preferred? Are different types of provision preferred by different age strands or user segments? Do frequent cyclists have different opinions than non-cyclists and infrequent cyclists?

Q4 asked people to grade five options 1 to 5 in order of preference, 1 being the most favoured option and 5 being the least. The options related to the type of cycling provision desired:

- On road
- On road with cycle lane
- On pavement shared with pedestrians
- On pavement separated from pedestrians
- Off road trail

There were also a few lines for respondents to write in any other types of cycling provision they liked.

On the one hand, Q4 provides us with the opportunity to get a detailed picture of the preferences of cyclists as a whole, and also of various groups of cyclists, concerning cycle-route provision. On the other hand, not many people understood the grading procedure, with only 664 of the 1322 respondents filling in Q4 correctly (others assigned different provisions the same rank, etc.); also, working in simple totals obscures depth of feeling. One type of provision may be hated by some and loved by others; another type of provision may be regarded with indifference by everyone: under this system of analysis, they would both register as having the same desirability, when in fact the latter would probably be far more acceptable as a compromise solution.

Even despite these difficulties, clear trends have emerged in the data set. The general order of preference is that cycle lanes on pavements are most popular, with cycle lanes on roads a close second. Much less preferable (according to the results) are off road routes, and there is even less desire for routes on the road without cycle paths – with pedestrian-shared pavements disliked even more.

This was not, however, a simple response. 251 people gave ‘on road’ a 5, compared to 176 who gave ‘on pavement shared with pedestrians’ a 5. Of those who gave a 1 for either option, 94 *preferred* to be on the road compared to only 37 who preferred the pavement. The averages (due to the effect described above) hide the fact that, of those who *dislike* non-cycle-path routes, pavements are preferred to roads, and of those who *like* non-cycle-path routes, roads are preferred to cycling on pavements.

Even so, the difference is small: people generally dislike not having cycle paths, but if they *must* do without, the population as a whole is generally slightly more amenable to cycling on roads than on pavements – but not by much.

For further analysis, the sample has been broken down into several groups along several different lines. Age-wise, the sample has been split into four:

- Schoolchildren
- Under-40s not attending school (younger adults)
- 40 to 60 year olds (the middle-aged)
- Over-60s (pensioners).

The sample has also been split by cycling frequency into three groups: non-cyclists, frequent cyclists and infrequent cyclists. Cycling frequency is decided by the respondents' answers to Q2: a 'frequent' cyclist is taken as someone who said that they cycled 'daily' or 'weekly' in summer; 'infrequent' cyclists 'monthly' or 'less than once a month' and non-cyclists 'never'. The sample was then split by cycle-club membership, into the following groups: all schoolchildren, non-schoolchildren who were not members of a cycling club or environmental group, and non-schoolchildren who *were* members of a cycling club or environmental group. The results are shown on the following graphs (Figs. 6 to 8).

(*n.b.* the 'index of desire' is a simple indicator of how much a given type of route is liked. A higher value indicates a greater preference for that option).

Fig. 6: Preferred type of Cycle Route by Age

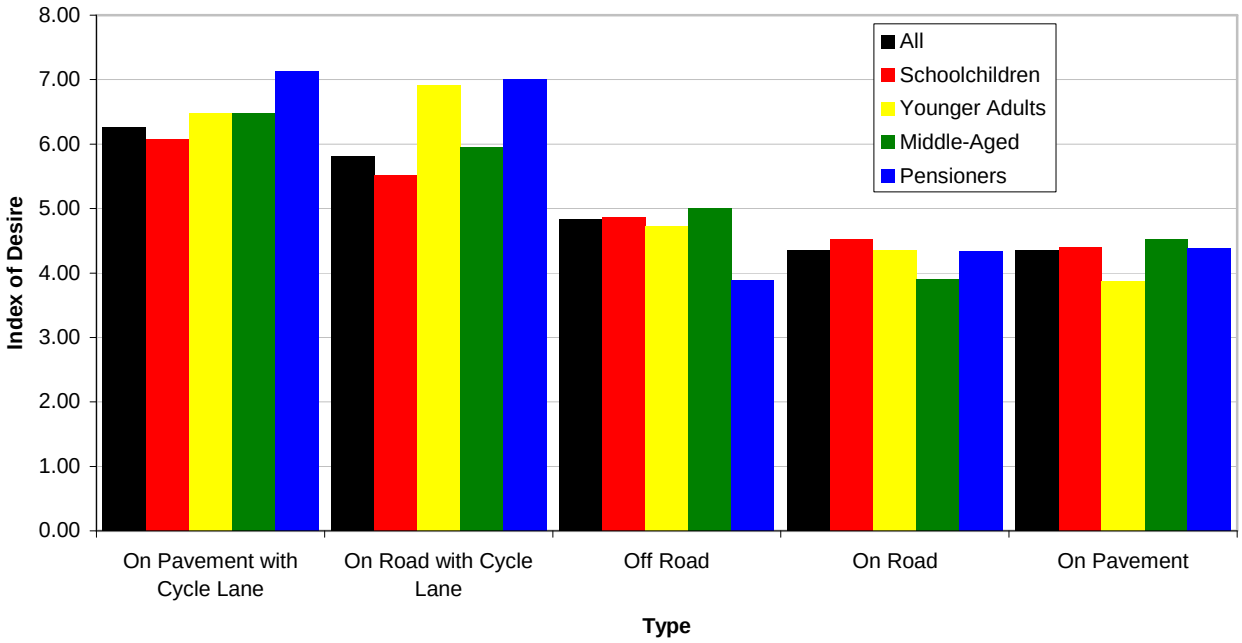


Fig. 7: Preferred type of Cycle Route by Cycling Frequency

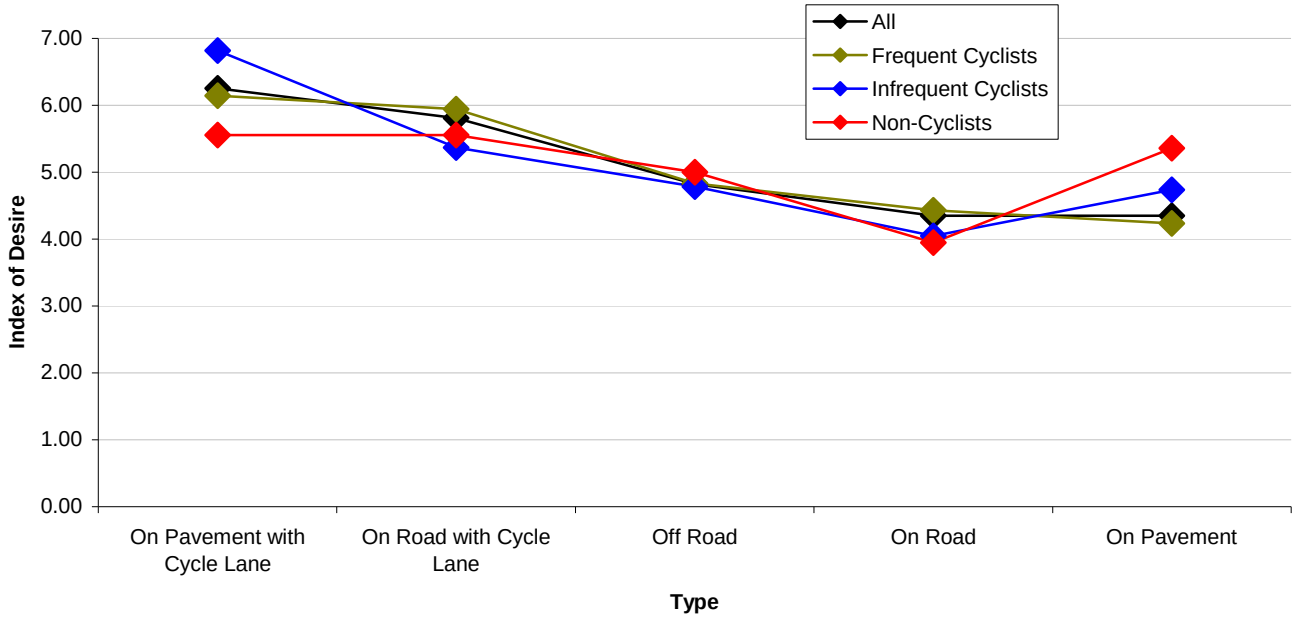
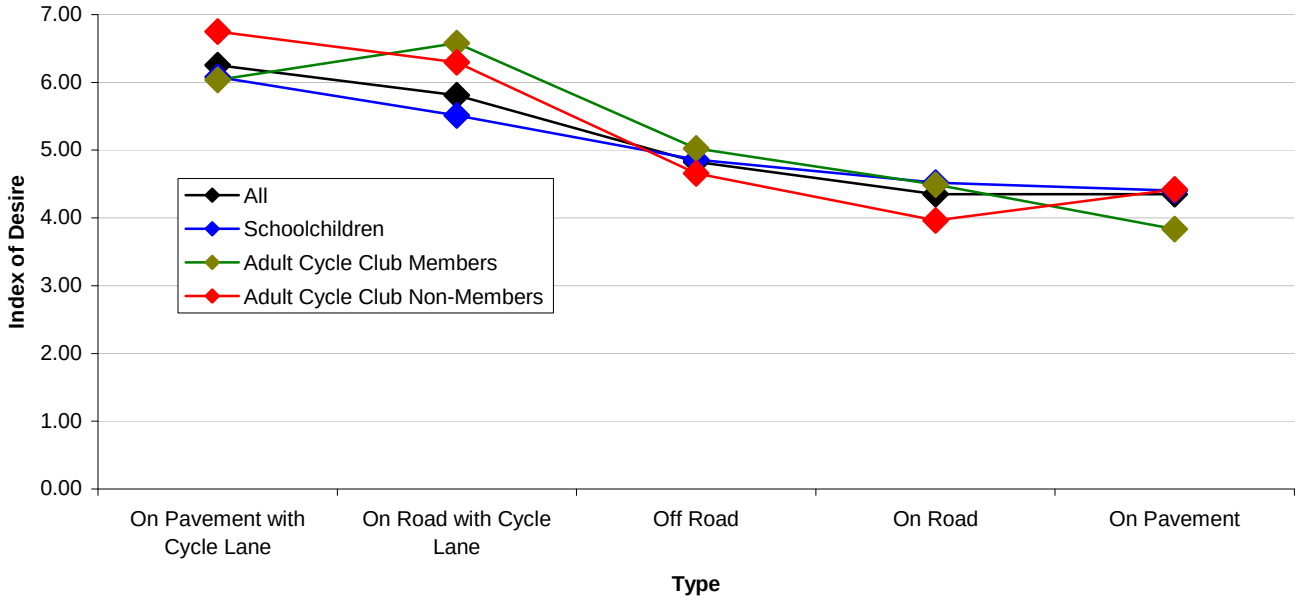


Fig. 8: Preferred type of Cycle Route by Cycle Club Membership



These graphs show several interesting trends in cycle route preferences.

1. Sample split by age (Fig. 6): It seems clear that there are no real trends in preferences for cycle route provision as people age, other than an increased wish for separate cycle lanes. Even these differences, though, are not as great as one would expect.

2. Sample split by cycling frequency (Fig. 7): This shows a very interesting feature. Most infrequent cyclists *far* prefer cycle lanes to be on the pavement than on the road; for frequent cyclists it is only a very mild preference. This is offset at the

other end of the scale: in the absence of cycle lanes, infrequent cyclists prefer to cycle on the pavement than on the road (as would non-cyclists, though this trend is even stronger in that case); frequent cyclists, however, slightly prefer the road to the pavement. This generally suggests that the more frequently people cycle, the more they feel comfortable on roads, up until a point where they even start to slightly prefer it.

3. Sample split by cycle-club status (Fig. 8): This shows that, on the whole, schoolchildren seem to be less opinionated about cycle route provision than adults; this is a potentially misleading assumption, though, as this is possibly a result of the distorted sample. Consequently, the adult sample probably holds stronger opinions, as they represent those who care enough to spend time filling out a questionnaire. Additionally, the sample size of the schoolchildren was much greater, possibly smoothing out any irregularities.

In any case, the most interesting feature is the result that members of cycling clubs do not represent members of the adult cycling population completely accurately. Specifically, they far prefer cycling provision on roads to provision on pavements, whereas adults who are not members of a cycling or environmental club hold the opposite opinion (albeit slightly less strongly). This difference is one of the strongest trends revealed by these graphs.

In general, however, the response is clear and unanimous: people far prefer cycle lanes to a lack of cycle lanes, but the difference between roads and pavements is only small (193 ‘1’ grades for cycle lanes on pavements, 170 ‘1’ grades for cycle lanes on roads). On-pavement cycle lanes do appeal more to non-confident, infrequent cyclists, however.

What do people want from cycle routes, and is this different for different age bands or how frequently people cycle?

Q6 was similar in form to Q4, asking respondents to numerically grade eight options in order of preference. The options were:

- A direct route
- Suitable for disabled access
- Pleasant scenery
- Facilities on the route
- Safety
- Low traffic levels
- Limited number of hills
- Limited number of places where you are required to stop/dismount

Again, the same problems apply to the processing of this data as did for Q4, but so do the same advantages. Consequently, the data has been processed in a very similar way. However, the results produced have been far more definite, highlighting greater differences between the different groups and also displaying three distinct levels of cycle-route priorities.

Main Outcomes:

1. The most important priority by far was safety. *Over 50% of all those who made a valid response to Q6 listed safety as their most important, grade 1 priority*. Whilst it may not be surprising that safety is a major concern, the strength of this response *is* surprising. It means that safety is the only first-level priority to be considered.
2. Next most important are low traffic levels and the directness of the route. These form a second-level priority: most people believe them to be more important than average.
3. Facilities, a lack of hills, scenery and disabled access form a third level of priorities. They are important to some people, but unimportant to others. It would be difficult to decide between them; the respondents, as a whole, expressed no overall preference between these priorities.
4. The ‘few stops’ option is interesting. Its overall ‘score’ seems to put it with the third-level priorities, but slightly more important than the others. Breaking down the data, however, reveals this to be due to the skewed age distribution of the sample. For schoolchildren, ‘few stops’ is more of a third level priority. A lack of stops is not much more important to schoolchildren than any of the other third-level priorities. For non-schoolchildren, however, ‘few stops’ is one of the second-level priorities, just as important as low traffic levels and even slightly *more* important than the directness of the route. This is a significant result.

These outcomes are exemplified in figures 9 to 11 below.

Fig. 9: Cycle Route Priorities by Age

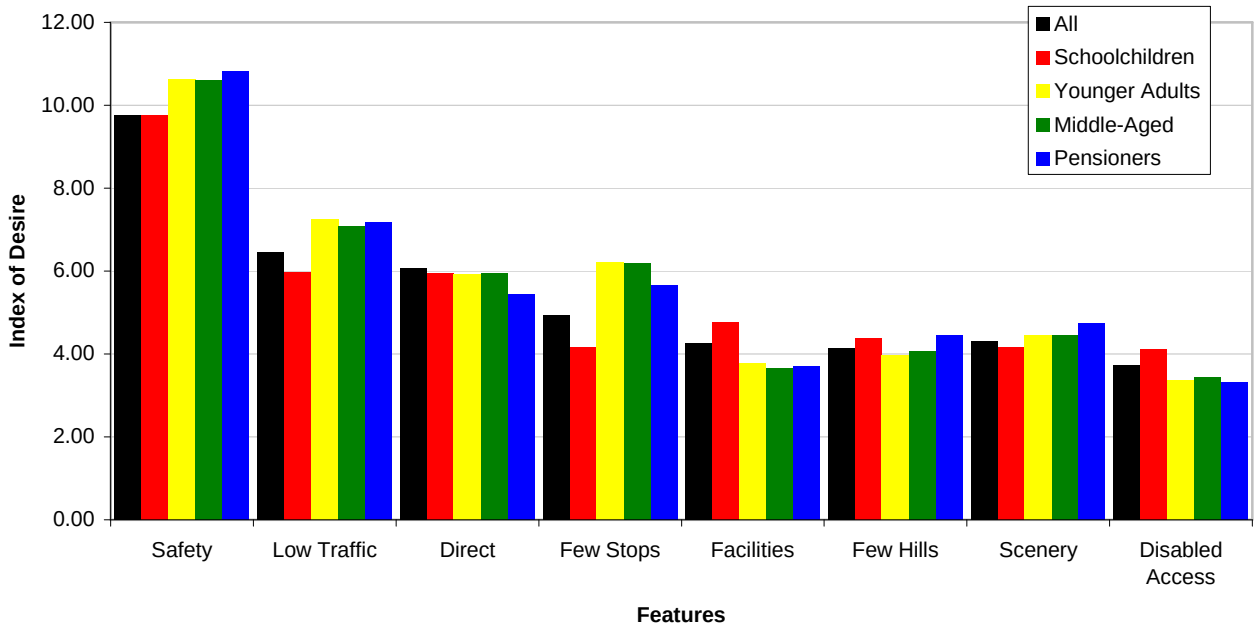


Fig. 10: Cycle Route Priorities by Cycling Frequency

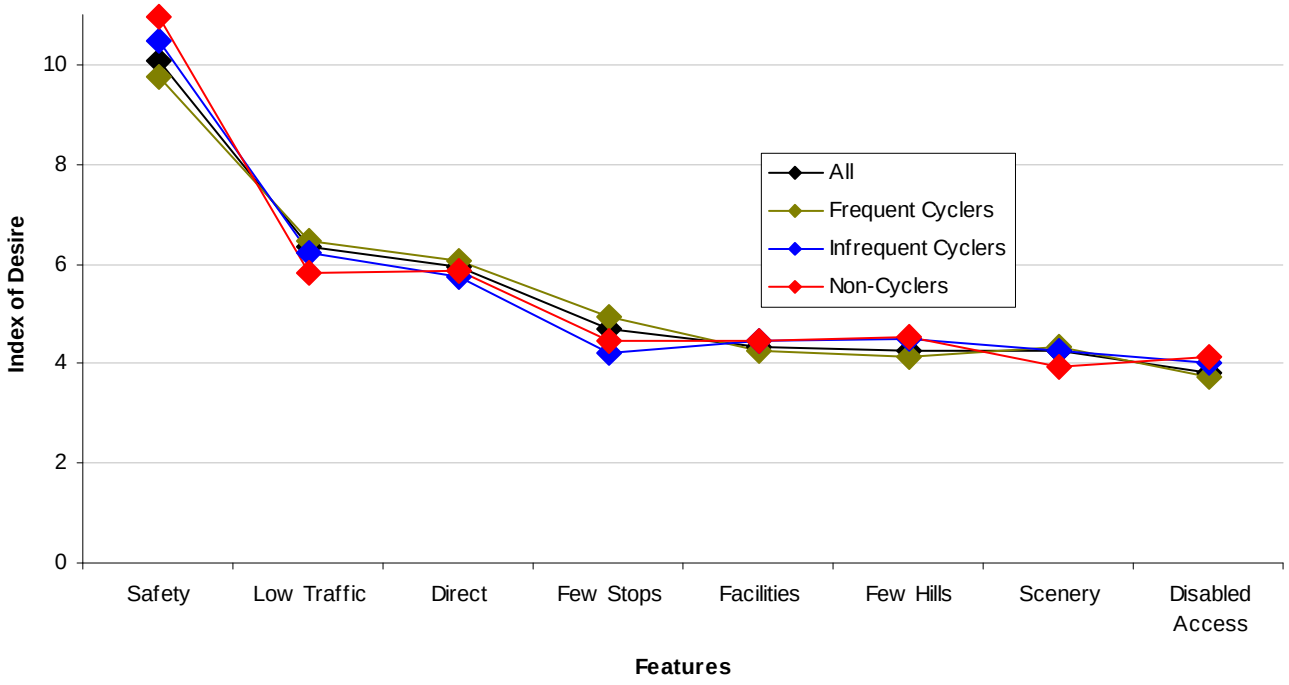
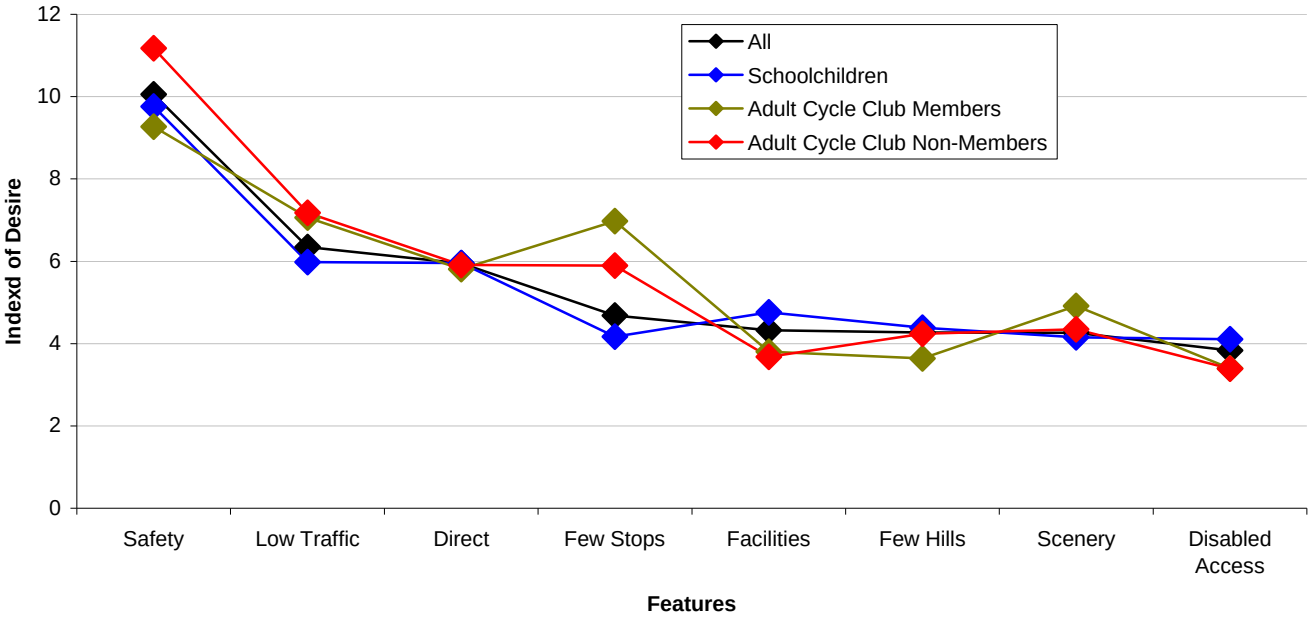


Fig. 11: Cycle Route Priorities by Cycle Club Membership



As previously mentioned, there are some marked differences of opinion between certain groups as to what a good cycle route should have. There does not seem to be much disagreement between frequent cyclists, infrequent cyclists and non-cyclists; there is greater disagreement between age bands and a surprising amount of disagreement based upon cycle-club membership status.

Fig. 11 shows these latter differences. Schoolchildren do not find ‘few stops’ any more important than other priorities, whereas cycle-club members value ‘few stops’ very highly. In the category of safety, cycle-club members are the group that give this option least priority (though it is still very important for them), with schoolchildren valuing it a bit more, and cycle-club non-member adults valuing it a *lot* more.

Fig. 9 shows a few trends developing with age. As people age, their concern for safety increases, and their interest in scenery increases. On the whole, pensioners don’t mind indirect routes quite as much as other age groups; whereas schoolchildren have a relative disinterest in ‘few stops’, interest is high for other groups, but decreases with age.

The most interesting thing to note here is that, across all categories, schoolchildren are the one group with the most distinctive set of priorities, and should therefore perhaps be considered separately from other cyclists.

Mostly, however, it is useful to generalise by thinking in levels of priorities. Safety is the first-level priority for all; low traffic and directness of route are always second-level priorities, and ‘few stops’ is *also* a second-level priority for everyone other than schoolchildren. The others are desirable, but none are much *more* desirable than the others when everyone’s collective preference is considered.

What would encourage schoolchildren to cycle to school?

Q11 of the questionnaire was specifically for schoolchildren, asking them what would encourage them to cycle to school. There were a total of 596 responses (some answers gave multiple responses). Some of these were irrelevant (*e.g.* some schoolchildren requested payment for cycling, others did not cycle because they *walked*, and would only cycle to school if they lived further away). However, the majority of the data permits some analysis, however the nature of the question and the nature of the responses prevents any meaningful statistical information being calculated.

By far the most popular response (82 responses) regarded cycle security, usually expressed as ‘a safe place to park a bike’ or ‘if cycles were more secure’. This should be considered in tandem with 43 requests for bike sheds or cycle parking at school (including both construction of new facilities, and the expansion and/or upgrading of existing ones). The responses made it clear that cycle parking once at school was a definite priority for schoolchildren.

Routes to school, however, *also* concern schoolchildren, albeit that worries were expressed in different ways.

- 68 schoolchildren wanted ‘more cycle lanes’
- 48 wanted ‘safer routes’
- 44 ‘less traffic’
- 41 wanted ‘less hills’
- 26 a ‘quicker and easier route’
- 9 ‘shorter routes’
- 6 ‘wider paths’

We must bear in mind that some individual schoolchildren wanted many or all of these, and so are being counted several times. Routing issues are probably about as important to schoolchildren as are parking issues. Distance aroused about 60 complaints.

Issues of a poor image of cyclists only got about 13 responses, but 36 respondents expressed the sentiment that they would cycle if more of their friends cycled in. This suggests that peer pressure is currently neither significantly encouraging *nor* discouraging cycling, but that if cycling to school increased in the future, it would begin to encourage it more and create a positive feedback loop (albeit probably a weak one), with more and more schoolchildren cycling as their friends also began to cycle.

The only other significant issue raised by Q11 was that of school uniform. When the school makes its pupils wear impractical attire (*e.g.* skirts and uncomfortable shoes), it can have a noticeable affect and more than ten pupils mentioned this as the main reason they did not cycle to school. Places to change and clothing storage facilities could be provided at such schools.

Also of interest are schoolchildren’s responses to Qs 4 and 6, which give assessments of the desirability of different forms of cycle-route provision and the facilities provided. Q5 (what stops people from cycling) is also relevant.

Is the restriction to cycling through the Medway Tunnel a barrier to cycling in Medway, and whom is it a barrier for?

The cycling restriction on Medway Tunnel was clearly something that bothered local people. Q9 asked whether people found it a 'barrier to your movement': a simple yes/no tick-box response. However, this question was perhaps the one that inspired the most emphatic responses – it was the one tick-box question that people were most likely to elaborate on in the margin (*e.g.* by underlining their tick for 'yes' multiple times, or squeezing more than five ticks in the 'yes' box area, or expressing extreme confusion and some anger as to *why* the Medway Tunnel had a cycling restriction). 'Maybes' and 'no, but it could be for other people' have been recorded as if they were a standard 'no'.

The Medway Tunnel was also a popular response to Q7 – *i.e.* which areas of the cycle network in Medway needed improvement – being mentioned by more than *fifty* respondents. This is especially significant given that only a small proportion of respondents replied to Q7 at all. Some respondents even mentioned specific journeys they could make by cycle were they able to use the Tunnel: people living in Cuxton wanting to cycle to work in Gillingham, for example, and currently unable to do so, or people wishing to visit relatives.

Having said all of this, the responses from the questionnaires (at first glance) seem a lot less emphatic. Only 49.5% (645) found it a barrier; as many as 45.6% (603) did not. However, there are a number of considerations to be accounted for.

1. Firstly, the geographical distribution of questionnaire respondents: Q1 asked for home postcode, and from this we can get a fairly accurate idea of how many people per thousand answered the questionnaire for each postcode area. On average, five people in every thousand living in Medway answered. This rose to nine per thousand for ME1 (Rochester), was almost eight per thousand for ME8 (Rainham), and was only two to two and a half people per thousand for the Hoo peninsula and everyone living on the Strood side of the river. In other words, people living in Rainham or Rochester were more than *three times* as likely to have responded to the questionnaire than people living in Strood or Hoo, and people living in these areas are most likely to find the cycling restriction in the tunnel to be a barrier[*]. Indeed, out of the people who had given ME2 or ME3 postcodes, 85 (68.6%) found it a barrier, and only 36 (29.0%) did not (a few respondents did not answer either way).

2. Secondly, we should consider the age distribution of our respondents. Most of the responses came from schoolchildren; most schoolchildren will not *need* to cross the river much, especially if they live on the South side. Only 354 schoolchildren found the Medway Tunnel to be a barrier; 498 did not. This equates to 0.7 affirmative answers (*i.e.* the Medway Tunnel *is* a barrier) for every negative (*i.e.* it is *not*). Younger adults found the Tunnel restriction to be far more of a problem, 113 to 48: 2.4 affirmatives per negative. The Medway Tunnel was the greatest barrier for the middle-aged: 163 found it a barrier compared to only 40 who did not: 4.1 affirmatives per negative (*i.e.* about 80% of middle-aged cyclists in Medway find the restriction on cycling through the Tunnel to be a barrier to their movement). For pensioners there were only 1.8 affirmatives per negative, possibly because pensioners are on average less likely to undertake long cycle

[*] *n.b.* it is entirely possible that people in Rainham or Rochester may simply be more likely to cycle than people in Strood or Hoo, and this may fairly account for *some* of the geographical skew in the questionnaire responses – but it is unlikely to fairly account for *all* of this skew.

journeys (though there were several noticeable exceptions amongst the questionnaire respondents).

These age specific results are significant when we consider that over half of Medway's populace are between the ages of 20 and 60 – *i.e.* the group that finds the Medway Tunnel restriction to be most obstructive. The apparently ambivalent 50/50 response returned by the raw data is due to the massive respondent bias towards schoolchildren, who are the only age group in Medway that is *less* likely to find the Medway tunnel a barrier than not. It is also skewed by the geographical distribution of respondents, as relatively few people from the North side of the river have filled in the questionnaire. The only valid conclusion is that the restriction to cycling through Medway Tunnel is perceived as quite a significant barrier to cycling in Medway, with certainly no more than perhaps thirty-five percent of actual or potential cyclists not considering it a barrier at all.

Note: the restriction is not just a physical barrier; it is also a psychological one. Many respondents considered the ban on cycling to be an affront to cyclists; it was felt that lifting the ban would be a significant symbolic indicator that Medway Council was committed to encouraging cycling and making Medway cyclist-friendly. Its symbolic value affected everyone, not just those wishing to cross the river.

Is there a big enough market for a mountain bike facility in Medway, and what would the demographic profile of its users be?

Q8 was a simple yes/no tick-box, asking people whether they would use an off road mountain bike facility. The raw results come out strongly in favour, with 816 (61.7%) saying ‘yes’ and 451 (34.1%) saying ‘no’. The results are different from the Medway Tunnel question results, though, in several important respects.

There were few people who answered an emphatic ‘yes’, but many who answered an emphatic ‘no’. Whereas with the Medway Tunnel question, ‘no’ seemed to be the option taken by many of the indifferent, and people would generally only elaborate on a tick for a ‘yes’, the reverse seemed to be the case with the mountain bike question. People hostile to the idea could be *very* hostile, expressing the opinion that it was a much more pressing concern to fund the general cycle network. If a ‘maybe’ option had been provided, the results could have been very different.

The demographic skew of the respondents also skews the response towards ‘yes’ (the Medway Tunnel question skewed it towards ‘no’). 620 schoolchildren said they would use it, compared to 245 who said they would not (2.5 affirmative answers to every negative answer). Younger adults (non-schoolchildren below the age of 40) replied with 95 saying ‘yes’ and 67 saying ‘no’, 1.4 affirmatives per negative. The middle-aged (40 to 60) gave 0.8 affirmatives per negative, and the over-sixties gave 0.4 affirmatives per negative. Given the massive over-representation of schoolchildren in the sample, it is reasonable to speculate that a realistic cross-section of Medway’s cyclists would have returned more of a 50/50 result.

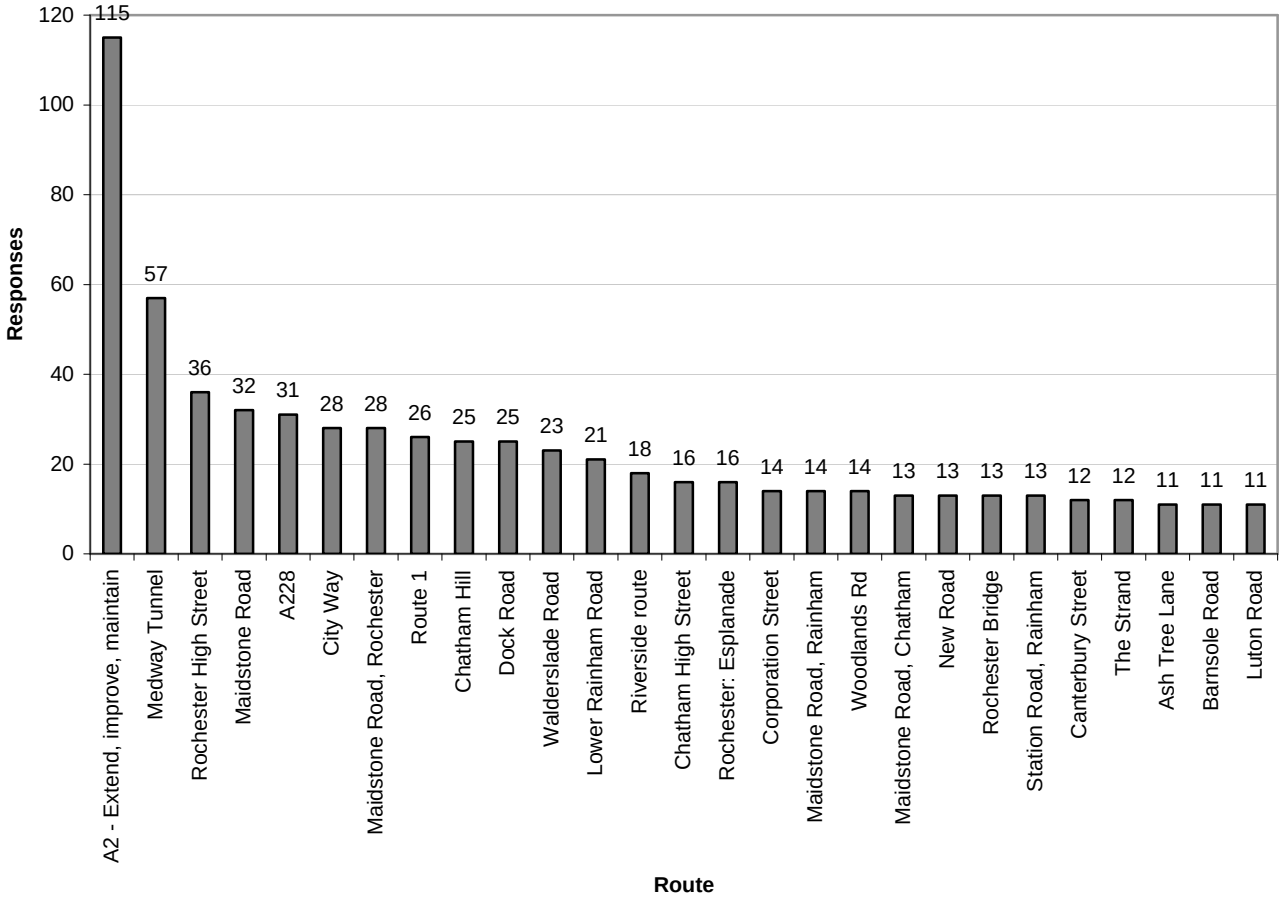
There are also, potentially, issues with understanding what (exactly) an off-road mountain bike facility *is*. 13 of the 46 over-sixties who filled in the questionnaire said that they would use the facility; it is somewhat doubtful as to how accurately this could be extrapolated across Medway, as this result implies that roughly 30% of Medway’s pensioners are not only capable of using and enjoying an off-road mountain bike facility, but also actively *want* to. This *may* indeed be the case, but it seems much more likely that the cycling questionnaire has only been picked up by those pensioners who are able to cycle regularly, or that there is a general misunderstanding as to what off-road mountain biking entails.

Even so, these problems are relatively minor when we consider the overwhelmingly positive response. Even if less than half of the people who *said* they would use the facility actually *would*, there would still be a considerable market for it.

Which portions of the cycle network in Medway need improving?

Q7 was an open-ended question, asking respondents to list particular roads, routes or areas where they felt cycle routes needed improvement. Responses ranged from the general (*e.g.* everywhere) to the very specific (*e.g.* specific tasks such as clearing glass, cutting down weeds or filling potholes on particular roads). There were, however, a few strongly recurrent themes that emerged from the data set (see Fig. 12 below).

Fig. 12: Cycle Route Section Improvements suggested by more than 10 Respondents



The A2 was a major concern for many people, but so was the Medway Tunnel – the latter being perhaps the more important of the two, because many people only voiced concern over specific, short lengths of the A2, and the fact that the Medway Tunnel caused such a major response in comparison is certainly significant. After that, main concerns are generally related to expected major routes through Medway.

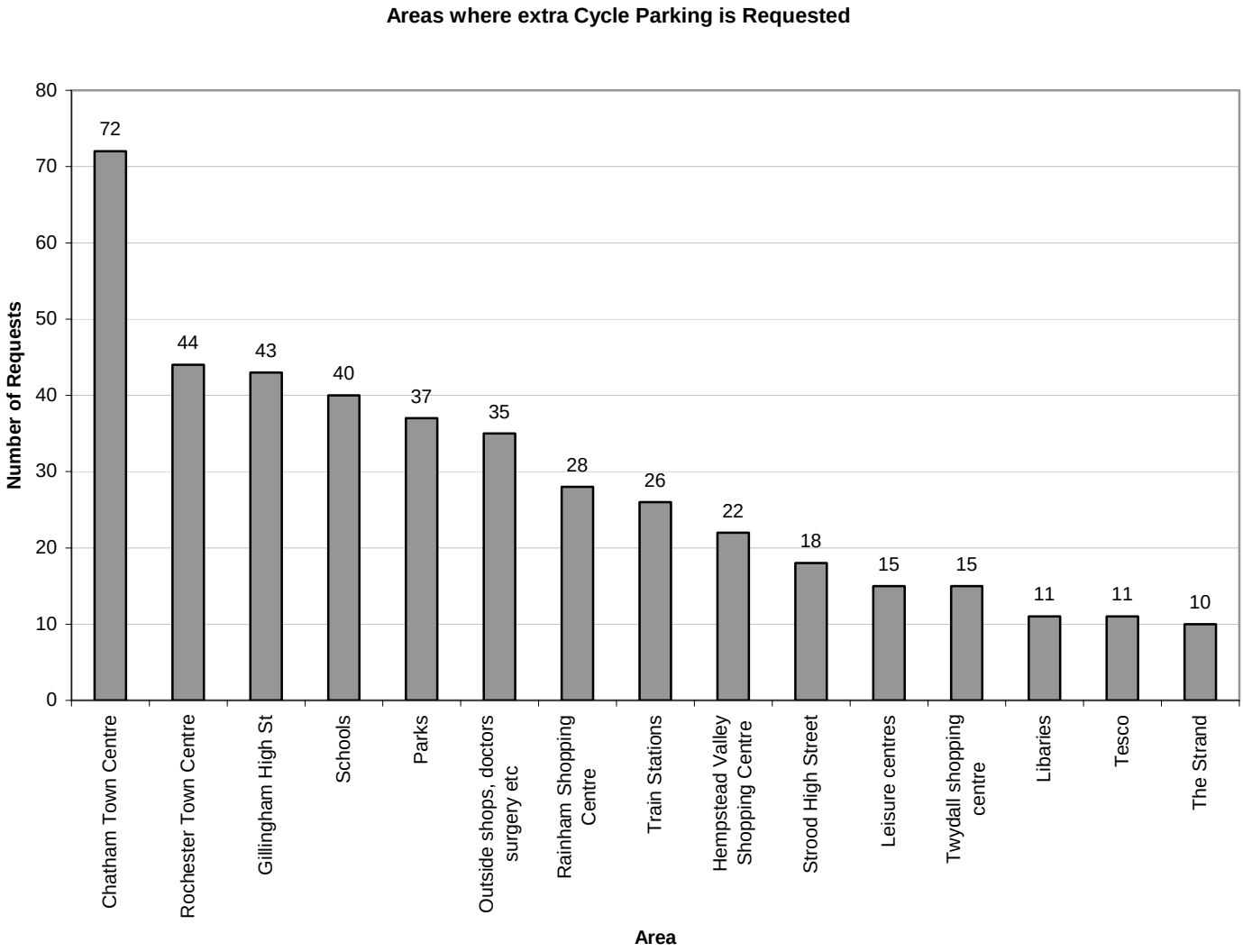
Due to the highly varied nature of the responses (and the fact that respondents could write in any number of responses they wished), numerical analysis is not necessarily as meaningful as it would be for the other questions. General impressions, though, highlight a desire for unbroken cycle routes connecting the main shopping centres of each of the Medway towns, with the A2 as the main spine of this route.

People also used this question to voice general concerns about:

- The fragmented nature of the network (more than 10 responses)
- Sweeping cycle lanes clear of glass or litter (about 10)
- Signing (about 5)
- More cycling provision in country lanes or rural areas
- Concerns about cycle lane width
- Concerns about curbs and speed bumps

Where must Cycle Parking be improved?

Q10 was an open question asking people to list those areas where they felt that cycle parking should be improved (either in quantity or quality). A wide range of locations were mentioned in varying degrees of generality – sometimes people listed a specific aspect of a specific cycle park, such as the lighting; sometimes they mentioned a particular road; other times they just gave a town name or gave a general description of a whole class of facilities (*e.g.* shops, leisure centres).



As can be seen, by far the most common response was that cycle parking needs to be improved in Chatham Town Centre (the Pentagon was given particular mention). None of the other responses stood out quite so much, but town-centre parking preferences were (in decreasing order of importance) Rochester, Gillingham, Rainham and Strood. This data should, however, be considered in the light of the uneven geographical distribution of the questionnaire respondents and the bias towards those living in Rochester and Rainham and away from Chatham, Gillingham and, in particular, Strood.