

## Road Safety Web Publication No. 17

# Cycling, Safety and Sharing the Road: Qualitative Research with Cyclists and Other Road Users

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## EXECUTIVE SUMMARY

This report presents findings from qualitative research carried out with cyclists and other road-users in June 2009 by Simon Christmas Ltd, the Transport Research Laboratory (TRL) and SHM, as part of the wider research programme, Road User Safety and Cycling, being led by TRL on behalf of the Department for Transport.

This phase of work has been largely ‘descriptive’, aiming to provide a map of the diversity of safety-relevant motivations, attitudes, perceptions and behaviour among cyclists and other road users (ORUs).

Cycling sits at the intersection of a number of policy priorities – from road safety to health promotion and carbon reduction. We hope that the findings in this report will prove useful to a range of audiences; but our focus throughout the design, delivery and reporting of the research has been on issues of **road safety**. All of the distinctions we make, being based on qualitative work, would benefit from quantitative validation and scaling.

Key findings, by section of the report, are as follows.

### Reasons for cycling ([Section 2](#))

Cycling is not a single homogeneous activity, but a number of different activities that have in common the use of a two-wheeled unpowered vehicle.

Understanding people’s motivations to cycle is important for road safety because risk may be interpreted, experienced and managed in qualitatively different ways, depending on what one perceives oneself as doing and why one is doing it.

Six types of motivation for cycling were identified:

- To get from A to B.
- To get exercise.
- Performance aspects of cycling.
- Experiential aspects of cycling.
- To get away from stress/routine.
- Social aspects of cycling.

The types of motivation do not correspond to types of cyclist: any given cyclist may have more than one reason to cycle, or different reasons for different types of cycling.

Many of the barriers to cycling are the negative side of motivations, such as:

- inconvenience;
- the perceived effort involved;
- negative aspects of being out in the open;
- commitment; and
- personal security

However, the most important barriers to road cycling are related to ORUs:

- the behaviour of ORUs; and
- the volume and speed of traffic.

Significantly, from a road safety perspective, there was a strong tendency for cyclists to conceptualise serious accidents as collisions between a cyclist and another vehicle. The risk of being killed or seriously injured in a single cycle accident was not front of mind for many of our participants.

### **Ways of cycling (Section 3)**

The narrow width of cyclists creates choices about positioning which most ORUs do not have; compared with motorcyclists, cyclists also face limitations regarding speed and acceleration.

Four basic approaches for using these choices/limitations in response to the stress created by the behaviour of ORUs and traffic were identified:

- Avoidance – avoid traffic completely.
- Guardedness – keep out of the way.
- Assertion – stay in control of the situation.
- Opportunism – make the most of the bike.

The choice of approach partly reflects different levels of confidence, but also appears to be influenced by motivations for cycling – meaning that a single cyclist may opt for different approaches at different times.

A strong gender effect is also hypothesised.

## Young cyclists ([Section 4](#))

Children, unlike most adult cyclists, have never driven any kind of motorised vehicle. They therefore lack an understanding of the perspective and needs of the ORUs with whom they share the road.

The question of whether to cycle on the pavement or road looms large for many young cyclists – and their parents.

Some young male cyclists show familiar patterns of aggression, risk-taking and susceptibility to peer pressure. However, although the behaviour of these boys and young men creates a clear problem for cycling safety, to address the problem purely from the perspective of cycling safety would at best be to miss an opportunity.

To the extent that BMXing valorises risk-taking and can involve dangerous modifications to bicycles, it is problematic from a road-safety perspective. On the other hand, to the extent that it encourages skill and provides a potential outlet for young male risk-taking, it has some potentially positive aspects.

Parents are providing informal ‘training’ for their children. There may be opportunities here – in line, for instance, with the guidance now being provided to parents giving children supervised practice at driving.

## Types of cyclist ([Section 5](#))

A segmentation of cyclists for road safety purposes is likely to involve some or all of the following variables:

- Age.
- Gender.
- Reasons to cycle (motivation).
- Cycling patterns (when, where, impact of barriers on cycling).
- Cycling approaches used.

A provisional segmentation, based on qualitative evidence, is offered. The classic distinction between ‘leisure’ and ‘utility’ cyclists masks important diversity within the utility segment.



## Sharing the road ([Section 6](#))

Six ways were identified in which road users account for things going wrong in interactions between bicycles and ORUs:

- Acts of aggression.
- Failures of attitude.
- Failures of competence/understanding.
- Failures of expectation.
- Pressure from ORUs.
- Other situational factors.

The most common problem behaviours – not looking and failing to signal – were open to multiple interpretations. For instance, not looking could be understood as an example of any but the first of the above types of problem.

Look-but-failed-to-see (LBFTS) did not seem to feature as an explanatory concept in the workshop. However, the correct interpretation of this finding is not clear:

- people may be insufficiently aware of the limitations of their own perceptual systems;
- LBFTS claims may be driven by the need to justify behaviour after making an error; and
- the finding may be an artefact of the research process.

There are higher levels of empathy for car drivers across all groups of road users than there are for minority road users – such as cyclists, heavy goods vehicle (HGV) drivers, or bus drivers. This reflects patterns of experience: most people can empathise with car drivers because they drive a car themselves.

Probably as a result, no stereotype of car drivers in general exists (although stereotypes of types of car driver do). By contrast, a stereotype of cyclists in general does appear to exist among ORUs. This stereotype is characterised by:

- serious failures of attitude, including a generalised disregard for the law and a more specific lack of concern for the needs of other drivers; and
- serious failures of competence and knowledge of the rules of the road.

This stereotype of cyclists is also linked to the fact that cyclists do not need to undertake training, are unlicensed and uninsured, and do not pay road taxes (at least not by virtue of the fact that they cycle).

There is evidence of a deeper failure in the culture of road sharing on English roads, which may have important implications for different road-users' interpretations of, and responses to, each other's behaviour and, hence, for road safety:

- Whatever the law may say on the matter, the norms of road sharing, on roads with lane widths and speeds designed around cars, mean that cyclists are treated as anomalies.
- There is a lack of consensus, even among cyclists, about whether and how cycling should be accommodated on the roads.
- Some ORUs question whether cyclists belong on the roads at all.

## Road sharing and infrastructure ([Section 7](#))

Infrastructure has a role to play in improving the culture of road sharing. The scale of what can be done in practice is constrained; and any serious attempt to change the culture of road sharing would require a range of coordinated interventions, such as marketing, education, legislation and enforcement. However, infrastructure can play a part alongside these other interventions.

At the very least, infrastructure should be avoided that creates **more** confusion about whether, and where, bicycles should be.

From the perspective of ORUs, the principle benefit of cycling lanes is that they get cyclists out of their way. When cycle lanes are provided, then there is an expectation that cyclists should not be on the road.

There is concern among some ORUs about cycle facilities which make life harder for ORUs, for example by 'taking away' some of their space, or allowing cyclists already passed to get back in front again.

From the cyclist's perspective, inadequate cycle facilities can diminish the legitimacy of bicycles on the road even further without actually providing a viable alternative.

Cycling facilities can also make the road-sharing problem worse if they create additional confusion about where cyclists and drivers are meant to go. The key issues are:

- infrastructure that is too complex and needs to be decoded by the user;
- a failure to communicate to people how to use innovative infrastructure; and
- a lack of consistency from one place to the next.

Cyclists themselves have differing and potentially conflicting needs from infrastructure:

- cyclists opting for ‘Assertion’ want infrastructure that helps to establish their right to be on the road and that clarifies how the road is to be shared; and
- cyclists opting for ‘Avoidance’ want infrastructure that gives them more opportunities to avoid traffic.

## Safety gear ([Section 8](#))

A number of key themes in participants’ reasons for and against wearing a cycle helmet were identified:

- Feeling safer with a helmet on, especially in traffic and/or when cycling faster.
- Looking the part – or looking a prat.
- The inconvenience of carrying the helmet round.
- Something for children – children may wear it when they are younger because they are told to, but they later grow out of it; parents may wear it to set a good example.

Many doubts were expressed about whether helmets really provide much protection – especially in the sorts of high-speed or with-traffic situations that were prompting their use. Promoting helmet use would be difficult, given the lack of a strong sense of safety benefits even among those already wearing cycle helmets. Opportunities may exist to:

- encourage inconsistent wearers to extend existing habits into new settings; and
- tackling the image of the helmet as something for children only.

There was widespread agreement that cyclists should do more to make themselves visible on the road – though this may not be reflected in actual behaviour.

There is evidence of a particular problem about lights and visibility around young men – although the social unacceptability of cycling without lights may be concealing a more widespread problem.

High-visibility clothing was seen as important by many cyclists, though very few actually wore it. Promoting better visibility would be easier than promoting helmets. Moreover, it could be incorporated into a wider programme to promote better road sharing, since making yourself visible was widely conceived, by cyclists and ORUs, as something that cyclists can do **for** ORUs.

# 1 INTRODUCTION

This report presents findings from qualitative research carried out with cyclists and other road users (ORUs) in June 2009 by Simon Christmas Ltd, the Transport Research Laboratory (TRL) and SHM, as part of the wider research programme, Road User Safety and Cycling, being led by TRL on behalf of the Department for Transport.

A key finding from an initial literature review was that relatively little work has been done on cyclists' motivations and perspectives, or those of ORUs regarding cyclists. This research was designed to **start** to fill that gap.

As such, this report is largely 'descriptive', aiming to provide a map of the diversity of safety-relevant motivations, attitudes, perceptions and behaviour among cyclists and ORUs. We have focused on being as comprehensive as possible, at the risk of giving equal weight to points which may be considered of different levels of importance. All of the distinctions we make, being based on qualitative work, would benefit from quantitative validation and scaling.

Cycling sits at the intersection of a number of policy priorities – from road safety to health promotion and carbon reduction. We hope that the findings in this report will prove useful to a range of audiences; but our focus throughout the design, delivery and reporting of the research has been on issues of **road safety**. For instance, our review of reasons to ride was undertaken because people's motivations for an activity can qualitatively effect how they interpret, experience and manage risk in that activity (see [Section 2](#)).

## 1.1 Fieldwork

### 1.1.1 *Cyclist groups*

Each of eight groups of cyclists took part in two two-hour workshops, in which participants were engaged in a series of exercises to explore their views on the positives and negatives of cycling; their accounts of stress and risk on the road; their views on potential problems in interactions between cyclists and ORUs; and their use of safety gear.

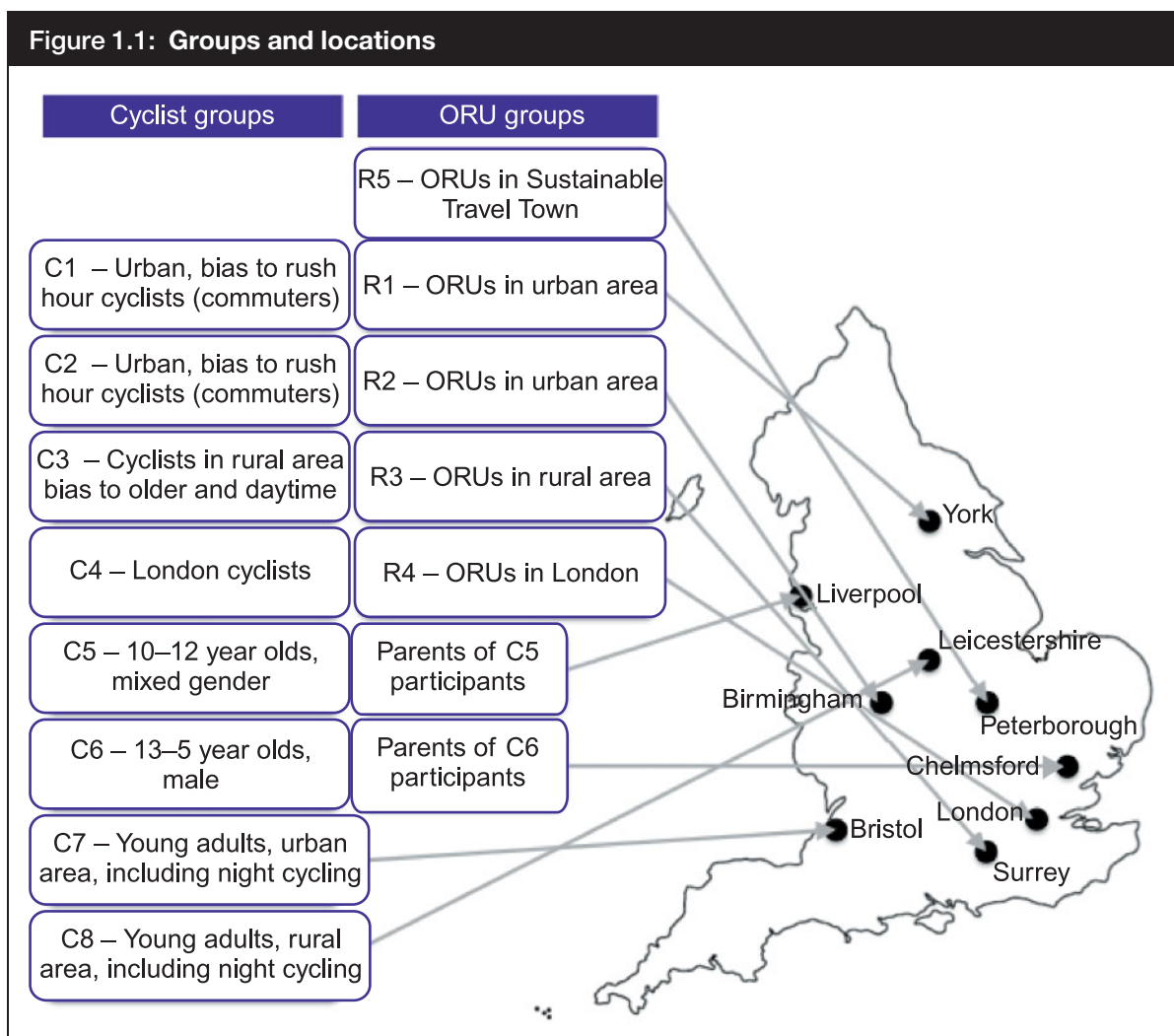
The cyclist groups were recruited to different specifications to reflect the diversity of cyclists. For instance, some groups focused on commuters, others on leisure cyclists; some were in urban locations, others in more rural locations (see Figure 1.1). Two groups of children were included: a mixed gender group aged 10–12 and a boys only group aged 13–15. Two groups of young people aged 18–25, some of whom were not yet driving, were also recruited. The selection and profiling of all groups

was guided by prior analysis of killed and seriously injured (KSI) statistics to identify groups currently at most risk. The total sample of cyclists was 62, of which:

- 35 were male and 27 were female; and
- 16 were aged 10–15, 18 were aged 16–29, 19 were aged 30–49, and 9 were aged 50 and over.

### 1.1.2 Parent groups

Two of the cyclist groups were with children, and in each case four of the parents attended a single two-hour workshop to discuss their perceptions of cycling safety and the approaches they used to influence their children’s cycling, using exercises parallel to those in the workshops attended by their children. The total number of parents engaged was eight, of which six were female and two were male.



### 1.1.3 *Other road-user groups*

Five groups of ORUs also took part in single two-hour workshops, in which they were engaged in parallel exercises to explore their views on potential problems in interactions between cyclists and ORUs. Four of these five workshops were carried out in the same locations as the cyclist groups to allow local comparison (see Figure 1.1).

Each ORU workshop was recruited to include a diversity of different road users in the local area. Everyone was minimally a car driver, but groups also included drivers of taxis, vans, heavy goods vehicles (HGVs), coaches and, in one instance, a fire engine driver. A few motorcyclists were also included. ORU participants were generally non-cyclists or, in a few cases, very infrequent cyclists.

The decision **not** to recruit groups focused on a particular type of road user (e.g. HGV drivers) at this stage was based on a desire to explore the shared perception of cyclists across different types of road user. We were also keen to maintain a focus on issues of **attitude and value**, rather than, say, the (well-documented) problems created by vehicle characteristics (such as the blindspots on HGVs). This is not to deny the potential value of work with these specific groups of ORUs in the future, building on the findings in this report.

The total sample of ORUs was 41, of which 21 were men and 20 were women.

## 2 REASONS FOR CYCLING

Understanding people's motivations to cycle is important for road safety. Risk-management behaviour is not a direct response to the actual risks involved in an activity, but a response mediated by the individual's understanding of the risks involved. This is obviously and uncontroversially the case, for instance, when an individual underestimates or overestimates the scale of risk involved: they base their decisions on what they **think** the risk is. The issue here is not just a quantitative one, however. Risk can be interpreted, experienced and managed in **qualitatively** different ways, depending on what one perceives oneself as doing and why one is doing it.

In a recent study of motorcyclists for the Department for Transport (Christmas *et al.*, 2009), for instance, different motivations for riding were linked to different understandings of the risks inherent in riding – from those that treated risk as something to be avoided, or at least minimised, to those that saw it as an inescapable fact, or even something to be embraced.

Cycling, like motorcycling, is not a single, homogeneous activity. It is a number of different activities that have in common the use of a two-wheeled unpowered vehicle. These activities are defined by different patterns of motivation – and may also involve different ways of understanding and responding to risks.

A review of existing literature revealed a recognition that people cycle for different reasons, but a lack of systematic attempts to delineate these reasons. One strand of our analysis has therefore focused on developing a more sophisticated 'catalogue' of reasons why people cycle.

In presenting this 'catalogue', it is important to remember that types of motivation may not correspond directly to types of cyclist or specific attitudes to risk. Any given cyclist may have more than one reason to cycle; they may have different reasons for different types of cycling, and the types of cycling they do may change over time. The following quotation (which will be discussed further in the sections that follow) is a good example of the way different reasons to cycle intersect and interact in a real person's cycling career:

*I generally cycle most days to work, so that's my main cycling, but I do do it for leisure as well on a weekend, if it's a nice day, then we might go for a bike ride together [. . .] I always used to drive to work, but last June I did a charity cycle ride to Amsterdam from York [. . .] and back again with 60 women or so, for cancer, so that got me into it. Did the training for that, then did it, and then after I thought: 'I've gone to Amsterdam and back, I can, why don't you cycle to work?' Because, you know, it costs less, and I really enjoy the exercise as well, so that's what got me into it really [. . .]*



*I will do it in the winter if it's not too bad. I would wake up in the morning and because I've got the option of car parking at work, if it was really chucking it down, I would probably think: 'Yeah, go in the car.' (F, 33, Cyclist, York)*

We return to the links between motivations, cyclist types and behaviour in [Sections 3 to 5](#). In this section, we review a range of reasons to cycle (plus some reasons not to cycle) in a simple 'catalogue' form.

## 2.1 Reason 1: To get from A to B

The obvious reason why people cycle is in order to get from one place to another. The most common example of this is commuting, getting to and from work. But participants also talked about cycling as a way of going to the shops, visiting family or friends, or attending leisure or social events. As a special case, some people also use their bike to get from A to B as part of their job – most obviously in the case of couriers.

### 2.1.1 Mode choice and habit

Cycling to get from A to B is an example of what we might call an instrumental motivation for cycling, i.e. cycling is just one possible means to a desired end. For instance, a given individual may have the options of cycling, walking, driving or using public transport for a particular journey.

In reality, the selection of transport mode for a regular journey (such as the commute to work) is likely to be a matter of habit rather than conscious choice. Individual instances of habitual behaviour are, arguably, performed for **no reason at all**. The correct answer to the question 'Why did you cycle today?' is 'Because that's how I generally get to work'. This can be contrasted to occasions of conscious habit-breaking – as when, in the example quoted at the beginning of this section, bad weather prompts the participant to drive instead.

However, as the quotation also illustrates, people can often provide credible explanations of their habits as a whole by comparing them to the alternative habits available. This participant, for instance, cites the fact that cycling is cheaper than driving, and provides a benefit (exercise) which driving does not. That probably does not mean that each time she cycles to work, she is directly motivated by a desire to save money and get exercise, but it may mean that these factors are motivating her retention and maintenance of the habit of cycling to work.

It is worth noting in passing that the reasons why a person retains a habit may not be the reasons why they originally acquired the habit. The quotation also illustrates this point: this woman (whose partner had been cycling to work for some years) was almost certainly aware of cost and exercise benefits, but it took a charity cycle ride



to actually start her cycling. This serves as a reminder that, even when we have found the real reasons why people cycle, promoting cycling and sustaining cycling are not the same thing.

### 2.1.2 *Cycling versus driving*

For many of our adult participants, the main alternative to cycling as a way of getting from A to B was driving. A number of ways in which cycling can be a more convenient way of getting you from A to B were cited:

- faster (in congestion);
- cheaper; and
- removes the hassles of parking at the other end.

It is worth noting that someone who chooses cycling because it is faster will, by definition, want to find ways to speed up their journey. In congestion, this might include risky choices, from filtering past traffic to jumping red lights. The pressure for such choices may be particularly acute for those who cycle for work, for whom ‘time is money’.

Against public transport, cycling was also described as more flexible (given that it is not tied to routes and timetables). One of the advantages of a bicycle is that you can just hop on and go:

*Where I work, the buses are quite rigid in their time-scales, and it means that if, if I do, because I don't drive at all, I don't have a licence or anything, if I do get to work by bus, I have to kind of schedule my work day around when I can and can't leave the campus. Because that's the only other way of getting home. (F, 24, Cyclist, Bristol)*

Cycling may also be preferred because of the benefits it provides which driving does not. Since these can also be reasons to cycle in their own right (independently of getting from A to B), they are discussed in the sections that follow. The key reasons of this kind offered for preferring cycling as a mode of transport were:

- exercise;
- the experience of cycling, for example being out in the air and sun; and
- an escape from stress and the day's routine.

As well as benefits, of course, participants also talked about the drawbacks to cycling as a mode of transport. These are discussed later (see [Section 2.7](#)).

### 2.1.3 *An environmental choice?*

As well as the factors above, a number of participants mentioned the fact that cycling is more environmentally friendly than driving. This particular example, however, draws attention to a basic methodological challenge.

When people explain a habit, they may mix the real reasons why they maintain that habit with reasons to **feel good about it**. Telling these apart is a matter of interpretation, and open to discussion. In the case of the participant quoted at the beginning of Section 2, for instance, the researcher's judgement (drawing on evidence from across two workshops) was that exercise was the main motivation for her cycling to work, with reduced cost a nice-to-have ancillary benefit.

The research team's judgement was that, with one exception, all the participants in our workshops who mentioned the environment were giving a reason to feel good about cycling, and not a real reason why they cycled.

### 2.1.4 *Cycling to the pub*

One further reason was given for preferring a bicycle to the car which is worthy of note. A number of participants stated that they were more prepared to cycle than drive after drinking, and that they therefore used their bicycles to get to the pub.

*I use it at weekends quite a bit, as I've already said, cycle to the pub; you can have three pints, get home and not lose your licence, and you can't in a car obviously. (M, 41, Cyclist, Surrey)*

Many (though not all) of these participants went on to state that this did not mean they got **very** drunk before cycling, just that they would allow themselves one or two more drinks than if they were driving. A few participants admitted to having cycled when very drunk.

This is an interesting finding, given that 'impaired by alcohol' is identified as a contributory factor by the police in 15% of fatal non-collision cycle accidents, 9% of serious non-collision cycle accidents, and 13% of slight non-collision cycle accidents (Knowles *et al.*, 2009)

### 2.1.5 *Children*

Driving was, of course, not an option for the children in our workshops. Obviously walking and (where available) public transport remain possibilities, and, in some cases, the real choice may be between cycling and not going at all.

In practice, young people who want to get from A to B often face a choice between cycling and **being driven**. This choice, which is much less common for adults, introduces another element into the preference for cycling: independence.

Young people's cycling is discussed in detail in [Section 4](#).

## 2.2 Reason 2: To get some exercise

Like getting from A to B, getting exercise is an instrumental reason for cycling. Alternative means to the same end are available – such as going to a gym or getting involved in sporting activities.

Participants cited a number of reasons for preferring cycling as a mode of exercise:

- more easily integrated into a busy life because it also gets one from A to B;
- cheaper than a gym membership; and
- less wear-and-tear on joints, for example for someone who has injured themselves in another sport.

For one participant with Parkinson's disease, the gentle exercise cycling allowed served a specific therapeutic purpose.

Exercise was clearly a core motivation for cycling for a number of participants. It is, of course, not possible to establish population trends from a qualitative sample, but on the basis of the participants in our workshops we would hypothesise that this motivation is more common in men than in women. However, this hypothesis is also based on the judgement that many of those who mentioned exercise were describing a reason to feel good about cycling, rather than a real reason for cycling.

## 2.3 Reason 3: Performance aspects of cycling

Unlike getting from A to B and getting some exercise, the performance aspects of cycling provide intrinsic rather than instrumental reasons to cycle.

They relate to those aspects of cycling at which one can get better – and an interest in these aspects of cycling typically involves an element of competition (either with oneself or with others). Cycling, that is, becomes a sport – rather than a mere form of exercise.

Two very different types of performance were identified by participants in our workshops as reasons to cycle – in both cases exclusively by males, and by a relatively small number of participants:

- Speed and distance – this was a motivation for a very small number of committed male cyclists of all ages, and was linked to a clear social identity. It is

worth noting that the issue here is not just a matter of speed: part of the satisfaction is that one is powering this speed oneself.

- Tricks and daring – this was a defining motivation for the young male BMXers (up to early twenties), and was again linked to a clear (though very different) social identity.

## 2.4 Reason 4: Experiential aspects of cycling

Like the performance aspects of cycling, the experiential aspects of cycling provide intrinsic reasons to cycle. Unlike performance aspects, there is no sense in which one can get ‘better’ at them. They were cited as reasons for cycling by a far greater number of participants, and by women as much as men.

Two broad themes were identified in participants’ descriptions of pleasant experiences of cycling:

- The first was about being out in the open, enjoying the fresh air, scenery and sunshine, surrounded by nature. These elements of the cycling experience are clearly dependent on the location and the weather, and so may not be available on some cycle rides (e.g. commuting to work on a wet day).
- The second focused on the dynamic aspects of cycling, such as the wind in your face or the rush of going fast – especially when freewheeling downhill. These dynamic elements of the cycling experience are more readily accessible independently of location and weather.

## 2.5 Reason 5: To get away from stress/routine

A number of participants, especially those who worked in offices or who spent a lot of time behind the wheel of a car, described cycling as a way of getting away from things – either a way of de-stressing or a change from the daily routine:

*If I’m a bit stressed and I go out for a bike ride, I do usually come back quite a calmer person. (F, 57, Cyclist, Surrey)*

This instrumental motivation, described by some participants as a desire for ‘me time’, was closely linked to the positive experiential aspects of cycling described above. However, at least one participant described enhancing this experience – by listening to music on an iPod.

Cycling can play an escape role alongside other functions, for example some participants talked about their commute home giving them time to wind down:

*I find cycling quite a good de-stressor, you know, I find it, you know, at the end of the day, go home, you know, you get your head down and it's quite nice really. (M, 47, Cyclist, London)*

Alternatively, escape can be a primary motivation, for example when people go out for a bike ride at the weekend or on a cycling holiday.

## **2.6 Reason 6: Social aspects of cycling**

All of the reasons for cycling discussed so far relate to the individual cyclist. But cycling clearly does not need to be a solitary activity, and a number of participants talked about different ways in which their cycling involved other people.

### **2.6.1 Something to do with family or friends**

At the most simple level, cycling can provide a pleasant shared activity – another example of an instrumental motivation, where cycling is providing one means to a given end:

*My daughter comes, me and my partner do it. So, we do it really as something we can all do together. (F, 37, Cyclist, Birmingham)*

*Like, a group of us, we would decide that we were going for a cycle so we'd go along the canal, we'd stop off at a pub, have some lunch and then cycle back again along the canal. (F, 40, Cyclist, Surrey)*

Cycling of this kind is often linked to escape and experience (Reasons 4 and 5), as in the quotation at the beginning of Section 2, in which going on a bike ride together is linked to a weekend and nice weather. The ultimate expression of this triad of motivations is the cycling holiday.

### **2.6.2 Parents**

Being a parent is not as such a reason to cycle. What cycling with children does appear to do is overlay any other reasons for cycling with a single-minded focus on the children's safety. For this reason, it is wisest to treat adults cycling as parents as a separate class of cyclist. They are discussed in [Section 4.5](#).

### **2.6.3 Social identity**

As noted above, the performance aspects of cycling are linked to clear social identities, complete with uniforms, values and social groups.

In such cases, the desire for membership of the group can be a powerful motivation alongside the performance itself. This certainly seemed to be the case with the

BMXers – not surprisingly, given their age. For instance, it was apparent that some of the boys were ‘wannabe’ BMXers: they lacked the nerve to do many of the tricks, but still wanted to be part of the group. BMXers are discussed further in [Section 4.4](#).

For the few ‘speed and distance’ riders we had in our workshops, performance seemed to be far more central, with the social element of the activity a by-product of shared interest rather than a strong motivation. One participant, explaining to the rest of the group why such cyclists travel in large groups, described this very much in terms of the performance of the group as a team (in contrast to the group riding described by others, which was very much about socialising and chatting). Interestingly, this emphasis on performance was part of his defence of riding two or more abreast – in the face of considerable opposition from the rest of the group.

## 2.7 Reasons not to cycle

As well as identifying reasons for cycling, participants in our workshops told us about some of the reasons why they might choose **not** to cycle on a specific occasion, on certain routes, at certain times of day, or in general.

This section summarises the key themes that were identified in these discussions. Some of them represent the negative side of the reasons to cycle identified above.

### 2.7.1 *Inconvenience of cycling*

Cycling may be preferred to driving as a mode of transport because it is more convenient. When it is less convenient, however, it will be rejected. The key issues mentioned here by our participants were the lack of places to park bicycles and the consequent risk of getting one’s bike stolen. Other reasons might be that one does not want to mess up one’s clothes/hair (this was felt by parents to be a reason why cycling is not popular with girls) or that one has too much to carry. Journey length was also clearly a factor.

### 2.7.2 *Effort involved*

For those seeking a form of exercise, the fact that cycling involves effort is a positive. For others, it is a clear negative. Participants talked about getting sweaty, tired and having achy muscles the next day.

### 2.7.3 *Negative aspects of being out in the open*

Some of the positive aspects of being out in the open on a bicycle were discussed above. Unsurprisingly, the experiential aspects of cycling can also be a barrier, rather than a motivator, when being out in the open becomes unpleasant – in particular, as a result of bad weather or fumes and pollution.

#### 2.7.4 Commitment

Cycling involves committing oneself to future behaviour, for instance if you cycle to work, you will have to cycle home again, even if the weather changes or you feel tired; or if you get a puncture half way through a journey, you still have to get to your destination somehow. Some participants talked about the ways in which this might make them think twice about cycling sometimes – though for our (cycling) participants, this seemed to be an acceptable negative rather than an actual barrier.

#### 2.7.5 Personal security

A few participants talked about concerns about personal security when cycling in deserted areas, especially at night. This was felt to be more of an issue for the female members of the group:

*At night time – I know it sounds silly, but I tend to dress like a man. I put my big jacket on and my glasses and my cycling helmet and I tie my hair back, because I think I'm less likely to get assaulted, if I looked more like a man than a girl. (F, 37, Cyclist, Birmingham)*

This might be seen as a special case of a more general barrier, which dominated the discussion of barriers: the behaviour of other road users (ORUs).

#### 2.7.6 Other road users

While all of the barriers above were discussed, conversation in the cycling groups was largely focused on this one topic.

Participants felt that, as cyclists, they were highly exposed to a range of dangerous behaviours, from ORUs not noticing them, through ignorance and incompetence, to outright aggression. Although focused on other vehicles, this conversation also touched on the behaviour of pedestrians.

Over and above any specific bad behaviours, it was clear that most, if not all, participants experience increased levels of stress when the volume and speed of traffic increased. Previous research has shown this pattern more widely, for instance Vandebona and Kiyota (2001) reviewed the literature and concluded that the speed of traffic and separation distance between traffic and cyclists are the two main determinants of cyclists' perception of risk and danger, while Stone and Gosling (2008) showed that cyclists' feelings of safety go down as roads become busier. It is worth noting that the source of stress here is not the behaviour of individual road users, but the collective properties of traffic.

Stress levels may also go up when certain kinds of vehicles, such as HGVs or buses, are around, for instance one participant was keen to warn the rest of the group to be



especially vigilant around skip lorries. In this case, the themes of heavy traffic and the behaviour of individual road users clearly intersect. However, it will be helpful to keep this distinction in mind in later sections.

These topics, along with the behavioural strategies used by cyclists to deal with these sources of stress, are a major theme in this report and are discussed at length in later sections. (see in particular [Sections 3 and 6](#)).

### 2.7.7 *The risk of accidents*

Not surprisingly, people talked about the risk of accidents as a negative aspect of cycling. For many people, this was based on having seen or experienced near misses or accidents.

What was striking was that participants tended to conceptualise serious accidents as collisions between a cyclist and another vehicle. Anxiety about serious accidents, therefore, often reduced to anxiety about the behaviour of ORUs.

There was some discussion of the dangers of potholes in the road, and one participant in particular was concerned about these causing serious accidents, owing to an accident sustained by a friend (who had gone over his handlebars after hitting a pothole and ended up with a cracked rib and punctured lung). One of the problems with potholes, however, is precisely the fact that they force you to ride out into the road and into the path of ORUs. (One cyclist in a rural area described how poorly maintained hedges have the same effect.)

The tendency of participants to focus on the dangers posed by ORUs is noteworthy, given the finding from the review of accident statistics that 16% of KSIs and 17% of fatalities are in fact single cycle accidents (Knowles *et al.*, 2009). When prompted with this statistic, some participants were able to identify examples of accidents involving, for example, poorly maintained bikes. It was clear, however, that the possibility of being killed or seriously injured (as opposed to sustaining more minor injuries) in a single cycle accident was not front of mind for many of our participants.

One interesting exception to the above generalisation comes from BMXers, who are much more conscious of the possibility of injury while learning and doing tricks. However, these injuries are seen as an inevitable part of BMXing, and are even celebrated.

### 2.7.8 *Lack of/poor cycling facilities*

Not surprisingly, the availability and quality of cycling facilities (such as cycle lanes) was an important topic of discussion in the groups.



Although mentioned here for completeness, however, it is probably not helpful to think of the absence or poor condition of cycling facilities as a **barrier** to cycling, as this greatly oversimplifies a complex set of questions. Well-designed cycling facilities are one possible way of tackling the barriers to cycling created by ORUs, either by clarifying and controlling the behavioural interactions between cyclists and ORUs, or by providing cyclists with a refuge from fast, heavy traffic.

The topic of infrastructure is discussed further in [Section 7](#).

## 3 WAYS OF CYCLING

In the last section, we looked at cycling from a motivational perspective and reviewed different reasons to cycle. In this section, we shift to a behavioural perspective and identify some broad approaches to cycling apparent among our adult participants. Younger cyclists are discussed in [Section 4](#).

These two sections together invite the question: how do motivations correlate with behavioural approaches? This question is touched on throughout the discussion below, and discussed in more detail at its end (see [Section 3.8](#)).

### 3.1 Lanes-within-lanes

To understand the different behavioural approaches used by cyclists, it is helpful to take a step back and consider the context in which those approaches are being deployed. The easiest way to do this is to look at the contrast between bicycles and cars.

One important, if obvious, difference is that bicycles are much narrower than cars. This fact creates a lateral ‘degree of freedom’ within lanes which cars lack: a car is either in a lane or not, but a cyclist can choose where to position themselves within a (car-width) lane.

In fact, one could argue that within any given car lane there are at least three embedded (if unmarked) cycle lanes: left, middle and right (see Figure 3.1 below). This is most obvious when approaching a right turn in a single (car) lane. A car approaching such a turn does not need to cross any lanes to get into position, whereas a cyclist needs to move from the ‘left-of-lane’ position to the ‘right-of-lane’ position, signalling (as cars have to when they change lanes) before doing so. The best car-based analogy for what a cyclist has to do here would be approaching a junction with three lanes (turn left, straight ahead, and turn right) and finding yourself in the left-turn lane when you want to turn right. The kind of stress a driver experiences when they make this mistake is probably not a bad model for the stress cyclists can experience whenever they have to turn right.

From a cyclist’s perspective, then, a single lane consists of virtual ‘lanes-within-lanes’. This does not just create choices and challenges for cyclists, however, it also impacts on other road users (ORUs). Consider the following situations:

- a car following another, slow-moving car;
- a car following a slow-moving bicycle in middle-of-lane position; and
- a car following a slow-moving bicycle in left-of-lane position.

In the first situation, there is no question about what the following car will need to do if they want to overtake the slow-moving car. Since the slow-moving car occupies the full width of the lane, the following car will have to move into another lane to overtake – requiring signalling, checking for oncoming traffic, etc. In the second situation, the driver is similarly forced to treat the cyclist as if they were a slow-moving car: the cyclist has chosen to be **part of the traffic**. But in the third scenario, the situation becomes more complicated. Is the cyclist really in the same lane as the driver? The driver might now seem to have an apparent option of overtaking without really leaving their lane – or, at least, not by very much, especially if they drive close to the cyclist.

The existence of virtual lanes-within-lanes is also apparent when a bicycle encounters stationary traffic. In this case, the cyclist has three choices:

- filter on the left of the traffic – behaving as if there were a cycle lane running down the left-of-lane position;
- filter on the right of the traffic – behaving as if they were overtaking in a right-of-lane lane which only they are narrow enough to access; and
- wait – behaving as if they were part of the traffic, in the same shared middle-of-lane lane.

Even more complex versions of these choices were discussed by a few of our participants. One participant in London, for instance, discussed the decision he faced when both he and a car were waiting to turn right in the middle of a busy road. Should he go up the left-hand side or the right-hand side of the car? Some of the other participants commented that he should wait behind the car.

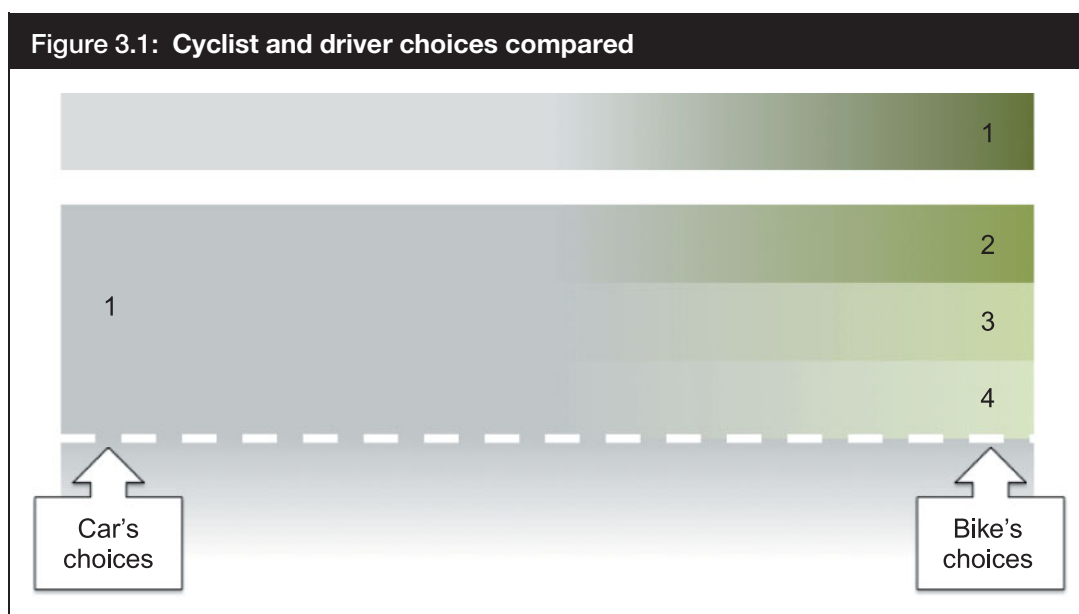
From observation, the researchers on this project identified another example of lanes-within-lanes at work. On some busy London roads, it is not uncommon to see cyclists overtaking cyclists who are already overtaking other cyclists – all within a single car-width lane. Within a single lane, a virtual cycling ‘motorway’ is briefly constructed.

Of course, bicycles share their narrow width, and some of the choices identified above (such as filtering), with motorbikes. Where bicycles clearly differ from both cars and motorbikes is in their speed profile: their top speed is much lower (though they may actually be faster in congestion), and they are much slower to accelerate. The combination of these differences in speed profile with the choices and challenges created by virtual lanes-within-lanes can go a long way to explaining the typical conflicts that arise between cyclists and ORUs.

Before looking at the approaches cyclists use to manage these choices and challenges, we should also note that cyclists have one further practical (if not legal)

option which other motorised road users lack – namely to opt out of the road altogether and cycle on the pavement. Cyclists can also choose to get off and push.

In some situations, cycle-specific infrastructure may create more choices for cyclists (see Figure 3.1). Infrastructure is discussed in [Section 7](#).



## 3.2 Cycling strategies

Participants in our workshops talked about many positive aspects of cycling, as reviewed in [Section 2](#). But they were also clear that cycling can be stressful, and the number one source of stress, as discussed, is from ORUs – either through their individual behaviour, or through the sheer volume and speed of traffic.

Different cyclists, however, react to and manage this stress in different ways. In this section, we present four broad cycling approaches identified as themes in responses from our **adult** participants. These approaches partly reflect a scale of increasing confidence in the face of the perceived and real risks posed by ORUs. However, as we shall discuss at the end of this section (see [Section 3.8](#)), they are also a function of different motivations to cycle.

Before presenting the approaches, a few caveats are in order:

- We have identified four discrete approaches, but, as is so often the case, it would be more accurate to talk about a continuum.
- Our classification is based on the analysis of qualitative workshop findings. We believe that quantitative testing might reveal further nuances within the proposed classification.

- Individual cyclists may use more than one approach. For instance, a cyclist may opt for ‘assertion’ when commuting, but ‘avoidance’ when on a cycling holiday.

The four approaches are summarised in Table 3.1 and are discussed further in the sections that follow.

<b>Name</b>	<b>Basic strategy</b>	<b>Positioning strategy</b>
Avoidance	Avoid traffic completely	Off-road wherever possible; left-of-lane on quiet roads only
Guardedness	Keep out of the way	Consistent use of left-of-lane positioning as default position; may avoid the busiest roads and most challenging junctions
Assertion	Stay in control of the situation	Consistent use of middle-of-lane position to establish position in traffic; bold and well-signalled moves between lanes-within-lanes
Opportunism	Make the most of the bike	Situational judgement of which position best balances needs against risks

### 3.3 Approach 1: Avoidance

A number of our participants were clear that their response to the behaviour they saw in ORUs and the stress they experienced when cycling in fast or heavy traffic was a simple one: they wanted nothing to do with it.

Avoidance is essentially about route choice. Where possible, the cyclist using this approach chooses routes that are entirely off-road. If on-road, they will select the quietest roads or the quietest times of the day – and stick, where possible, to routes which they already know. The strategy could be summarised as ‘Avoid traffic completely’:

*I now live in Kensington and it was probably about 18 months ago that I sort of had this bright idea to get a bike – so my friend who lives in Notting Hill, and I’ve got one that lives down Holland Park – I thought, well, I’ll cycle rather than drive . . . I go through Hyde Park. I mean, I’m one of those awful ones that actually do go on the pavement, because I’m very nervy, no, I am . . . If it’s really busy I’ve been known to get off and just walk with it because it’s hazardous and I’m a bit apprehensive. (F, 58, Cyclist, London)*

Where a traffic-avoiding route is not available, many people using this approach will choose not to cycle. Others may be prepared to cycle on the pavement where necessary – though they may be likely to do so at fairly slow speeds. This was especially noticeable among some of the younger female participants who still relied on their bike as a means of getting from A to B.

Cyclists may also opt for avoidance not because they are scared of traffic, but because they do not want to deal with the stress it entails. This is clearest when a person's reasons to cycle include an escape from stress: the stress of traffic would directly undermine the reason for cycling. Traffic also undermines the experiential pleasures of being in the open (with fumes and pollution) and cycling as something to do with someone else (since two abreast cycling becomes impossible). The most confident cyclists may still opt for avoidance when this approach best suits their current motivation.

Another occasion in which participants clearly opted for avoidance was when getting home from the pub:

*I just think: I'll get on my bike, I'll be absolutely fine. I can be home in ten minutes probably, you know. I don't have to go on the main roads. I can cut down the back, down the back streets, and then, you know, so I'm, you know, there's hardly any cars around. It's pretty much . . . and they're all taxi drivers, and they're terrible drivers anyway! (M, 27, Cyclist, York)*

Avoidance is focused on avoiding traffic, not on avoiding risk as such. Cyclists who use this strategy clearly do still face risks – for instance, those that arise on quiet rural roads.

### 3.4 Approach 2: Guardedness

By contrast to avoidance, which is essentially about route-choice, guardedness is essentially about positioning on road. A cyclist using this approach will consistently use the left-of-lane position as their default position, will exercise extreme caution when moving out of this position (e.g. to turn right), and may even choose to get off and push the bike on occasion to avoid having to leave the left-of-lane position. Cyclists opting for guardedness are particularly unlikely to attempt roundabouts. The strategy could be summarised as 'Keep out of the way':

*I think that people just ride in the middle of the road, it's got to happen like drivers if they can't get past you when there's no need for it, I mean, that's going to wind him up, I know it would wind me up. So, if you can keep out the way, you're doing as much as you can. (M, 57, Cyclist, Birmingham)*

On the basis of qualitative workshops, we are clearly not in a position to establish any certain connections between approaches and risky situations. However, we hypothesise that some cyclists opting for guardedness are likely to be those identified by the ORUs we spoke to as hesitant cyclists. A typical scenario which drivers described here was as follows: a cyclist ahead looks behind a few times, perhaps slightly veering into the road as a result, but it is not clear whether or not the cyclist is about to move out into the lane to turn right or not. Sometimes the

cyclist does move out, sometimes they come to a halt at the side of the road. This uncertainty of intention is stressful for the driver following.

### 3.5 Approach 3: Assertion

In contrast to guardedness, the assertion approach aims to minimise risk by actively managing the situation. In particular, a cyclist opting for assertion makes consistent, principled use of the middle-lane position to establish themselves as part of the traffic flow. This strategy-based approach could be summarised as ‘Stay in control’:

*I think you've got to cycle like a motor. I tend to cycle down the middle of the road. People behind me can wait until there's actually room for them to be able to . . . But I tend to think of myself as a small car, and I take quite a lot of space on the road so that there's nobody behind me thinking: Can I? You know. Can I squeeze past him? (M, 24, Cyclist, London)*

Assertion appears to be the minimum requirement for tackling some of the most daunting challenges facing a cyclist, in particular multi-lane roundabouts and complex junctions. Put simply, the cyclist opting for assertion stays on their bike when the cyclist opting for guardedness gets off and pushes:

*If you're confident enough to do it then do it, if you're not then like, as you say, get off and push your bike to the other side of the road. (M, 41, Cyclist, Surrey)*

In order to make use of different lane-within-lane positions, assertion requires bold and well-signalled manoeuvres. It seems unlikely that someone using this approach would be one of the hesitant cyclists described above. Of course, it also needs to be remembered that the discrete strategies being described here are, in fact, points on a continuum. Some cyclists may be broadly guarded in their positioning, but quite confident enough to signal and move decisively when approaching a right turn.

A cyclist opting for assertion aims to establish themselves as part of the traffic flow. They therefore depend on the willingness of ORUs to **accept** them as part of the traffic flow – a willingness they may find in short supply. Indeed, assertion can be interpreted by ORUs as selfishness or lack of consideration. The issues of how behaviour is **interpreted** are discussed further in [Section 6.2](#).

One key requirement of being part of the traffic flow is to maintain the speed of the traffic. Successful use of assertion, therefore, requires speed in a way that guardedness does not:

*If you don't hit a roundabout on a roll, you know, riding through it, that's when the trouble starts. Because if you're starting from a standing start*

*and there's traffic coming up from the right, that's when you've got the trouble most definitely. (M, 43, Cyclist, York)*

This may be part of the reason why this was the approach used by the few participants in our groups whose reasons for cycling focused on speed and distance performance.

### 3.6 Approach 4: Opportunistic

Just as there is a continuum between guardedness and assertion, so assertion blurs into the fourth approach which we identified: opportunism. For riders opting for this approach, the added degrees of freedom created by the bike's width become a source of opportunity, rather than a challenge. In particular, riders opting for opportunism will make the most of the potential to filter in traffic. The strategy could be summarised as 'Make the most of the bike'.

Risk, meanwhile, tends to be managed not in a strategy-based way (as in assertion) but in an ad hoc, situational way. The question that guides the opportunistic strategy is not 'What should I do?', but 'What can I get away with?':

*To be honest, the only time I really, you know, take notice and I'm particularly sensible is if I'm anywhere near HGVs or buses, because they're . . . You know, if you ever go up the inside of them and they take a corner, you're a goner. But in terms of just red lights and stuff . . . I mean, I don't tend to go through on red lights, but I'll push, I'll just go a little bit over the line, and I'll be waiting, waiting, waiting and I'll be the first thing away as soon as they go to . . . Literally amber I'm gone . . . And things like zebra crossings, if you can see that the pedestrian's actually already passed your bit, oh I'm straight through . . . Basically, every single day everyone assesses the risk of what they're doing constantly and, you know, if . . . When I'm on my bike I cycle along, I mean, I'm a fairly tall person, I can generally see, I'm probably taller when I'm sat on my bike than most people sat in their cars. I've got very good visibility and I just assess the risk and if there isn't a risk, I'm off. And sometimes if there is a risk, depending on the mood I'm in, I'm still off, and I just think, you know. (M, 27, Cyclist, York)*

At its more reckless extremes, opportunism exploits the potential of the bike to operate as a quasi-pedestrian – not just by cycling along the pavement, but also by crossing lights at red (pedestrians regularly cross when pedestrian crossings are at red). Sometimes the two manoeuvres are even combined:

*If there's a red light I don't want to stop at that, but I don't want to go through it and get rammed, so if there's a pavement next to it, just jump on there and ride on the pavement until you can get out of danger. (M, 19, Cyclist, Bristol)*



It is worth noting that, whereas as a cyclist opting for avoidance would probably cycle slowly along quiet pavements, one opting for opportunism might be prepared to cycle at speed, weaving between pedestrians.

### 3.7 Gender and approach

While qualitative workshops cannot establish a correlation, we hypothesise that there is a strong connection between gender and approach. To put the case simply:

- almost everyone we judged to be opting for assertion or opportunism was male; and
- almost everyone we judged to be opting for avoidance consistently (as opposed to selectively for weekend breaks or holidays) was female.

It seems unlikely that the differentiation is quite as clear-cut as this in the population as a whole. On the other hand, it would not be surprising if a strong gender effect were real.

If a strong gender effect does exist, this might also provide part of an explanation for the strong skew towards men among cyclists. As noted above, someone opting for avoidance may, if no appropriately traffic-free route exists, choose not to cycle at all. If women are more likely to opt for avoidance, then they are also more likely to decide not to cycle at all.

### 3.8 Motivation and approach

Through the discussion above, we have noted some possible connections between reasons to cycle and cycling approaches, as follows:

- Escape, experience and doing things together appear to be linked to avoidance.
- Getting home from the pub appears to be linked to avoidance.
- Speed and distance performance appears to be linked to assertion.

Two important reasons to cycle, however, remain to be discussed: getting from A to B, and getting exercise. (BMXers, with their interest in tricks and daring, will be discussed in [Section 4](#) on younger cyclists, along with parents.)

There is little clear evidence from our workshops regarding a link between exercise and any of the cycling approaches. Where a cyclist has complete freedom over their choice of route, one might expect that cycling for exercise would be linked to avoidance – as was the case, for instance, for this participant using cycling as a form of therapeutic exercise:

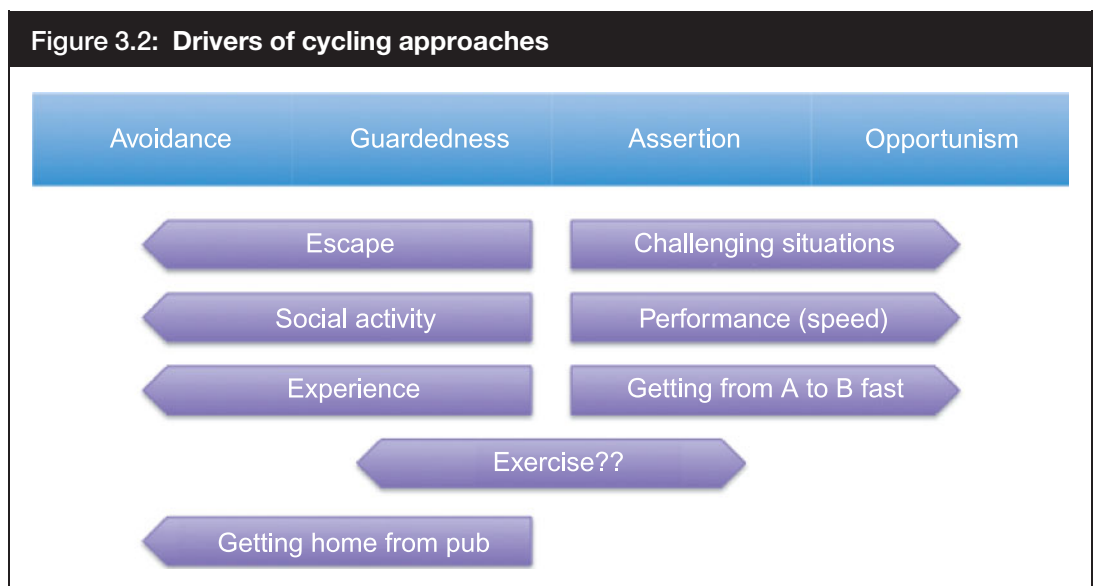
*I've got Parkinson's Disease, yeah, for the last three years. Cycling's good for me, it gets me moving, though I can't turn around very well . . . I cycle around the Canal Paths most of the time. (M, 57, Cyclist, Surrey)*

For other participants, however, the value of cycling as exercise lay in the fact that it could be combined with commuting – removing much of the choice over routes. In these cases, participants tended to opt for assertion or opportunism: but while it is plausible that these strategies maximise speed and movement, and so the potential for exercise, we do not have any evidence to support a connection here.

In the case of getting from A to B, all four strategies were used. Inevitably, those opting for avoidance tended to be restricted in their routes – or to live in rural areas where they could stick to quieter roads and avoid traffic. The following patterns were also apparent:

- Those who cycle more often appear to be more likely to opt for assertion or opportunism, and vice-versa. However, it is not clear what the direction of any such relationship might be, i.e. whether greater experience makes one more assertive, or assertiveness makes one more likely to cycle.
- A need to get to places faster appears, unsurprisingly, to be linked to assertion and opportunism. This was apparent both in more regular commuters (who need to be at work on time) and in the one participant who cycled for work.
- Assertion and opportunism may be the only viable strategies in the most challenging situations, for example heavy congestion or roundabouts. The point here is not just that, say, a cyclist may need to be assertive to deal safely with these situations, but also that cyclists who are not assertive will choose not to cycle in these situations.

Figure 3.2 summarises the key motivational drivers of cycling approach suggested in this section – along with the basic driver level of confidence. All of these connections, of course, remain hypotheses based on qualitative evidence, which would benefit (along with the distinctions they are based on) from further, quantitative validation.



## 4 YOUNG CYCLISTS

As noted, the approaches in the last section were identified in workshops with adult participants. Although younger cyclists face many of the same issues as adult cyclists, their perspective is different in a number of ways, which, in turn, change as the child gets older.

A number of differences between younger and adult cyclists, and between young cyclists of different ages, have been established by previous research. For instance:

- Bailey and Natora (1999) showed that 6- to 11-year-old children tend to have accidents related to poor control of their bicycle, whereas 12- to 17-year-old children tend to be involved in crashes that result from risky behaviour. (Note, this finding, along with the fact that more killed or seriously injured (KSIs) casualties occur in this age range, underpins our decision to focus this qualitative research on older children.)
- Plumert *et al.* (2004) found that children (aged 10 and 12) in a bike simulator chose the same gap sizes between cars as adults when cycling across a road, suggesting that, in pure perceptual terms, children at these ages are at an ‘adult’ level of judgement; but that their slower time to start moving, combined with their slower acceleration, meant that the overall safety margins left by children were, in fact, lower than those left by adults.

The last example serves as an important reminder that the differences between children and adults are manifold, ranging from matters of attitude and perception to straightforward biomechanical differences. (For example, Brezina and Kramer (1970) also found that, if a child can put their legs on the ground when stationary, this is associated with fewer accidents.) The methods used in this research were designed to explore only those differences at the more attitudinal end of this range.

In the rest of this section, we review some of the key differences between younger and adult cyclists apparent in our workshops, and their consequences for behaviour and potential risk.

### 4.1 Pre-drivers

When cyclists are invited at a cycling event to climb into the cab of a heavy goods vehicle (HGV), the thinking is simple: until cyclists have actually sat in the cab, they cannot really appreciate the extent of the vehicle’s blindspots. It can be hard to know what the driver of a vehicle needs from you unless you have driven that kind of vehicle yourself.

In this context, it is clearly of some significance that younger cyclists have, for the most part, never driven any kind of motorised vehicle.

In our workshops this point was more likely to be made by adults – especially younger adults who had recently experienced the acquisition of a new perspective:

*I think when you learn to drive, you're aware of all this danger around you, but when you're a child, cycling the bike, you're not. So I think it's quite dangerous for them to be on the roads. (F, 23, Cyclist, Surrey)*

*Think about the distance that you're going, the cars that are going, and how fast it's going. And, if needs be, just give yourself more than enough time to get out. If it's not going to get out, let it pass and wait for a wide enough gap . . . Not so much that I've noticed as a cyclist. But I've noticed as a driver. People coming out in front of me when . . . Not really allowing themselves much time. (M, 19, Cyclist, Leicestershire)*

The children themselves, unsurprisingly, did not know there was something they did not know. Where their lack of perspective became most apparent was in an activity in which we asked groups to consider the behaviour of a car and bicycle in a range of different situations involving potential conflict. The 10–12–year-old group, in particular, found it very difficult to anticipate what a driver might do in these situations – including even very simple behaviours, like trying to overtake the cyclist.

It is not possible from our workshops alone to establish the kinds of risk entailed by this lack of understanding of the driver's perspective. Our hypothesis, however, is that this may be part of the explanation for the finding in Sentinella and Keigan (2006) that children in the 9–15 age range often fail to signal their intentions early enough.

## 4.2 Pavement cycling

The question of whether to cycle on the pavement or the road was much more prominent for younger cyclists – including some (especially females) in their late teens – than for most adult cyclists. Among the children, indeed, there was considerable resentment that, legally, they are not allowed to cycle on the pavement, when they do not feel safe on the road and their parents may be telling them not to ride on the road:

*What happens if your parents don't let you ride on the road, but the law is that you can't ride on the pavement? (F, 11, Cyclist, Liverpool)*

*Unless you're an adult you should be allowed to ride on the pavement . . . Put safety before the law, because you shouldn't die for the law really. (F, 12, Cyclist, Liverpool)*

There was also some confusion about what the law actually says on this point. A number of the children believed that it was legal to ride on the pavement up to a certain age, though there was debate as to what that age is. Some more exotic accounts of who can ride on the pavement were also provided:

*My mum and dad like have told me about the law apparently being . . . like 10 inch tyres, 20 inch and under, so most BMX is 20 inch, have to ride on the path. (M, 13, Cyclist, Chelmsford)*

Recent experience and parental instruction help to explain the salience of the road–pavement choice among children. There may, however, be a further explanation which relates to the proto-strategies of these young cyclists. Cycling on the pavement, as discussed in the last section, is one possible form of avoidance when there is no alternative route to avoid traffic. A second possible response is not to cycle at all, but to use another mode of transport. For children, however, this second response may not be an option. On this account, many of those who were unhappy about not being allowed to cycle on the pavement will give up cycling even for these short journeys as soon as they have an alternative, i.e. driving.

Of course, cycling on the pavement can also be a form of opportunism, albeit for very different reasons. In contrast to the (mostly female) group that wanted to be able to avoid traffic by cycling on the pavement, some of the younger men seemed to see pavements in terms of the opportunities they afforded – for example, to perform simple tricks (such as bouncing on and off the pavement) or to cycle in a larger group (with some on the road and some off, a formation described by some of their parents):

*When I was younger, me and my mates used to have the jumps. We would jump on, like, the pavement. I'd jump off the curbs and stuff. But that was when I was young. (M, 19, Cyclist, Leicestershire)*

These types of behaviour clearly carry with them very different risks.

### 4.3 Young males

In [Section 3](#), we hypothesised a strong gender effect in adult cyclists' choice of cycling approach. Among the young cyclists we met in our workshops, this gender effect was even more pronounced. In the 13- to 15-year-old group, in particular, some familiar 'young male' patterns were strongly apparent, such as:

- aggression (and perceived aggression in others);
- risk-taking; and
- peer pressure.

The following quotations from different participants in our young male group illustrate these themes well:

*Say I've had a bad day at school . . . I'm riding home, and they shout at you, it just annoys you more, so you just try and annoy them. (M, 13, Cyclist, Chelmsford)*

*[The school bus driver] just tries to overtake us like really mad, and he beeps at us sometimes. And we just swerve to get on his nerves. (M, 13, Cyclist, Chelmsford)*

*I've learned to take stones with me to throw at the bus. [After explaining that, when they ride past the school bus, they get things thrown at them] (M, 13, Cyclist, Chelmsford)*

*I like danger. I just think its funny. And it hurts sometimes, but its good . . . I sometimes just have life or death in my head and just go. (M, 13, Cyclist, Chelmsford)*

*My mates, we just egg each other on. (M, 15, Cyclist, Chelmsford)*

*I'm safer when I'm on my own. (M, 13, Cyclist, Chelmsford)*

Among our young adult groups, we encountered young men who still demonstrated some of these patterns, and others who described having behaved in similar ways in the recent past.

While, as ever, we are not in a position to establish direct connections between patterns identified in our workshops and actual risks, we feel confident in hypothesising that these findings go some way to explaining why:

- 86% of KSIs among children are boys, with the majority aged between 10 and 15; and
- 83% of KSIs among teens and young adults are male, with this group the most likely of any to be judged careless, reckless or in a hurry; disobeying give way or stop markings; not displaying lights at night; or wearing dark clothing at night.

It is important to stress, however, that our groups also included boys and young men who were much more cautious and controlled in their behaviour. In identifying a problem which is largely restricted to young males, we must be careful not to make the mistake of thinking that young males are therefore a problem.

These findings, of course, come as no surprise. The patterns of behaviour described here can be found not only in young male cyclists, but also in young males when they are riding motorbikes or driving cars – or, indeed, across a whole raft of

behaviours which have nothing to do with transport. These are almost certainly the same young men who contribute disproportionately to KSIs among other types of road user and the problems faced by other government departments.

At the very least, then, it would seem to make sense to detach these young men from the particular transport mode they happen to be using and see their attitudes and behaviour as a road safety issue across different types of transport. If a way could be found to tackle their risky attitudes and behaviour while still cycling at 15, for instance, it might well have knock-on benefits for the way they drive at 18, especially if later interventions around driving safety were coordinated. More ambitiously, there might be value in coordinating with interventions in other areas – such as drinking or sexual health.

Put simply, the behaviour of some young males creates a clear problem for cycling safety, but to address this problem purely from the perspective of cycling safety would be, at best, to miss an opportunity, and perhaps even be counterproductive.

## 4.4 BMXers

As they grow older, children start moving away from parental norms and establishing their own identities with reference to their peer groups. A discussion of cycling in children and young adults therefore has to take note of the fact that one of the existing ‘off-the-peg’ identities available to a young person – more specifically, to a boy – is that of the BMXer.

Among the boys and young men we met, BMXing clearly tapped into some of the patterns of behaviour identified in the last section and, in particular, a love of risk taking. But BMXing is much more than just a love of risk. The aim, after all, is not simply to take risks, but to learn how successfully to overcome them, i.e. to learn how to do tricks. As noted in [Section 2](#), BMXing is in fact founded on a performance motivation – a desire to get better at something.

Around this performance motivation, however, a social identity has grown. The BMXer expresses himself through the clothes he wears (including the helmet he may wear to do tricks, if not for ordinary road cycling), but also through the bike he rides. This, in turn, may entail taking the bike apart to spray-paint it, removing the reflectors and lights, or even removing the brakes:

*I don't have brakes. You don't stop, so obviously you've got to be going for it, and if you don't get it, you never wanted it . . . You can stop in extreme emergencies, but it hurts if you do it too often, and you end up with holes in your shoes, you end up losing your foot and stuff like that. (M, 19, Cyclist, Bristol)*



*[Reflectors] do get in the way quite a lot . . . The ones on the handlebars just irritate me. I smacked my head on it and split my head open, so I just took that off straight away. (M, 24, Cyclist, Bristol)*

The existence of this social identity, complete with a ‘look’, also makes it possible for young people to take on a BMXer identity without actually having the performance motivation or risk-tolerance that underpins it. Within our 13- to 15-year-old group, we identified some ‘wannabe BMXers’ who had the outward appearance, but clearly lacked the nerve to undertake the riskier tricks.

To the extent that it valorises risk-taking and can involve dangerous modifications to bikes, BMXing is problematic from a road safety perspective. On the other hand, to the extent that it encourages skill and provides a potential outlet for young male risk-taking, it has some potentially very positive aspects. Given that the identity is not going to go away, focusing on these positive possibilities is almost certainly the more promising approach.

In particular, the question of **where** tricks get done emerges as a key issue. If young men get pleasure out of bouncing up and down off a ledge, that is their prerogative. If the ledge is the edge of the pavement, however, then the situation is rather different. And if the young man has nowhere apart from the edges of pavements to develop his skill, our view of what has gone wrong may change again.

## 4.5 Parents of young cyclists

Comments from the children we spoke to, their parents, and parents in other groups suggested that the bicycle plays an important role in the evolving relationship between parent and child.

When a child is very young, the bicycle is probably closer to a toy than a mode of transport. One parent noted that, at younger ages, racing is a basic instinct for children of both gender, and a considerable headache for parents.

As children grow older, however, the bicycle becomes a route to increasing independence – both for the child, who can get around without having to rely on lifts, and for the parent, who is released from taxi duties. This practical, transport independence is probably also linked to the child’s growing independence of parental norms. For instance, we noticed that the parents of the 10- to 12-year-old group still had an expectation that their children would follow the rules they laid down. By contrast, the parents of the 13- to 15-year-old group were philosophical that, while they might hope their children would behave in certain ways, they had no way of knowing for sure if they did.



As such, the bicycle is also a route to greater risk, with the move from pavement to road looming especially large. (The parents we spoke to were, like their children, under the impression that it is legal for younger children to cycle on the pavement):

*I'm apprehensive for my daughter, I don't particularly want her on the road, but at the end of the day she's going to be too big where she shouldn't be driving on the pavement. (F, 47, Cyclist, Birmingham)*

Two clear strategies were apparent in parents' approaches to introducing and preparing their children for these increased risks:

- Many parents manage the routes taken by their children. Interventions of this kind might range from a bar on certain types of road to actually sitting with children and planning a route with them. As noted previously, some parents insisted their children continue to ride on pavements – though they felt uncomfortable at being forced, as they saw it, to choose between their child's safety and the law.
- Those parents who cycled themselves typically used various approaches to on-road positioning – with common strategies being to position the child on the pavement (while they cycled on the road), to position the child on the road directly in front of them, or to position the child on the road with themselves alongside them (riding two abreast). Parents, that is, combined elements of avoidance and guardedness in their approaches to cycling with their children.

Parents with more than one child may also co-opt older children in the management of risk for younger children: for instance, one mother described how she put her older child at the front, her younger child in the middle, with herself at the back watching both of them.

Unsurprisingly, parents were highly supportive – along with most of our adult participants – of the idea of more cycle training at schools. Few, however, seemed to know much about what this training actually entails – even those parents whose children had had training were more likely to hark back to their own cycling proficiency training in the playground (generally felt to have been inadequate if better than nothing).

What is striking, however, is that, through the strategies noted above, parents are themselves already providing informal 'training' for their children, although the extent of this training and the approaches taken vary widely. It was not apparent that parents saw themselves in this way, and we detected no obvious demand among parents for advice or guidance in how best to help a child get used to cycling on the road. Nevertheless, there may be opportunities here – in line, for instance, with the guidance now being offered to parents giving children supervised practice at driving.

## 5 TYPES OF CYCLIST

One clear conclusion to be drawn from [Sections 2 to 4](#) is that cyclists are a highly diverse, highly segmentable population.

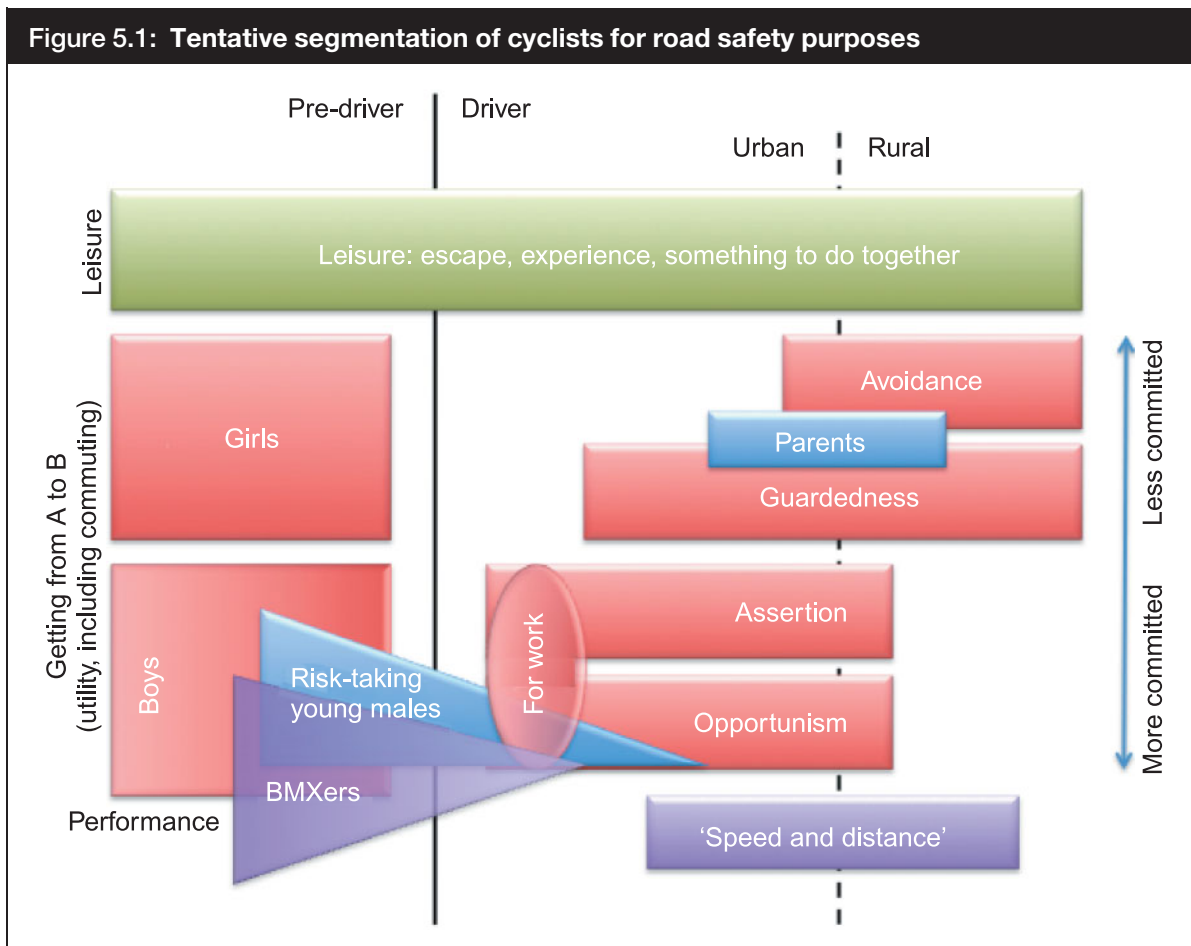
Some high-level segmentations of cyclists have indeed been put forward in the research literature. As already discussed, for instance, the differences between children and adults have received some attention. Another way in which cyclists have been segmented is based on whether their cycling is predominantly for leisure or for commuting (so-called ‘utility’ cyclists). A number of studies have shown that these two types of cyclist are different in terms of their motivations, attitudes and behaviours. For example, Gardner (1998) showed that the main reason why leisure cyclists do not also cycle to work is fear of traffic and the lack of a pleasant environment. Other studies have used behavioural patterns, rather than the purpose of cycling, as a basis for segmentation: for example, Bergstrom and Magnusson (2003) surveyed non-cyclists, ‘summer-only’ cyclists and ‘winter cyclists’ for their motivations for cycling (or not). The findings showed that summer-only cyclists’ key motivations for choosing not to cycle were the likelihood of precipitation, the temperature, and the conditions of the road surfaces on which they needed to travel, whereas winter cyclists cited ‘not having access to a car’ along with the benefits for fitness, the environment, and their travel costs as reasons for choosing to cycle even throughout winter.

These segmentations do not coincide. For instance, while winter cyclists may be mostly utility cyclists, some utility cyclists are summer-only cyclists. To confuse matters even further, some people may cut across segments; for instance, the participant quoted at the beginning of [Section 2](#) is a winter utility cyclist **and** summer-only leisure cyclist. So what is the best way to segment the cycling population? What types of cyclist are on the road.

The correct (if slightly irritating) answer is that segmentations exist for a purpose, and that the best way of segmenting the cycling population will depend on the uses that segmentation will be put. Based on the discussion so far, however, we can suggest that a segmentation for general road safety purposes is likely to involve some or all of the following variables:

- age;
- gender;
- reasons to cycle (motivation);
- cycling patterns (when, where, impact of barriers on cycling); and
- cycling approaches used.

Figure 5.1 represents our own first attempt to map schematically some of the key segments that are likely to be important from a road safety perspective. The picture is greatly complicated by the fact that a number of interesting segments overlap. Not all the potential overlaps have been shown.



One immediate lesson to be drawn is that, for road safety purposes, the classic distinction between ‘leisure’ and ‘utility’ cyclists masks important diversity within the utility segment.

It is also important to remember that individuals may belong to more than one group: for example, a single person may commute to work, use cycling as an escape activity with their family, and sometimes cycle with their children to the shops. As noted earlier, cycling is not a single, homogeneous activity, but a number of different activities that have in common the use of a two-wheeled unpowered vehicle.

## 6 SHARING THE ROAD

As noted in [Section 2](#), accidents involving a cyclist and another vehicle are not the only cause of injury to cyclists on the roads: 16% of reported cyclist killed or seriously injured (KSI), and 17% of KSI fatalities, are, in fact, single cycle accidents. However, that still leaves over four in five KSIs and KSI fatalities the result of an accident involving another vehicle. Better sharing of the road by cyclists and other road users (ORUs) remains, on these figures, a fundamental issue for road safety.

So why does road sharing fail? One excellent way to investigate this question at the behavioural level is through detailed observation and/or experimental studies. The literature contains a number of studies conducted along these lines:

- Jonsson (2007) observed car drivers and cyclists at intersections between cycle paths and roads in Finland, and found that 30% of cars did not yield to cycles when required by law. This number was lower when speeds were higher or bike flow was lower. The study concluded that yield rules and even signs were simply not enough to promote correct behaviour from car drivers. Similar findings are presented in Rasanen *et al.* (1999).
- Rasanen and Summala (1998) concluded that cyclists are often hit by cars turning across their cycle path when turning from a main road onto a minor road because drivers are looking for oncoming cars on the main road during the critical phase of the manoeuvre. Sixty-eight per cent of cyclists had noticed the cars before impact, but 92% of these had believed that the car driver would yield as required by law.
- Herslund and Jorgensen (2003) examined car drivers' gap acceptance behaviour when accepting gaps in front of other cars, cycles, or both. Cyclists rode in the middle of the road (i.e. in the same position as cars) and the time gaps accepted by emerging motorists were measured. Drivers chose smaller gaps in front of cycles than in front of cars.

The current research took a very different approach, using practical workshop exercises to engage cyclists and ORUs in a discussion of the things that can go wrong in interactions between bicycles and other vehicles. Clearly, their ideas and stories have a totally different status from the observational data used in the studies above, since they mix partial and reconstructed (i.e. unreliable) descriptions of behaviour with subjective interpretation of the motivations behind that behaviour.

In short, this study was designed to answer the question of why road sharing fails not at the behavioural level, but at the human level. What the ideas and stories offered by our participants help to reveal is the models they use to make sense of behaviour they encounter on the road, including:

- their views on where different road users (including themselves) ought to be and how they ought to behave;
- their expectations of how different kinds of road user will **actually** behave; and
- their interpretations of actual behaviour – and the responses they consider appropriate.

These things have a direct impact on behaviour, and hence on the quality of road sharing. They are also things that interventions to improve road sharing – from marketing to infrastructure – need either to acknowledge or to change.

We begin by reviewing the kinds of explanation of road-sharing failures offered by participants in our workshops.

## 6.1 Road users on road-sharing failures

Cyclists' accounts of the ways in which the interactions between cyclists and ORUs can go wrong were analysed, and six broad classes of problem were identified. The same classes of problem were apparent in the accounts offered by ORUs, albeit with different emphases.

### 6.1.1 *Problem 1: Acts of aggression*

A number of cyclists in our groups described examples of aggressive behaviour towards cyclists by ORUs, such as deliberately blocking a bike's filtering by opening a door, cutting bikes off, shouting at cyclists, or even throwing things at them. This sort of behaviour was sometimes reported by participants to be linked to particular types of road user, for example taxi drivers and young male drivers:

*I was coming past parked cars, traffic coming towards me, a car behind me, obviously impatient because he couldn't get past. Then when we got to the other side of the island he actually cut me right into the gutter, he made sure I had to stop and then drove off. (M, 46, Cyclist, Birmingham)*

*You don't just get told to get off the road, you get the beep, you get the abuse, you get the F-ing and blinding . . . They literally like get out of the window . . . (M, 15, Cyclist, Chelmsford)*

*I work with a guy who drives, he's not long past his test, he's just 18, 19. And sometimes he gives me a lift to and from work, and he just has no consideration, but he almost does it for a laugh, and see how close he can get to like cyclists. And considering he's just passed his test as well, he's just no awareness and consideration at all. (E, 29, Cyclist, Birmingham)*

Some ORUs also acknowledged their aggressive tendencies towards cyclists, as the following short conversation illustrates:

*[Moderator] When you don't get through and the cyclist is ahead, do you have any feelings towards that cyclist?*

- Yes.*
- Definitely.*
- Get them back at the next junction.*
- As soon as you get the space to go around them, you're like roaring like you're on a racer.*
- Cut off the cyclist.*

*(ORUs, London)*

A few participants also acknowledged that, as drivers, they behaved in exactly the same way they disliked when cycling:

*They just drive really quick and keep revving to basically move over . . . it's basically the hint that either move over or I'm going to hit you off the bike . . . I'm quite hypocritical. I'll drive down the road, and when there's cyclists in front of me going two miles an hour and I want to get somewhere fast, then I'm very bad with road rage, to be honest.*

*(M, 19, Cyclist, Bristol)*

There was less discussion of aggression by cyclists towards drivers, though this was mentioned (especially in the workshop with 13- to 15-year-old boys: see [Section 4](#)). This may reflect the fact that aggression by a cyclist towards a driver is a lot less dangerous for the driver than vice-versa – though at least one cyclist described using his ability to hold up a car to cause annoyance at least:

*You might as well just stay in front of the car and irritate them instead.*

*(M, 18, Cyclist, Bristol)*

A few drivers also described feeling intimidated by large numbers of cyclists and, for instance, in this discussion of crowds of cyclists leaving a factory at closing time:

*– I mean you'll be travelling down a road and they'll be coming out of a left-hand junction and they won't even slow down or look, they'll just be straight out onto the road and the, and you're talking of, could be 100 of these bikes coming . . .*

*– There's safety in numbers, isn't there? . . .*

*– Intimidation, because you aren't going to say anything, are you? . . .*

*– Yeah, if there's hundreds of you all going and you think, who's going to, who's going to push in, they're all going to stop for us – so they all go.*

*(ORUs, York)*

### 6.1.2 Problem 2: Failures of attitude

Failures of attitude cover those instances where a driver or cyclist is interpreted as ‘not caring enough’, either about the needs of ORUs or about the laws of the road.

Sometimes, ‘not caring enough’ is described as a generalised lack in a person – for instance, young males are particularly prone to being described in this way by others, whether they are cycling or driving. In these cases, the road user may be described as not caring about their own safety either. Jumping red lights was seen to be a particular sign of this kind of general failure of attitude in cyclists – both by other cyclists and by ORUs. A general failure of attitude in drivers was often linked to uninsured driving.

In many instances, however, ‘not caring enough’ about ORUs was described as the result of caring too much about something else – namely one’s own needs. This selfishness may be a general pattern of behaviour – or it may be something more situational:

*On the one hand there are a lot of selfish drivers, but I have to say also I think, as somebody that drives in London quite regularly as well, driving in London is so . . . driving itself in London is such a sort of, traumatic/ boring/frustrating experience that in the situation . . . you know, you do also need to say that it’s not always drivers that are the sort of, selfish, arrogant type. It’s just that if you are sat in a queue of traffic, and you’ve barely moved for five or ten minutes, your concentration does start to go and, you know, without having any malice, you do start . . . you know, you maybe do think, oh I can see a gap, and you maybe do go for it without checking as much so, you know? (M, 30, Cyclist, London)*

For many participants, a perceived trend towards greater selfishness among road users was linked to impatience. While impatience was recognised as a problem, there was also a sense among some participants that it is an inevitable and sometimes defensible aspect of modern lifestyles and work patterns:

*I’m an impatient driver . . . It’s schedules with my contract work as opposed to my taxi driving on a night [clinking]. On a night if I’m stuck the meter’s ticking and that doesn’t matter, but during the day on my contract work a lot of it involves children that may be in foster care going to see their parents for an hour, so my impatience is, I’ve got five minutes to get them there and I get impatient and I try and do detours and, so it’s very stressful and I’m impatient on my day work. (F, 51, ORU, York)*

Impatience can quickly shade over into acts of aggression, such as riding too close or revving the engine:



*In the mornings when I'm going to work and I'm going uphill and it's like, everyone's just rushing to get into work and queuing up and traffic and always get really tetchy if you're taking your time cycling up the hill, because I'm not the most physical person in the world, so I take my time. (M, 24, Cyclist, Bristol)*

Cyclists as well as drivers can be described as impatient, for instance when they filter, but, for obvious reasons, impatience was more often associated with drivers trying to get past cyclists. ORUs were more likely to accuse cyclists of what may be seen as the reverse form of selfishness: going too slowly and not getting out of the way:

*They do about five miles an hour, it's ridiculous. They're expecting you to sit behind them. (F, 39, ORU, London)*

One form of behaviour which was almost universally condemned by cyclists and drivers alike (although vigorously defended by one participant) was cycling two abreast when cars were following. This was felt by many participants to be particularly selfish:

*When cyclists, normally part professional cyclists are bombing it, they are two abreast, or three abreast, perhaps four in a row doing it, there's normally a group, they're just well up the road, there are cars going about 20 miles an hour behind them. Move over, I think it's selfish. (F, 32, Cyclist, Birmingham)*

There is an interesting imbalance here in the sorts of attitude failure likely to be identified in cyclists and ORUs, which follows from the simple fact that cars (generally) go faster than bicycles. As a result, drivers are more likely to be described as impatient and cyclists more likely to be seen as inconsiderately blocking the road. (The pattern can be reversed when traffic is congested.) One consequence of this imbalance is that there is plenty of room in any given instance for disagreement about whose attitude has failed: is it the driver who is being unreasonably impatient, or the cyclist who is being inconsiderate?

### 6.1.3 Problem 3: Failures of competence/understanding

A number of examples of problems arising from drivers' lack of understanding or competence were offered in the workshops, such as:

- not understanding how much space a bike needs to be allowed when overtaking (especially by a large vehicle which creates a side-draft); and
- misjudging the speed of bicycles.



Inevitably, these issues tended to receive more attention in the cyclist workshops – a number of ORUs did indeed lack the understanding to realise these were issues. However, some ORUs were much better informed: for instance, a coach driver drew attention to the importance of leaving a wide gap when passing a cyclist owing to side-draft issues.

Both ORUs and cyclists felt that many cyclists may lack the understanding or competence they need. Key issues included:

- misjudging the speed of vehicles or the time taken to get moving oneself;
- wobbling when changing gear or looking back over one's shoulder; and
- not knowing the rules of the road.

A number of ORUs were exercised by the fact that cyclists are not obliged to undertake any training, which was seen as both dangerous and unfair.

For both drivers and cyclists, there was evidence of a specific concern around ignorance of new forms of infrastructure. This was usually linked to a perceived failure by those implementing the infrastructure to explain to people how it is meant to be used:

*There's no explanation about what they are, but we've got roundabouts near me and you have red bits and green bits and there are bits in front of the traffic lights, do you know what they are? It's green or red and you think, well is that . . . am I not allowed in there or am I not allowed in there, or I am . . . am I supposed to go in there as a car driver or as a cyclist? (F, 42, Cyclist, Surrey)*

This point is discussed further in [Section 7](#).

#### 6.1.4 Problem 4: Failures of expectation

Failures of expectation were not a very common theme in the accounts offered by cyclists and ORUs of road-sharing problems, but they did feature. For instance, drivers may not expect to encounter cyclists on certain roads or in areas where they do not normally see them. Some drivers admitted to lapses, when they simply forget the possibility of cyclists on the road:

*I'm aware that cyclists are going to be going round, but you have a lapse of concentration and you're sort of like going right around the roundabout to turn off there, and a cyclist's come from there and he's going right across you, you're literally going to turn off and they're, they're on your blind side at one point. (F, 51, ORU, York)*

A particular behaviour which drivers may not expect is for cycles to filter past them when they are stationary. Similarly, the filtering cyclist may not expect one of the drivers to pull out suddenly (e.g. to execute a U-turn):

*Not only have you got drivers that are feeling that everybody is going to be . . . everything is still, you've also got a cyclist looking ahead, seeing the completely still traffic, looking down the line and thinking they have a clear path. So I think actually the two things interact together. So actually, we've probably got drivers that are less aware, and you've also got this . . . the cyclist thinking exactly the same thing which is, all of those cars are still. (M, 30, Cyclist, London)*

### 6.1.5 Problem 5: Pressure from other road users

A number of participants described how stress in response to other hazards or pressures can lead to problematic behaviour. In particular, they described how stressful situations can cause one to focus on the immediate task in hand and lose awareness of the wider context.

But the form of stress which received most attention was the perceived pressure to overtake a cyclist which a driver may feel when being followed by other vehicles. This stress can become particularly acute when the driver also needs to execute another manoeuvre. For instance, one driver in London described how he had realised too late that his left turn was coming up, leaving him (as he saw it) with two choices: overtake and cut off a cyclist in front of him or slow suddenly, creating a hazard for the traffic behind him. He had chosen the first option, and a minor collision had resulted.

What is striking about this particular example is that there was, in fact, a third option: miss the left turn and find another route. The fact that this option did not occur to the driver, even in retelling the story, could be seen as an indication of the way in which stress can cause a narrowing of focus on the task in hand. Alternatively, it might be seen as a form of attitude failure.

The interconnections between the perceived pressure from ORUs and impatience are also apparent in a pattern described by a number of participants, in which the stress experienced when other cars are behind one creates a generalised habit of overtaking bikes even when there are **no** cars behind, and irrespective of whether one actually needs to get past them:

*As soon as I see a cyclist in front of me I think, oh . . . I try and get past them as quickly as possible. (F, 25, ORU, Birmingham)*

*I've seen people overtake me and then the next thing around, they're sitting there eating a pork pie kind of, oh, sorry, mate. You know? They don't think. (M, 43, Cyclist, York)*

These findings chime with work by Basford and Reid (2002), which showed that motorists perceive that there is a 'social norm' for motorists to pass cyclists even if they do not think it is safe to do so, presumably related to a pressure from motorists behind to 'make progress'.

### 6.1.6 *Problem 6: Other situational factors*

Finally, cyclists and ORUs identified a range of situational factors which can make road-sharing problematic, such as the weather, poor road surfaces, night-time, etc. These factors can operate in a number of different ways:

- by forcing the cyclist into the path of the car, for example to get round a pothole;
- by testing the competence of the cyclist or driver, for example icy conditions;
- by distracting the driver or (less often) cyclist; and
- by making the cyclist less visible.

The last of these may, of course, be exacerbated by a failure of attitude on the part of the cyclist – for example, if they do not bother to use lights at night. The topic of visibility is discussed further in [Section 8](#).

### 6.1.7 *Not looking and LBFTS*

Failure to look (or to look properly) was one of the problem behaviours most commonly identified by participants. In collisions between a cycle and another vehicle, 'failure to look properly' is the contributory factor most commonly attributed by the police attending the scene to both cyclists and non-cyclists (Knowles *et al.*, 2009).

What is striking is that this behaviour can be – and was – explained as an example of any but the first of the problems listed above. A failure to look properly may be an example of:

- a failure of attitude – most obviously, this covers cases where someone simply does not bother to look, but it also includes drivers or cyclists whose not caring enough takes the form of, for example, talking on a mobile phone;
- a failure of competence/understanding – for instance, a driver who sees an approaching bike, but underestimates its speed, may pull out without looking again;
- a failure of expectation – this is, by definition, likely to lead to a failure to look;

- stress – by creating a focus on one part of the situation, stress can lead one not to attend to/notice other things that are going on; and
- situational factors – distractions in the situation, like stress, can lead one not to attend to/notice other things that are going on.

(A similarly wide range of interpretations was offered for a failure to signal properly, which, alongside failure to look, was one of the most commonly identified problem behaviours.)

One interesting question to raise here is: where does ‘look but failed to see’ (LBFTS) fit into this scheme? One could try to link LBFTS to, for example, the failures of attention created by stress or situational distraction. Our judgement, however, is that LBFTS did not feature as an explanatory concept in any of the discussions in the workshops, either with cyclists or with ORUs.

This is a surprising finding, given how often those involved in accidents claim to have done just this: looked but failed to see. There are at least three possible ways of interpreting it:

- people may be insufficiently aware of the possibility that one can look but fail to see because they do not understand the limitations of their own perceptual systems;
- LBFTS claims are driven by the need to justify one’s behaviour immediately after making an error – people in fact just fail to look; and
- the finding is an artefact of the research process, for example the fact that conversations were taking place in a workshop rather than in a real road-use situation.

## 6.2 Behaviour, interpretation, stereotype

The last section offers a broad categorisation of ways in which road users account for things going wrong in an interaction between a cyclist and other road user. But how does a road user decide what has actually happened in any particular instance? The interpretation someone makes of another person’s behaviour may be influenced by a number of factors.

First, the behaviour itself may provide fairly clear evidence of motivation. For instance, cycling participants described fairly unambiguous examples of mindless aggression from ORUs, such as passengers leaning out to hit them with a baseball cap, or yelling at them suddenly to surprise them.

In many other situations, however, the interpretation of the behaviour may be open to question. If a driver overtakes a cyclist too closely, for instance, the two people

involved may have no actual human interaction, and the evidence for an interpretation may be slight.

Emotional state also clearly has an impact on interpretation. It is commonplace that people who are tired, stressed or angry are less likely to be charitable in their interpretations of other people's behaviour than those who are relaxed and in a positive mood.

Interpretations may also be influenced, however, by working assumptions about ORUs' behaviour and motivations. For instance, if a cyclist believes that bus drivers hate cyclists (as one of the participants in York did), they are more likely to interpret individual instances of bus behaviour as examples of cycle-hating rather than, say, inattention. Assumptions may also be positive, of course: some participants in the cycling groups, for instance, talked about the positive assumptions they made as drivers about cyclists wearing cycling gear and helmets (though they themselves did not wear these things), and felt they would drive more carefully and respectfully around such cyclists.

It is important to remember that working assumptions may have a strong basis in evidence and experience. On the other hand, they may be highly inaccurate. The example above illustrates how assumptions like this can colour the evidence in their own favour; and social influence clearly plays a strong role as well, allowing assumptions to thrive in the absence of any evidence at all.

The word 'stereotype' tends, these days, to imply a set of assumptions at the inaccurate end of the scale – a moral error rather than a more or less accurate mental heuristic. This makes its use in this context problematic. Nevertheless, we shall use the term in the discussion that follows.

Working assumptions may apply to a particular group of road users, and so make up stereotypes, or they may be more generalised assumptions about the culture of road sharing. This was particularly apparent in London, where we heard a number of comments (echoed by participants outside London who had visited the capital) about across-the-board patterns of selfishness and aggression in road users of all types – drivers, cyclists and pedestrians.

There were signs in our workshops of cyclists having a range of different outlooks towards ORUs, with some participants tending to emphasise the aggression and selfishness of those they encountered on the road (whether driving or cycling), and others showing a greater inclination to explain behaviour in terms of expectation failures, stress or situational factors. That such a difference between individuals exists comes as no great surprise. What was a little more surprising was that we could find no obvious connection between this broad outlook on other road-user behaviour and the other differences between cyclists discussed in [Sections 2 to 5](#).

For instance, outlook does not seem to be connected to approach selection or frequency of cycling.

### 6.3 Empathy levels and the cyclist stereotype

Stereotypes provide a mechanism for interpreting behaviour ‘from the outside in’. However, human beings are also capable of interpreting ‘from the inside out’, using empathy to put themselves in the shoes, saddle or seat of the ORU and imagine why they might behave in the way they are behaving. Another key variable in the interpretation someone makes in another person’s behaviour, therefore, is the extent to which they are able to empathise with that other person. (This may be one reason why negative emotions lead to less charitable interpretations.)

In a road-sharing context, empathy has another vital function – already illustrated in the discussion of young cyclists in [Section 4](#). If we are able to see things from the perspective of the ORU, this not only influences our interpretation of their behaviour, it also gives us a sense of what they need from us. Empathy between road users can be an important ingredient in successful road sharing. (Note, empathising does not necessarily mean agreeing; one can successfully put oneself in someone else’s shoes and still judge that they should have done something different.)

Lambeth Council’s work on cycling safety provides a good example of the practical application of these ideas. Like other local authorities, Lambeth offers cyclists the opportunity to climb into the cab of an HGV, so that they can see at first hand the extent of the vehicle’s blindspots and gain a better understanding of what the driver needs from them. Where Lambeth has gone further (in partnership with Veolia and Cycle Training UK) is in providing cycle training for the drivers of council lorries and buses. This not only gives the participants a clearer understanding of the needs of cyclists; it may also change their understanding of the behaviour of cyclists. For instance, a driver who has always considered cyclists in the middle of the lane as selfish may come to see this behaviour as a way in which a cyclist can signal that there is not in fact sufficient room to pass safely, i.e. a behaviour seen as inconsiderate is now seen as helpful.

With the exception of the younger cyclists (whose lack of understanding of the driving perspective was discussed in [Section 4](#)), almost all of the cyclists in our groups were also drivers of cars. Few of them, by contrast, drove HGVs or buses. Unsurprisingly, therefore, there was much more evidence in these groups of empathy for car drivers than for the drivers of HGVs and buses.

Most of our ORUs were **not** cyclists (and indeed had been purposely recruited as such). Unsurprisingly, there was less evidence of empathy for cyclists in these groups than of empathy for car drivers in the cycling groups. Equally unsurprisingly, it was those drivers who did do some cycling that tended to show some empathy (and, by extension, those cyclists who cycled least who showed least empathy for

other cyclists). Some cyclists recognised this lack of empathy when they argued for the inclusion of cycling experience as part of the process of learning to drive.

It should be noted that the cyclist/non-cyclist distinction is not as clear cut as it might seem: many non-cyclists had cycled when younger and, for some, this remained the basis for empathy with cyclists; while, on the other hand, some cyclists admitted losing their empathy with other cyclists the moment they got behind the wheel. The distinction here is not one solely of experience, but also of self-identification.

Nevertheless, the broad pattern remains: there are much higher levels of empathy across all groups of road users for car drivers than there are for what we might call minority road users – such as cyclists, HGV drivers or bus drivers.

Of course, this does not mean that there are no stereotypes attached to car drivers. For instance, the uninsured driver was a type discussed in a number of workshops. But there is no stereotype of **car drivers in general**. One does not become the object of working assumptions about one's motivations and attitudes merely by getting in a car. By contrast, one does become the object of such working assumptions merely by getting on a bicycle (or in an HGV, bus, etc.).

Moreover, there was a pronounced tendency for the descriptions of cyclist behaviour among non-cycling ORUs to gravitate towards the more blameworthy end of the scale. The stereotypical cyclist tends to be characterised by:

- serious failures of attitude, including a generalised disregard for the law and a more specific lack of concern for the needs of drivers – these attitude failures may be linked to the fact that cyclists do not need to be licensed or insured. Some drivers also expressed concerns that, in the event of an accident, the driver would be blamed; and
- serious failures of competence and knowledge of the rules of the road, often linked to the fact that cyclists are not required to undertake training.

As a result of these failings, the stereotypical cyclist emerges as a character who breaks the fundamental rules of road sharing – by not looking before moving, by not signalling their intentions, and by not caring when they obstruct the flow of traffic. Indeed, on this account, the stereotypical cyclist emerges as a kind of lawless free-rider in the highly constrained and heavily taxed world of the driver:

*I have nothing against cyclists whatsoever, everyone has a right to the use of the road, but when you think of the amount of accidents they do cause, there's no registration, they don't pay anything at all to use the roads, they've not paid to have a cycle lane fitted, all the car drivers pay for that.*  
(M, 55, ORU, London)



*I've never, ever seen a cyclist pulled for doing something stupid, and that's all they ever seem to be doing. (F, 35, ORU, Surrey)*

Some caution is required here lest, in presenting the generic stereotype of a cyclist, we fall into the trap of stereotyping the non-cycling participants in our workshops. It is important to bear in mind the following points:

- Not all the non-cyclists in our workshops subscribed to this stereotype. Indeed, some were clearly unhappy about the views being expressed by other participants.
- Stereotyping of cyclists tended in the direction of the characterisation above, but was not always so negative.
- Participants in our workshops, even those with very negative views of cyclists, were quite sophisticated enough to recognise that cyclists are a diverse population, and not all the same.

On the last point, however, it was striking that, when asked how many cyclists did conform to this kind of negative characterisation, the percentages could be quite high. In London, for instance, a number of responses were in the 70–80% range.

Moreover, these qualitative findings mirror previous research, which has found negative attitudes toward cyclists among motorists, based on a resentment of cycles taking up space on the roads and blocking motorists' progress. For example, Basford and Reid (2002) showed that motorists exhibit in-group and out-group biases in terms of their opinions of transgressions by other motorists and by cyclists. In short, motorist transgressions were more readily justified by motorists than cyclist transgressions.

## 6.4 The 'anomalous bike'

Why does such a negative stereotype of cyclists exist? Any answer to that question is necessarily speculative, but we believe that the source lies in much deeper questions about whether, and where, bicycles belong on the roads in the first place.

One way to understand this point is to consider one of the basic norms of road sharing: to maintain the speed of the traffic in your lane. As noted earlier, bicycles usually violate this norm by travelling too slowly – creating a pressure for any vehicle behind them to overtake as soon as possible. From the perspective of a driver, indeed, it makes sense to describe passing cyclists as a norm; whereas, from the perspective of cyclists, this feels like a clear attitude failure on the part of drivers. Hence, simply from the combination of the relative speeds of bike and car, and a simple norm of road sharing, a fundamental disagreement in interpretation opens up between cyclists and drivers.



In fact, the situation is even more complicated. As was discussed in [Section 3](#), the narrow width of a bicycle means that it is not entirely clear whether it occupies the same lane as the car or not. Legally, this may not be in question, but, in practice, the bicycle has the option of occupying lanes-within-lanes, and drivers may be tempted to treat a cyclist in the left-of-lane position as being in a lane of their own (and so able to be overtaken without needing to pull out of the lane).

This creates even more opportunities for fundamental disagreement. A cyclist, in order to prevent drivers overtaking when they should not, may assert their position in the traffic using the assertion approach. Car drivers, on the other hand, may see this as a breach of the basic norm of road sharing:

*They should stay on the left so you can get past. I'm not talking about if you're on a tiny, narrow road, if you're on a main road with plenty of room for both to be on. (F, 39, ORU, London)*

The basic point here is that, owing to its lower speed and narrow profile, the bicycle is almost bound to come into conflict with the norms of road sharing on roads with lane widths and speeds designed around cars. To put it bluntly: the current culture of road sharing treats cars as normal and bikes as anomalous.

In this context, it was particularly striking that, in a number of our workshops, cyclists **and** ORUs made unprompted and positive comparisons with other countries, and, in particular, with Amsterdam. In making these comparisons, participants drew attention not just to what they perceived as better infrastructure, but also to what they saw as the existence of **shared** norms that ensured successful road-sharing – and made bikes and cars equally ‘normal’. The Dutch, according to these participants, do not just have great cycle-lanes, they have a common understanding of how to share the road:

*Everything [on the roads in Amsterdam] worked so much better, everybody was relaxed, everybody knew exactly what they were doing. (F, 25, ORU, Birmingham)*

*[The Dutch have] Order. I mean it's not a thing but there's order, like if that makes sense. It's just everyone knows where their place is and respects each other. (F, 36, Cyclist, London)*

Whether or not these are accurate perceptions of the Netherlands or any other countries, that common understanding of where everyone's place is was clearly lacking in **our** workshops. Among cyclists themselves, as we have already seen in [Section 4](#), there was a divergence of views about whether and when to use the pavement, the left-of-lane position and the mid-lane position. Among ORUs, meanwhile, there were clearly doubts about whether cyclists – unlicensed, untrained, uninsured and untaxed – belonged on the roads at all:

*Cars are supposed to be on the road at the end of the day, they can't go anywhere else. (F, 23, ORU, York)*

*Well the thing to bear in mind is the cyclist can actually get off and push his cycle but a bloke in a car can't. (M, 54, ORU, York)*

*There's more similarity to pedestrians and cyclists than cyclists and cars. Mainly because, I mean, like they've just got more in common . . . A cyclist would blend in better with pedestrians than they do with cars. (F, 44, ORU, Birmingham)*

*They don't pay road tax, they block the road, they are inconsiderate, they overtake, they are bloody slow . . . I pay road tax, so I should have priority. (M, 50, ORU, Birmingham)*

*The common complaint that I hear when I'm in a car with a driver is that because cyclists don't pay any road tax, they feel that the cyclists have kind of less right to be on the road with them. (F, 18, Cyclist, Bristol)*

*I don't think that drivers really accept cyclists on the road. (F, 30, Cyclist, London)*

There is evidence here of a deeper failure in the culture of road sharing on English roads. Whatever the law may say on the matter, the norms of road sharing, on roads with lane widths and speeds designed around cars, mean that cyclists are treated as anomalies; and there is a lack of consensus, even among cyclists, about whether and how bicycles should be accommodated.

Our view is that this lack of consensus may have important implications for different road-users' interpretations of, and responses to, each other's behaviour, and hence for road safety.

## 7 ROAD SHARING AND INFRASTRUCTURE

As noted above, Amsterdam was perceived by a number of participants to be an example of a place with a successful culture of road sharing between bicycles and other vehicles. However, it was also clear that participants saw this culture existing in the context of an entirely different infrastructure:

*You kind of feel like in London you sort of, you have a road for cars, the pavement for pedestrians and then if you can fit a cyclist, cycle lane in, great. If you can't, well, it doesn't matter, you know, and it chops up a lot of things like that. Whereas in Amsterdam there are literally, you know, there's, the road, there's the dividing island, there's a separate you know carved out place just for cyclists and then there's pavements completely separate. (M, 24, Cyclist, London)*

So does fixing the culture of road sharing on our roads mean changing the infrastructure? The scale of what can be done in practice is constrained by the space of most urban roads, not to mention the budgets of those managing them. And even with unlimited funds and a licence to bulldoze, any serious attempt to change the culture of road sharing between bicycles and other vehicles would require a range of coordinated interventions, such as marketing, education, legislation and enforcement. Nevertheless, it still seems desirable that infrastructure plays what part it can in the promotion of better road sharing. At the very least, we should seek to avoid infrastructure that creates **more** confusion about whether, and where, bicycles should be.

### 7.1 'Driver logic'

In this context, unsurprisingly, cycle lanes were popular in principle with both cyclists and other road users (ORUs). However, this apparent consensus conceals some important points of difference.

From the perspective of ORUs, the principal benefit of cycling lanes is that they get cyclists out of their way. For instance, there was a tendency to prefer cycle lanes which were off the main carriageway of the road; and a number of participants were exercised by the fact that, even when cycle lanes are provided, cyclists use 'other people's lanes':

*I think when you see a cycle lane, you never see any cyclists in it . . . Very rarely I see a cyclist in the cycle lane, but they're dodging into our lanes. (M, 55, ORU (coach-driver), London)*

Concern was also expressed about cycle lanes which involved 'taking away' space from ORUs – especially where this led to greater congestion or slower speeds:

*With the way that they're pushing it [York's cycle-friendly policies], they're also aggravating the drivers because they're taking away . . . Clifton Green, they're taking away a full left-hand side lane at the traffic lights to make it a cycle lane . . . It's busy all the time and there used to be a filter lane going left and they've taken that away now so motorists now, when they're approaching that, they're aggravated already because the lane's gone. (F, 53, Cyclist, York)*

Not surprisingly, facilities such as Advanced Stop Lines (ASLs) also tended to be unpopular – especially as they allow cyclists one has already passed to get back in front again. One participant in York articulated a deeper concern, that cycle-friendly policies as a whole were leading to cyclists trying to take away the whole road:

*And now I'm going to put the cat right among the pigeons; 50% of cyclists think they, because York is such a cycle friendly city that they have rights over every other vehicle on the road . . . I would say 40–50% of cyclists feel that . . . (F, 51, ORU, York)*

It is worth pausing to spell out, albeit rather crudely, that the basic logic of that quote seems to underpin this approach to solving the problem of road sharing – what we might call (at the risk of stereotyping drivers) a ‘driver logic’:

1. Bikes are anomalous and really **do not** belong on the road.
2. They should be given somewhere else to go.
3. Having been given somewhere else, they should not then be on the road.
4. Nothing should be taken away from drivers in the process.

## 7.2 Bad infrastructure

From the cycling perspective, ‘driver logic’ presents a number of clear problems. The one which received most attention in our workshops was that the ‘somewhere else to go’ is frequently inadequate. We heard plenty of examples of cycle lanes which:

- ended suddenly, leaving the cyclist having to rejoin traffic;
- were punctuated by drains and manhole covers, or were poorly maintained;
- required the cyclist to stop all the time, for example a pavement cycle track crossing side roads; and
- were infringed on by traffic or were used to park cars.

A quick search on the internet will provide countless more examples of infrastructure judged to be inadequate or dangerous by the cyclists trying to use it.

Bearing in mind the logic outlined above, it is clear that the issue here is not just the poor quality of the cycling facilities provided, it is the fact that these facilities may diminish the legitimacy of bicycles on the road even further without actually given them a viable alternative. Poorly executed cycling facilities might actually make the road-sharing problem **worse**.

Cycling facilities can also make the road-sharing problem worse if they create additional confusion about where cyclists and drivers are meant to go. The following is an example of a workshop participant talking about ASLs:

*A lot of the ones I've seen, you've got your traffic lights here and then you've got like a cycle lane coming up here, and then it goes into a box that actually goes in front of the cars. And then you've got your cycle sign here. So I mean should the car stop here and the cycle go over the crossing? Or is the cycle going to stop here and carry on with the traffic? You just don't know what's going to happen. It seems really pointless, a waste of green paint . . . Because this is never said, you know; you're never told when you're learning to drive or when new things come into place.  
(F, 18, Cyclist, Leicestershire)*

This was not the only example of participants expressing confusion about how to use ASLs or other forms infrastructure – although others were clearly comfortable with them. The key problems seem to be:

- infrastructure that is too complex, and needs to be decoded by the road user rather than fitting with their intuitive understanding of how the road works;
- a failure to communicate and explain to people – including those who passed their driving tests some time ago – how to use innovative infrastructure; and
- a lack of consistency from one place to the next, so that when one goes to a new area one does not know what one is meant to do.

### 7.3 'Cyclist logic'

Not all cycling facilities are bad, however. Cyclists in our workshops seemed most appreciative of cycle facilities that allowed them to avoid the most stressful and complex environments – such as busy roundabouts. Even in these circumstances, however, the most assertive cyclists were keen to retain the option of remaining on the road:

*When you're on a main trunk road and you see a cycle lane start and then divert to your left and go over the entry slip road to a trunk road so that you don't cross the big lane of the slip road. You see, I have mixed feelings about this in the sense that it is a good idea because the speed of the traffic on the slip road is slower generally than on the trunk road. So therefore*

*the cyclist will have more time to get over the slip road to get back onto the . . . But, on the other hand, you tend to work up enough speed to just keep yourself flowing with the traffic. It doesn't matter about the speed difference, but you're keeping up with the traffic just generally, and then you've got to make quick turns or brake suddenly, so it can cause hazards that way. But cycle lanes to divert you from complex junctions, yeah, that's a good idea. (M, 25, Cyclist, Leicestershire)*

The differences between cyclists using assertion, guardedness and avoidance become even more apparent as one moves away from the most stressful environments. In particular, while cycle tracks off the main carriageway were popular with those opting for avoidance, those opting for assertion tended to be wary of them:

*I don't really like cycle lanes generally. I don't find them really that helpful when they're offset like this. I mean, it would be much better if the road was wider and then there's one on the actual side of the road and they actually enforced it. I mean, it seems like everybody goes along like that. It's sort of . . . it can all be a bit confusing . . . (M, 47, Cyclist, London)*

There are signs here of an alternative logic for tackling the problem of road-sharing – what we might call an ‘assertive cyclist logic’:

1. Bikes do belong on the road.
2. Their place on the road needs to be established, in the face of their being treated as anomalous.
3. Infrastructure can help to do this, but assertive cycling behaviour is also key.

The challenge for those responsible for infrastructure would be large enough if they just had to contend with the differences between this logic and the driver logic outlined previously. The problem is that, as we have seen, cyclists are not a uniform audience, and many who opt for avoidance would not subscribe to the logic above. An ‘avoiding cyclist logic’ might be phrased something like this:

1. Whether bikes belong on the road or not, I want to avoid traffic at all costs.
2. Infrastructure that lets me do that will extend my cycling options.

In practice, cycling infrastructure may not be designed to tackle problems of road sharing at all, but as part of efforts to promote cycling. Since one of the major barriers to cycling is the behaviour of ORUs (see [Section 2](#)), one natural response is to focus on providing ways for cyclists to avoid traffic – in line with this avoiding

cyclist logic. However, as we have seen, this may run the risk of delegitimising the presence of cyclists on the road in the eyes of ORUs. It is at least theoretically possible, that is, that one could end up making the barrier to cycling – the behaviour of ORUs – worse.

## 8 SAFETY GEAR

Like mode choice for regular journeys (see [Section 2](#)), the use or non-use of safety gear, such as helmets or high-visibility clothing, is probably habitual for most cyclists. Consider, for instance, the following comments on wearing and not wearing helmets:

*It's automatic. It's like driving the car, I don't think about not putting a seat belt on, so it's the same with fitting a helmet. (F, 47, Cyclist, Birmingham)*

*When I go cycling, I'm going to work. It, it's a process to get to work, and so part of that process is always wearing the helmet, and so it's kind of part of, there's no kind of worrying about whether I look at all cool or anything, because I generally look horrendous at seven o'clock in the morning when I'm trying to cycle to work. (F, 24, Cyclist, Bristol)*

*I think it's more along the lines of the people you used to hang out with. It's just you pick up habits, and it's just a habit I've picked up. (M, 18, Cyclist, Bristol)*

*I think it's probably just like when I went out for a bike ride it's the last thing I think about, to be honest. I don't think, oh, I'll have to go into the garage and find my helmet and stick that on and then put it in the car or wherever I'm going. Just pick my bike up and go out for a bike ride. (M, 19, Cyclist, Leicestershire)*

Nevertheless, as with mode choice for regular journeys, people can often provide credible explanations of their habits.

In this section, we analyse the discussion in our workshops of two types of safety gear:

- cycle helmets; and
- visibility aids – such as high-visibility clothing, lights and reflectors.

### 8.1 Cycle helmets

The discussion of cycle helmets in our groups revealed a number of themes in participants' reasons to wear or not wear one, and their selection of helmets.



### 8.1.1 Theme 1: Feeling safer

One obvious reason to wear a helmet is that doing so protects you in the event of an accident:

*If you come off a bike going at any speed, even just the extra height that you've got, and you hit your head on tarmac, it's going to hurt, you're going to have a bump, you're going to have a cut. If you've got a helmet on, it's not going to happen. (F, 42, Cyclist, Surrey)*

*A friend of ours, their little boy came off and the helmet was a real mess, but he was fine and I just thought, you know, for that helmet, you know, without a helmet on he really would have hurt himself. (F, 39, Cyclist, York)*

For a few participants, the risk of an accident provided a reason to wear a cycle helmet all the time. Many, however, used a selective approach based on an estimate of risks, wearing a cycle helmet in situations where there was traffic around and/or they themselves were cycling fast, and not bothering otherwise. For some participants, for example those opting for avoidance, this provided a logic for not bothering with a helmet at all. Note that these patterns reflect the finding in McGarry and Sheldon (2008) that helmet-wearing rates are typically higher on major roads than on minor roads:

*I will wear a helmet when I'm in busy traffic going to work and back, but I don't really often use it for leisure. (M, 46, Cyclist, Birmingham)*

*[I wear it] When I know I'm going on busy roads . . . I'm just scared I might come off there and just like safety really. I mean, I'm not that worried if I'm going on cycle tracks and stuff like that. You know, if you come off it's a bit of a soft landing. (M, 34, Cyclist, London)*

*I don't cycle fast, I'm normally on the tow path, you know, or on the footpath where it's a cycle lane and sometimes not. I just don't see that I need one. (F, 40, Cyclist, Surrey)*

For younger cyclists in particular, wearing helmets might also be linked to doing tricks or cycling off-road:

*The only time I wear a helmet is if I'm going on a ramp. (M, 19, Cyclist, Bristol)*

*If you are in mud and stuff like that, you could fall off quite easily and lose control and fall off and land on your head, you've got more protection. (M, 13, Cyclist, Chelmsford)*

Are people carrying out informed calculations about risk here? The evidence from our workshops would suggest not, as many of the same participants went on to express uncertainties and doubts about when, and whether, helmets actually would afford protection:

*I just don't know enough about helmets, and do they make that much of a difference if you come off your bike? How protective are they, you know? (F, 40, Cyclist, Surrey)*

In particular, doubts were expressed as to whether helmets would provide any protection in the sort of high-speed or with-traffic situations that were prompting their use. Indeed, a number of participants argued that a cycle helmet would only be of any use for the kind of minor fall for which extra protection is not necessary:

*They're more for bumps and cycling accidents more than road safety. (M, 41, Cyclist, Surrey)*

*I'm not much higher up than when I'm walking, and if I fall over when I'm walking I don't wear a helmet. (F, 60, Cyclist, Surrey)*

*I think if you fell off, just like fell off normally, I think it wouldn't really harm you. But if you did have an accident with a car or another vehicle, I don't think it would save you. I think it would just crack up. (F, 18, Cyclist, Leicestershire)*

*I'm sure you can fall off your bike and hit your head on the pavement and get concussion, but at the end of the day you could have a really bad knock to the head and it could obviously kill you or something. But you're less likely to get killed just by knocking your head on the road. I expect that if you got hit by a car you've got every chance of not getting up from it. But actually just falling from the . . . off your bike onto the pavement, I wouldn't expect it to give you any real serious injuries. So it seems a bit odd that everyone drums into this, oh, you must wear a helmet, although I think people should obviously. (M, 24, Cyclist, Leicestershire)*

Others made the point that, if one were going to protect one's head, one really ought to protect the other parts of the body – though some participants pointed out in response that injuries to the head may be more dangerous:

*That guy in hospital with his punctured lung, you know, it's, it makes me sort of think if I'm going to wear a helmet, I may as well wear the full gear as well because it's as dangerous as anything else, really, isn't it? (F, 47, Cyclist, York)*

*Say if you got hit you're not going to just dive on the floor or make sure your head hits the floor . . . The only reason when you're going to get hit is side on, you're never going to get hit from the top really. (M, 12, Cyclist, Liverpool)*

The evidence from our workshops suggest that wearing a helmet is less about calculating risk, and more about having a way of **feeling** safer in situations that **feel** risky – whether or not those situations actually correspond to ones in which a cycle helmet would afford much benefit. Helmets, as one participant put it, offer you ‘peace of mind’:

*Maybe people are wearing them just for like peace of mind rather than actual safety. (M, 24, Cyclist, Bristol)*

In the York workshop, there was some unprompted discussion by a few of the male participants of the possibility that this increased feeling of safety that comes with wearing a helmet might lead to ‘risk compensation’ behaviour. One participant made the comparison with a scrum cap he had started wearing for rugby, which he believed had made him take more risks:

*[My rugby scrum cap] actually makes me go into things harder and not . . . And I don't . . . I just don't carry the fear that I have if I don't have it on and I actually go in and it's because I'm wearing a scrum cap I've actually got more concussions, this year in particular because I've been running around like a lunatic, thinking I'm invincible because I've got a very small bit of foam on top of my head. (M, 27, Cyclist, York)*

Great caution is needed about qualitative findings on these topics: if risk compensation effects exist, they presumably operate at an unconscious level, meaning little can be inferred either from participants’ reports or from a lack of reports of the effect. It is interesting, however, that for a couple of participants the concept at least made sense:

*It does make you feel, like you're saying, more invulnerable. Because I know that I've gone down hills without a helmet and you're pulling the brakes because your brain's suddenly thinking, I haven't got my helmet on. You know? (M, 43, Cyclist, York)*

### 8.1.2 Theme 2: Looking the part/looking a prat

The way that helmets make you look was as important a topic as safety in the workshop discussions on helmets, if not a more important one.

For a very few participants, the look of the helmet provided a reason to wear one. This was definitely the case for two participants with strong performance

motivations around speed and distance, for whom helmets were part of a well-developed social identity:

*I'm one of these who, as I said, I do 30, 40, up to 100 miles a day when I go out and I'll wear the full kit. So I'll wear the cycling jersey, cycling shorts . . . And I don't know whether it could be my lack of fashion, but I think it looks quite cool when you've got the whole kit on. (M, 25, Cyclist, Leicestershire)*

*Because I wear a tracksuit and that, it's part of the uniform and it's . . . I can't ride my racing bikes wearing normal clothes because it feels funny because you're used to wearing the gear or whatever and that . . . If I don't have my helmet, I feel very vulnerable . . . It doesn't feel like I'm fully dressed without it. (M, 43, Cyclist, York)*

Unfortunately, the same pattern did not seem to exist for many of the BMXers, despite the existence of BMX-specific helmets. Moreover, the identification of the helmet as part of the uniform of 'serious cyclists' created a reason not to wear for some participants without this social identity:

*It's just for somebody who's a real professional, or if not professional really serious about cycling. (M, 46, Cyclist, Birmingham)*

*[I wouldn't buy this helmet] because it's for a serious cyclist. Not that there's anything wrong with serious cyclist, it's just that I'm not one. (M, 30, Cyclist, London)*

For most participants, however, references to social identity were beside the point. They just thought that helmets made them look stupid, and, moreover, they continued to have negative affects on their appearance, and more specifically their hair, after they had been taken off:

*They look like half a mushroom stuck on top of your head. (F, 40, Cyclist, Surrey)*

*I had to wear one when I was younger, but now I don't, I don't bother. I just think because it's cool without a helmet on . . . I just think that it's much more cooler if you just be careful and take your time to slow down, then you won't fall off. (M, 21, Cyclist, Leicestershire)*

*By the time I get into work, I'll have to do my hair at work and stuff. (M, 24, Cyclist, Bristol)*

*You don't want to go to work and sit in an office all day with helmet head, do you? (F, 47, Cyclist, York)*

Very few participants expressed the view that cyclists might look bad **without** helmets:

*I'd feel silly if I was on the road and I didn't have it on, because I'd be thinking that motorists would be thinking, well, if you get hit, it's your fault, you know, you come off and hurt your head. (F, 37, Cyclist, Birmingham)*

### 8.1.3 Theme 3: Inconvenience

Apart from looking bad, helmets were also felt by some participants to be inconvenient to carry around:

*Where do you put it if you go into town shopping? (AN, Cyclist, York)*

*You've got to take it with you wherever you go, so if you're like meeting friends down the pub, means you've got to take a bike helmet with you into the pub, and if you get really drunk you've got to remember to take it with you. (M, 24, Cyclist, Bristol)*

Given a choice of helmets, a number of participants were particularly interested in which ones had a carrying case. Finding a way to stop your helmet getting stolen was also mentioned as an issue.

### 8.1.4 Theme 4: Something for children

One of the main reasons why children wear cycle helmets is that their parents tell them to do so – although, in fact, children are not the only people who get told to wear a helmet:

*When my husband's with me I've got to wear it because he goes on and on and on, but if I'm by myself I do have to say I don't. (F, 47, Cyclist, York)*

Of course, being told to wear a helmet is not the same as actually wearing it. In our 10- to 12-year-old group, some of the children admitted to taking the helmet off again when out of sight of their parents. In the 13- to 15-year-old male group this pattern was even clearer. Although the group had been recruited to include a mix of consistent wearers, occasional wearers and non-wearers, all the boys declared themselves non-wearers when they got into the room: their parents had, of course, been involved in the recruitment process, and either answered the screener for them or been present when they answered (although it is also possible that some boys were talking up their non-wearing behaviour for an audience of other boys). The parents of this group, in a separate workshop, admitted that they had very little idea whether their sons did, in fact, do as they were supposed to.

Why do children who have always been told to wear a helmet and, presumably, developed a habit of doing so, then go to the effort of breaking that habit? The fact that helmets are ugly and uncool – and also mess up your hair – must provide a big part of the answer.

Some younger adults also looked back and speculated that, even as adults, their non-wearing was still an expression of not having to do as their parents told them any more:

*I think there's that little rebel inside yourself, probably being forced to wear one as a kid. When you don't have someone saying you need to wear your helmet otherwise you're not going out on your bike, you think, actually, I don't have to wear one so I'm not going to bother. (F, 25, Cyclist, Leicestershire)*

*It's about repressed feelings of childhood shame! (M, 30, Cyclist, London)*

It is worth noting, however, that the children in our workshops did not themselves express any strong resentment of being told to wear a helmet – even if they had no intention of wearing one.

There are, moreover, other reasons why children may break the rules laid down by their parents and abandon their helmets as they get older. One is suggested by the following quotation from one of the boys:

*When you're learning, you have more chance of falling over and cracking your head, so it's more protection. When you get used to it you don't bother, because you know how to ride. (M, 14, Cyclist, Chelmsford)*

This comment is very interesting, in that it clearly positions the cycle helmet in the same class of safety device as stabilisers, water wings or car seats – things that you grow out of as you grow older. Childhood is full of such devices, and being able to do without them can be an important goal in growing up. Moreover, this conception of the helmet as something you grow out of can only be reinforced by the fact that so many adults do **not** wear helmets – including some of the parents who are telling their children to do so.

Many parents, however, recognise the need to set a good example. This creates a further motivation for helmet wearing – one which can also be found in other family relationships, such as older siblings:

*If I don't wear it, the kids say I don't want to wear my helmet. So, I always wear the helmet because they start, I don't want to wear mine, why aren't you wearing yours. So, I always wear it then, but if they're not with me, sometimes I don't, like if I've just done my hair or ... (F, 39, Cyclist, York)*

*Well, I'd set a good example for my brother. If you're not wearing one, it's your own fault, you just don't really value your own life as much, but if it's someone else's, you don't want to be responsible for that, and you want to set a good image. Well, I would. I would want my brother to wear one.*  
(M, 18, Cyclist, Bristol)

These various motivations for wearing or not wearing a cycle helmet – being told to, rebelling, growing up, and setting a good example – all revolve around a central image of the cycle helmet as something designed to protect children. We hypothesise that it is thanks to the existence of this image that parents up and down the country are making their children wear cycle helmets; and that it is also thanks to the existence of this image that those children are ditching their cycle helmets at the first possible opportunity.

### 8.1.5 A role for Government?

There was a wide spread of attitudes to the idea of legislation around helmets in our workshops. A number of participants thought that making cycle helmets compulsory would be a good idea, on the grounds that it would make them more likely to wear a helmet themselves, and especially that it would make it easier to persuade children to do so. On the other hand, other participants felt that legislation would be an infringement of personal liberties, and some also argued that they would be less likely to cycle if they were obliged to wear a helmet. Interestingly, these anti-legislation cases seem to be largely independent of the strength or weakness of the safety case for helmets.

The attitudes to helmets exhibited in our workshops suggest that promoting helmet wearing might also be very difficult.

The key challenge here is that safety is, in fact, relatively unimportant in the way helmets are conceptualised, even by many of those who wear them: for while it is true that a helmet gives them peace of mind in situations that are perceived to be dangerous, it is probably not true that many of them have given very much thought to the nature of the safety afforded. As for those who are not wearing helmets, the evidence is that they see them less as safety gear than as fashion disasters. Shifting this perspective, by emphasising the dangers from which helmets can protect, might risk discouraging people from cycling in the first place.

Nevertheless, the findings do suggest some possible opportunities to promote cycle-helmet wearing without ramping up people's anxieties:

- It may be much easier to encourage inconsistent wearers to wear their helmets more often, rather than trying to convert non-wearers. Inconsistent wearers typically do not wear their helmets in quieter settings or when cycling more slowly. Highlighting any benefits a helmet brings in less severe accidents might



encourage these people to extend their existing habits to new settings. This might also involve making cyclists more aware of some of the risks they face in single-cyclist accidents – and the things they can do to mitigate them.

- The finding that the helmet is currently seen as something for children opens up a possible new target for promotional activity, in particular around trying to prevent children who have a habit of wearing a helmet from breaking that habit.

Another option briefly explored in the workshops was around the potential provision of more detailed information about the safety of different helmets – along the lines of the SHARP rating system for motorcycle helmets (see <http://sharp.direct.gov.uk>). While there was some lukewarm interest in the idea, we were struck by the relative lack of demand for such information. Partly this was because so many participants had no intention of wearing a helmet whatever information they were given. But even among those who did wear a helmet, there was not a great deal of interest, with a general assumption being that if helmets passed the safety standard, they were good enough. This is consistent with the finding that people are not, in general, making calculations about how to maximise their safety, but instead are just looking for something to give them peace of mind.

## 8.2 Visibility aids

In stark contrast to helmets, there was widespread agreement across the cycling groups – echoed in workshops with other road users (ORUs) – that cyclists should do more to make themselves visible on the road. Visibility is obviously at a premium at night, but there was a general view that cyclists could do more to make themselves visible during the day as well.

Unfortunately, we know from previous research that these attitudes may not be matched by behaviour, as a number of studies suggest that the rate of wearing of conspicuity aids is very low among cyclists. For instance, Sentinella and Keigan (2006) studied fatal child cyclist crashes and found that a very small number of the sample was wearing reflective clothing. In Canada, Hagel *et al.* (2007) observed cyclists at night and found that 25% had front lights, 50% had a rear reflector, and only 12% had a reflective vest. So what is going on?

### 8.2.1 *Lights and reflectors*

Not all of the cyclists in our groups cycled at night, but, among those who did, many claimed to use lights consistently at night and to have reflectors (pointing out that the latter are a legal requirement on new bikes).

A few participants did tell stories about being caught without bicycle lights – for instance, because they had stayed longer somewhere than expected:



*One problem is, yeah, before, before I was married, you go down to a girl's house and you might stay there a little longer because maybe her parents weren't coming home for a bit and it might get dark and then you'd cycle home. And then the police might stop you and then they might, might tell you to push your bike all the way home. And then they might find you 400 metres down the road riding again. It's the kind of thing what might have happened. (M, 43, Cyclist, York)*

This particular story was also interesting in that it prompted the following response from another participant who, only a minute beforehand, had claimed that, even when younger, he had always had his lights on:

*I think I've been caught out like that. I've also been caught out where like the gentleman over there said, where actually batteries have run out on your way home. There's nothing you can do. You've still got to get home. I'm not going to walk. (M, 34, Cyclist, York)*

This not only serves as a reminder that workshop responses are likely to underestimate the prevalence of a behaviour, it also suggests the social stigma attached to not cycling without lights. (Another participant immediately responded by saying that this was exactly the sort of behaviour that most irritated her as a driver.) Of course, it is possible that this participant was merely reminded of incidents by the story told, but it is also plausible that the story of staying a little longer with a girl provided a framework within which he could excuse his behaviour in a way that put him in a rather more favourable light.

Both of these participants were male and, in line with the observations in [Section 4](#) about the behaviour of some young males, our workshops do suggest a particular problem in this area. Consider the following participant describing her 21-year-old son (the description that actually kicked off the discussion of cycling without lights quoted from above):

*The only time that I'm worried about him is when he goes out at night and he hasn't got any lights and it don't matter how many times I tell him to put his lights on, I still go in the garage and find them on top of the freezer. They're there. He's got them, but they're on top of the freezer. He's forgot to put them on his bike. (F, 52, Cyclist, York)*

The claim that the son forgets his bike lights after a recent reminder would be a little hard to swallow even without the evidence from the workshop in Bristol, in which one of the young male participants gave their reasons for not having lights:

*No [lights on my bike], I ain't even got any reflectors on mine . . . I look at it as: if you can see them then it don't matter. If you're a cyclist, as long as you can see them, they don't need to see you. (M, 18, Cyclist, Bristol)*

It is noteworthy in this connection that cyclists aged between 16 and 29 are more than twice as likely to be killed or seriously injured (KSI) at night (9pm to 3am) than any other age group – though this figure may also reflect increased exposure owing to lifestyle patterns. It is also interesting that Lim and Vigilante (2007) showed that children underestimate how dangerous it is to ride at night without reflectors (we might speculate that this is partly a result of their lack of understanding of the needs of drivers, as discussed in [Section 4](#)). If this pattern of underestimating persists into young adulthood (e.g. as a result of limited driving experience), then it might further exacerbate these sorts of problems.

The behaviour of young men, or at least some of them, is almost certainly worthy of closer attention, as discussed in [Section 4.3](#). However, is this just a problem around young men? If the figures for not using lights are even close to those reported from Canada (Hagel *et al.* (2007), cited earlier), then the answer would have to be no. Even in the absence of that evidence, however, it remains possible that there is a more widespread pattern of ‘risking it’ here, largely suppressed in our workshops by the social unacceptability of cycling without lights, but occasionally revealed:

*Well I mean, I know that you shouldn't do it but, you know, I cycle to work in the morning, and in the winter when you come out, it's dark and I meant to get lights but never did. (F, 57, Cyclist, Surrey)*

### 8.2.2 High-visibility clothing

The possibility of a gap between attitudes and behaviour becomes a clear fact when we turn to high-visibility clothing, at least in our workshops. Indeed, a pattern of question and response was apparent across workshops:

- a participant would talk about the importance of making yourself more visible as a cyclist, for example by wearing light clothes;
- the moderator would ask if the participant did this him/herself; and
- the participant would laugh.

Given that fieldwork was undertaken during the lightest period of the year, there is some possibility that these responses reflect, in part at least, seasonal variation, i.e. that some of these participants would be more likely to wear high-visibility clothing in winter months. Even allowing for this possibility, however, the evidence suggests a clear gap between stated attitudes and self-reported behaviour.

The barriers to wearing visibility gear mentioned in the workshops mirror those identified for helmets: in particular, high-visibility clothing was perceived as looking rather stupid and being inconvenient to carry around.

However, it is also worth emphasising the contrast with helmets – not in terms of the value of promoting them (which this research clearly cannot shed light on), but in terms of the relative ease of achieving any such value. Even if it does not currently translate into behaviour, the safety value of high-visibility gear (and even more so of lights and reflectors) appears to be widely accepted in a way that the safety value of helmets does not appear to be accepted.

Moreover, the promotion of high-visibility clothing (and, again, even more so of lights and reflectors) could deliver additional benefits as part of any effort to promote better road sharing – since making yourself visible was widely conceived, by cyclists and ORUs, as something cyclists can do **for** ORUs.

Participants' comments in this area were, however, based on the assumption that more high-visibility clothing does indeed confer a safety benefit. Any attempt to build on existing beliefs in this area by promoting greater visibility would need, of course, to be based on actual evidence of what works.

## 9 CONCLUSIONS

Cycling sits at the intersection of a number of policy priorities – from road safety to health promotion and carbon reduction. We hope that the findings in this report will prove useful to a range of audiences; our focus, however, has been on **road safety**.

As noted in [Section 1](#), the research was designed to address a gap in the existing literature on the motivations and perspectives of cyclists, and of other road users (ORUs) with respect to cyclists. As such, this report is largely ‘descriptive’, aiming to provide a map of the diversity of safety-relevant motivations, attitudes, perceptions and behaviour among cyclists and ORUs.

The key conclusions are as follows:

- Cycling is not a single homogeneous activity, but a number of different activities that share the use of a two-wheeled unpowered vehicle.
- Cyclists in our groups tended to conceptualise serious accidents as collisions between a cyclist and another vehicle. The risk of being killed or seriously injured in a single cycle accident was not front of mind.
- Cyclists in our groups used different behavioural approaches to manage perceived risks from ORUs, in the context of choices and limitations created by the bike.
- There were important attitudinal differences between adults and young cyclists. Children do not have experience of driving a motorised vehicle, and so lack an understanding of the perspective and needs of ORUs.
- Cyclists and ORUs explained the failures of road sharing in different ways, ranging from acts of aggression to failures of expectation or other situational factors.
- There was higher empathy for car drivers across all types of road user than for minority road users such as cyclists. There was also evidence of a stereotype of cyclists, characterised by failures of attitude and competence.
- The evidence suggests a failure in the culture of road sharing, with a lack of consensus about whether, and how, cyclists belong on the roads.
- Some infrastructure may create further room for disagreement about the norms of road sharing. Different types of cyclist also have differing, and potentially conflicting, needs from infrastructure.
- When it comes to encouraging cyclists to make themselves safer, it may be easier to promote visibility than helmet wearing. Promoting visibility could also be linked to the promotion of safer road-sharing.

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