Commonsensical Understandings of Everyday Infrastructures for Cycling in Car Dominated Transport Environments: Rule-Making, Rule-Breaking and Social Justification

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I, MICHAEL THOMAS NATTRASS confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Abstract

Streets are places of transport and much else besides. This infrastructure is not, however, equally available to all. The streets of many cities in the wealthier parts of the world prioritise the movement of motorised traffic. This is a situation widely recognised by transport and urban planners. It also presents challenges if policymakers and others wish to grow the modal share of cycling. The kinds of infrastructure on streets that support high levels of cycling are well-known. The challenge in low-cycling transport environments, like that in most cities in the United Kingdom, is more about building support for these kinds of changes that alter how streets become infrastructure. This requires some understanding of how streets are being used for cycling and how all road users go about making sense of the practical ethics of this use. Empirically and conceptually this demands the development of tools that can attend to these everyday infrastructural practices. This is where ethnographies of infrastructure can help. Thinking ethnographically about cycling in car dominated transport environments involves paying explicit attention to: a) the ways those cycling use street spaces; and b) how all road users discursively go about explaining and justifying the appropriateness of this cycling and its relations to other road users. Using ride-alongs and interviews this thesis reports from a case study in Carlisle, United Kingdom – a city where people rarely cycle, if at all. There are three main conclusions. Firstly, even in car dominated transport environments, streets are spaces for sharing. Second, sharing is defined by rules (formal and informal), obligations and responsibilities. And thirdly, these rules have a commonsensical quality that follows a kind of infrastructural settlement about whose movement is prioritised. Such commonsensical understandings point to how policymakers could go about framing and justifying interventions that make streets more cycle friendly.

Impact Statement

This thesis has the potential for wider impact both within and beyond transport as an academic and professional discipline. Here two points are worth highlighting.

Ethnography of Infrastructure is about understanding how infrastructural use happens and exploring how people go about evaluating, justifying and critiquing what is happening, what should be happening and what could happen. This ethnographic approach to infrastructural use has the potential for wider impact in transport and human geography as well as in a variety of commercial settings. Tools have been developed to observe and explore, in a systematic and rigorous way, the practical ethics that people associate with what is happening in their social and infrastructural worlds. Using an ethnography of infrastructure to explore people's critical capacities, offers commonsensical interpretations about practical ethics. This is important for other geographers who are interested in understanding the many things people are valuing in their ordinary life. Beyond geography, there are implications for evaluating how services are being provided to customers, whether this both meets the things valued by the consumer and aligns with the key performance indicators of the service provider.

Rules (formal and informal) have a form, function and reach that shapes how streets are shared by different road users. This approach to thinking about rules has far-reaching implications for those who design, enforce and update street regulations. The outputs from this thesis have formed part of recent engagements with the All-Party Parliamentary Cycling Group, Cumbria County Council and the Cumbria Cycling Strategy consultation. At a national level in the UK, this has clear implications for ongoing efforts by the Department for Transport to revise *The Highway Code* (DfT, 2015), along with other design guideline regulations, used by transport professionals when planning, designing and engineering streets. Focusing on the practical ethics and moral judgements associated with infrastructural settlements also has value when it comes to thinking about the spread of autonomous vehicles. Beyond transport, the conceptual and methodological tools developed in this project have significance for thinking about how organisations and institutions go about responding to formal regulations.

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Finally, a quick reflection on the journey that has culminated in this thesis. My interest and passion for geography goes back to the inspiration provided by Mr Patrick and Mr McDonnell at Caldew School, Dalston, Cumbria – I know I would not be doing a PhD in Geography if it was not for them. If there is one school assembly I remember most clearly, it was when the headteacher, Mr Abernethy, showed the hierarchy of education qualifications right through to the Doctorate level and commenting, 'someone in this room could well reach that top level'. And here I am some ten years later writing the acknowledgments to my own doctoral thesis, which just shows what hard-work, resilience and curiosity can achieve.

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1 Introduction

Streets are places of transport and much else besides. Transport at its most basic involves people travelling from A to B. When travelling, people are also working, parenting, reading, conversing, networking, exercising and so on. These practices could involve a complex mix of walking, cycling or driving not to mention passengering, wheelchairing, motorcycling or scootering. How these different road users go about sharing the different spaces making up a street and how they interact with other users as they do so, is open to enormous variation. Clearly, these dynamics will depend on the street being described. Design and regulation matter in this respect given they help to script where different people and things belong and how they should behave in relation to one another. But as the journalist Tom Vanderbilt (2008:6) writes, streets are far 'more than a system of regulations and designs', they are 'places where people, with only loose parameters for how to behave, are thrown together on a daily basis'. Moreover, and to borrow from the architect Jan Gehl (1978), streets form an integral part of the public space in cities, towns and villages where much of the ordinary *Life Between Buildings* happens. Streets then are as much a social space as they are an engineered space[1]. To put this slightly differently, sharing the spaces making up a street is as much about cooperation between people – potentially using different transport modalities – as it is about coordination. This provides the focus for this thesis. In the context of a car dominated transport environment, its aim is to explore how sharing street spaces is dynamic yet can also take on a settled quality, the likes of which are not necessarily fair nor inevitable.

Why is understanding the sharing of street spaces an important research topic? In a world where transport systems contribute to the problems of climate change and air pollution, physical inactivity and social isolation, congestion and unsustainable economic growth, transport systems also have the potential to be a major part of the solution to these pressing policy concerns. This would require transport systems to change and evolve. In this respect, cycling is increasingly recognised by planners, public health officials and even politicians in the richer parts of the world, as an important tool for creating more liveable people-centric streets, neighbourhoods and cities (see Gehl, 2010; Sadik-Khan and Solomonow, 2016). This

[1] The term street is used throughout to describe the spaces people use to move around cities, towns and villages. In the United Kingdom, these same spaces are also colloquially described as roads or in law, they are the pubic highways. Within streets there are a number of separate spaces that are termed in the UK: carriageways; footways; cycleways; and public spaces. All of these spaces have a particular definition in law, where a set of formal rules and laws define who can use them and how they should use them, not to mention various regulations and standards regulating the design and configuration of these movement spaces.

is also reflected in the growing amount of academic interest, including amongst transport geographers, about cycling and cycling infrastructure – Pucher and Buehler (2017) document a thirteen-fold increase in published articles between 1991 and 2016. What many had thought was an outdate mode of transport overtaken by automobility, is being reinserted – to varying extents – into streets long dominated by the speedy flow of motorised traffic (see Jones, 2016; Aldred and Dales, 2017; Lovelace et al. 2017; Parkin, 2018). Of course, cycling did not disappear entirely from most car dominated transport environments. But it's changing relationship with other road users and how these people expect the spaces of streets to be shared, says a lot about how certain transport modalities are marginalised in order to prioritise others (Jain, 2004; Norton, 2008).

The resurgence of cycling and related policy interventions which aims to grow the constituency of people who feel willing, able and comfortable with cycling, gets easily drawn into discussions about infrastructural innovations that would change the design and use of streets. This kind of interest is welcome. Design elements such as bike lanes, cycle traffic lights, priority junctions, shared streets and even bike hire schemes (docked and dockless) are a few example of the new ways of organising how cycling gets done on streets. Moreover, these design elements reflect countless empirical studies documenting the kinds of physical infrastructure that create, sustain and grow a high cycling modal share (Pucher and Buehler, 2008; Parkin, 2018; van Goeverden et al. 2015). In low-cycling environments like the United Kingdom then, planners and policymakers are increasingly aware of the material objects that are needed to design cycle friendly streets that affords certain kinds of movement – these objects are commonly termed infrastructure (Transport for London, TfL, 2015; Department for Transport, DfT, 2016). It follows that the sorts of physical infrastructure on streets that support mass cycling are well-known. The challenge in the UK is more about building support for these kinds of cycle friendly changes to street spaces. And this requires some understanding of how road users think about the practical ethics of using streets for cycling in what obviously remain heavily car dominated transport environments. The question being raised here is: what kind of research can understand the ways people think about how streets spaces should be used and shared with those cycling alongside how this space could be organised in different ways going forward? There are a number of possible answers to this.

One approach would be to examine why those cycling and their right to use the road network has become the transport topic in the UK that attracts the most polarised debate. Here, established media outlets and various social media platforms host stories, videos and comments that play to this sense of adversarial polarisation among road users. This content

often draws attention to examples when road users are at their anti-social and confrontational extreme: 'Cycling Stasi' (Vine, 2015) and 'Cyclists are a menace and should be banned from the roads' (Caster, 2015) are just two examples. These headlines are certainly a form of clickbait – online content whose main purpose is to attract attention and clicks to a webpage. They are also unambiguous about where individuals should position themselves in relation to cycling – you are either with those who cycle or with everyone else. And they probably have some parallel to the claims people make during moments of dispute after a road traffic collision or incident. Viewed solely this way, streets are set-up here as a kind of zero-sum, either they are for those cycling or those driving; they are not for both. Clearly, this sort of material matters given the widely appreciated effects media reporting has on public opinion about cycling (see Rissel, et al. 2010; Phillips et al. 2011; Macmillan et al. 2016). Yet, it is also clear they are the product of a particular kind of debate most obvious online that is set up to appeal most strongly to those with the strongest held views (see Haidt, 2012; Rutter and Carter, 2018). To borrow from social psychologist Jonathan Haidt (2012:364), this sort of debate around cycling, in effect, circles around arguments that seek to reaffirm why one group is already 'so right' and the other group is already 'so wrong' that they are blind to 'truth, reason and common sense' of the other group

The polarisation of debate around cycling in the UK, probably goes a long way to crowd out the voices of the majority of citizens. They might have a lot more common ground, in terms of how they relate to cycling and other road users, than would currently seem the case. Cycling and those who cycle get so much aggravation that it is worth considering the case for the defence. It is surprisingly easy to make. Cycling is sustainable, inexpensive, healthy and an accessible mode of transport. *The Highway Code* in the UK confers bicycle users with the same legal rights to use carriageways (except for motorways) as those driving (DfT, 2015). Indeed, the sorts of 'problem' cycling behaviours that currently attract media attention need to be put into the context of car dominated transport environments that shape why they happen, why they get understood as problematic and the potential solutions to them. When it comes to thinking about sharing streets with those who cycle, the silent majority of road users who have not yet been minded to contribute to the polarised debates on cycling, could have something important to say. The challenge then is to provide the space to shed new light on these controversial issues by talking to people about their estimations of the rules, obligations and responsibilities of road users. This requires another approach to cycling, streets and sharing.

If streets are already being used in particular sorts of ways by people performing different transport modalities, it is reasonable to expect these same people can give grounded accounts as to why they use and share infrastructures in the ways they do. This would involve staging conversations with people to explore how they discursively work out and go about justifying how the spaces of streets should be shared with those cycling. It would be an approach that first looks to understand how people are using streets as a space for cycling; before going onto explore the way they and other roads users make sense of the practical ethics for using streets for cycling. Paying careful attention to their commonsensical understandings about what is fair, just and appropriate, alongside the resources they use to justify these lines of reasoning, will likely have much to say about how infrastructures are and could be held together by various objects, rules and institutional dimensions. This is the approach developed here. It involves observing infrastructural use and exploring why different people understand certain uses of a street to be more appropriate than others. Doing so draws attention to the material infrastructure, rules, normative patterns of negotiation and institutional dimensions shaping how the spaces making up a street emerge as infrastructure in a practical and moral sense. Through exploring how streets become infrastructural and exploring the inequities of such infrastructural affordances, helps to explain why streets are used and shared in particular kinds of ways. This is about exploring where different users belong on street spaces and how they should behave in relation to others – based on the estimations made by the very people using them.

It is in this respect that this thesis advances transport geography on cycling and infrastructure. The central argument being developed here encompasses three themes. First, *infrastructures* and infrastructural systems – to varying extents – arise, persist and fail in relation to the everyday actions and understandings of users (see Star and Ruhleder, 1996; Pinch, 2010). Second, and relatedly, *sharing* streets happens in particular sorts of ways that are neither natural nor inevitable (see Ostrom, 1990; 2005a). Working through an ethnographic register of infrastructural use helps to explore how and why certain forms of sharing become more appropriate than others and can take on kind of settled quality. This leads to the third element about *talk* being the medium through which people – during disputes – can evaluate, justify and critique what is happening based on their own commonsensical estimations of what is fair, just and appropriate in that given situation (see Boltanski and Thévenot, 2006; Stark, 2009; Tilly, 2006). Together, these three elements draw in new conceptual ideas into transport geography and refocus some of its existing methodological tools. Doing so will

allow us to think carefully about the ways in which people think about the practical ethics of using streets when cycling in a car dominated transport environments.

Infrastructures are commonly described in terms of their physical there-ness; the background systems and networks that script the taken for granted way ordinary life functions. They are also held together by certain rules and institutional dimensions (Bijker, 1995; Star, 1999; Furling, 2011). But these scripts are also read, understood, obeyed, broken or ignored by different users in varying and often surprisingly dynamic ways (Star and Griesemer, 1989; Molotch and McCain, 2008). The argument here is that how infrastructures get 'taken up, used and integrated' into the everyday practices of users is also important (Latham and Wood, 2015:303). This explains why physical objects and networks become infrastructure through the particular patterns of use performed by users – who each have their own sense of the relevant rules and institutional arrangements (Clarke and Star, 2008; Pinch, 2010). For Star (1999:380), an ethnographic approach to infrastructural use can help to explain why 'one person's infrastructure is another's topic or difficulty'. And this explains why an ethnography of infrastructure was undertaken as a means of exploring how street spaces come to support and prioritise certain kinds of movement whilst simultaneously prohibiting or making other kinds of movement more difficult. This leads to questions about how sharing happens.

Sharing the spaces that make up a street happens in particular sorts of ways. It reflects how certain patterns of use are sensed as being more appropriate and useful compared to others. These dynamics of sharing can take on a certain fixed and obdurate quality, which reflects the form, function and reach of the relevant rules and institutional dimensions (Ostrom, 1990; 2005a). The aim is to explore how road users make sense of the appropriate ways in which sharing streets should happen and why it keeps on happening. Thinking about what goes into making certain kinds of sharing possible and appropriate, has affinities to work by the economist Thomas Schelling (1978) and political scientist Robert Axelrod (1984). In this respect, sharing has the potential to be seen as the basic element through which to think about how transport systems happen in ways that have particular affordances for different users. And this is why a focus on sharing provides an important lens through which to evaluate the inequities in infrastructural affordance that Star (1999:380) is drawing attention to when she describes how 'one person's infrastructure is another's topic or difficulty'.

Talk takes us to how people go about making these sorts of evaluative interpretations about infrastructural use and the intellectual resources they use to justify them. Talk is the medium through which people present situated interpretations and commonsensical reasons to other

people, especially during moments of dispute (Tilly, 2006; Stark, 2009). In doing so they are 'saying something about the relations between themselves, those listening' to them and the topic under consideration (Tilly, 2006:15). People can give reasons and explain their thinking but that does not mean everyone will understand nor necessarily agree with one particular appeal to a shared understanding. Such dissonance matters (Stark, 2009). As Boltanski and Thévenot (2006) maintain, dissonance draws empirical attention to the form and content of the claims individuals make when talking about what is fair, just and appropriate. That there may be multiple lines of commonsensical reasoning about infrastructural use and sharing is important. It is talk of material objects, rules (formal and informal) and institutional dimensions that offers a sense of how infrastructures are being held together, which connect to the particular – though not inevitable – sense individuals hold about what constitutes appropriate forms of sharing street spaces.

To summarise, this thesis is concerned with how people think about the practical ethics of using streets for cycling in car dominated transport environments. This chapter ends by outlining the structure of the following nine chapters.

Chapter 2 begins with transport geography and its empirical interest in the geographical implications of transport systems. Here, attention is also paid to recent calls for new conceptual and methodological tools in transport geography that can help to provide a fuller sense of how transport systems are used, experienced, shared and even changed (Schwanen, 2016; 2017; Shaw and Sidaway, 2010). This leads into two sections which consider the existing body of transport geography and mobilities research on cycling in low-cycling transport environments. The lack of infrastructure for cycling is seen as the main problem. This raises questions about: how do those cycling use streets in car dominated transport environments; and how do they and other road users go about making sense of the appropriateness of these actions? Focusing on these questions reflects an alternative approach to infrastructural use to that common amongst transport geographers. To substantiate this approach, Chapter 2 ends with work from Science and Technology Studies concerned with the material and immaterial elements that hold infrastructures together.

Chapter 3 sets out the conceptual framework that helps to examine how sharing street spaces is understood in a practical and moral sense by those often using these spaces. Work is drawn from: Institutional Economics on sharing commons resources; Law and Economics on formal and informal rules; Cultural Theory of Risk; and Economic Sociology work on social justifications. These bodies of literature have a broadly held interest in the multiple –

at times competing – lines of commonsensical reasoning people make about what constitutes fair and appropriate ways to share a resource in a given situation. In this chapter, emphasis is placed on considering how people go about discursively making sense of the infrastructural world of streets and why it ought to practically and morally happen in particular kinds of ways. This is why careful attention is paid to the critical capacities for evaluation and justification amongst those using streets about what is appropriate behaviour and how sharing streets ought to happen.

Developing intellectually robust knowledge about how the spaces making up a street should function infrastructurally, presented methodological challenges. Chapter 4 outlines the research question and the two-stage of data collection that was best placed to answer it. Ride-alongs (where the researcher cycles behind and video-records the participant cycling) were used to video-record how 21 different people were using streets for cycling. Subsequent interviews with these people focused on how these people justified their own cycling practices. An interview-video was then created and used to explore how a further 60 road users made sense of cycling practices and whether the cycling shown was fair, just and appropriate. Amongst these additional 60 road users: 20 were predominantly drivers; 20 mostly walked (including public transport); and 20 regularly cycled. Data was collected from a case study in Carlisle, which like most places in the United Kingdom, see most people using streets for driving (figure 1.1). And so, this research design works towards the ethnography of infrastructure of the sort developed by Leigh Star (1999) and colleagues (see Pinch, 2010). But as will become clear it also extends what an ethnography of infrastructure can explore by approaching interview talk as a medium through which people can evaluate, justify and critique infrastructural use.

The empirical findings are then presented in the four following chapters. Each follows the same basic structure: a cycling example is first introduced; then the thematic focus of the chapter is discussed in conversation with the relevant literature; and finally, attention turns to the ways a wider public of road users make sense of this cycling.

Chapter 5 examines sharing through the commonising languages road users articulated when they spoke about where different transport modalities belong on the street. More specifically, these commonising languages helped people reflect on the moral order around how sharing the street should happen, though this often gave rise to understandings that were not entirely in common with everyone else. This is because these understandings lay claim to a particular

sense of the rule-based form, function and boundaries of a commons resource that is only ever partially available to road users.

Chapter 6 considers how sharing streets is defined by rules. How people interpret and follow rules is of interest here. People have multiple – often competing – commonsensical understandings about the relevant formal and informal rules, which has significant effects on their sense of the appropriate uses of the street. Moreover, these are commonsensical understandings that were – at times – shaped more by the written legal rules, whilst for others informal social norms take on greater prominence. The effect is that the relevant rules can mean different things to different people. What is more, these variances in understanding about the rules have profound effects on belongs where and how they ought to appropriately and legitimately use the street.

Chapter 7 explores how people on the street reflect on trust and by implication, the landscape of risk and responsibility associated with sharing street space. People extend trust based on the expectation that others can be reasonably relied upon to follow a set of formal and informal rules they sense to be relevant. Who is being trusted and what they are being trusted with doing is important. This is because who gets prioritised and cared for by other road users are all moral judgements and political decisions. The answers to which may convey a strong sense of obduracy and yet the situatedness of these claims mean nothing is inevitable when it comes to the performance of infrastructure or the distribution of trust, risk and responsibility.

Chapter 8 continues with this theme of risk and responsibility as part of wider interest in what road users talked about as being fairness as proportionality. People's situated interpretations and intersubjective deliberations about sharing streets was shaped by two elements. First was how they typically use Carlisle's roads; and second, was their sense of moral considerations held in common with people who typically use other transport modalities. It is this reason why points of overlap and different are significant. They reaffirm above all else, that 'what counts, is the capacity for interpretation' about what is of value and worth (Stark, 2009:9).

Chapters 9 and 10 conclude that the spaces making up streets are subject to particular kinds of sharing and cooperation. These dynamics reflect certain understandings of the rules (both formal and informal) and the commonsensical interpretations road users make about what constitutes appropriate behaviour. What is clear is that these commonsensical interpretations are an appeal to a shared understanding even as they did not necessarily follow

through to make sense to other road users. Chapter 9 considers the conceptual and methodological significance of the four overarching conclusions: multiple forms of commonsensical intelligences; how to successfully complete an ethnography of infrastructure; five moral considerations that shape the way road users made sense of sharing streets in car dominated transport environments; and finally, infrastructural settlements and the conceptual value of thinking through them as a commons. Chapter 10 considers why engaging with infrastructure in a practical sense and paying careful attention to the reflections and moral reasonings of those within a space, has wider implications for civic deliberation and future research on transport and cities.

Figure 1.1 – Map of Carlisle, United Kingdom

A map of Carlisle, a city of 100,000 inhabitants in the North-West of England. The city is at the confluence of three rivers and is located 10miles south of the Scottish Border, 60miles to the west of Newcastle and 120miles to the north of Manchester.

2 Transport Geography and Cycling: Problems of Infrastructure

Streets are used and shared by road users performing different transport modalities that have varying infrastructural needs. Those in cars, buses, vans and heavy goods vehicles (HGVs) require different affordances for movement compared to those walking, cycling, scootering or wheelchairing. This is something widely recognised by transport planners. Indeed, it is reflected in the calls for better quality infrastructure for those cycling. And it is also evident in the physical, institutional and practical ways that streets in many towns and cities in the wealthier parts of the world are configured to prioritise motorised traffic. This is the *de facto* form of infrastructural affordance that keeps on happening even as no single mode of transport has *de jure* priority over others (see Chapter 3). It is in this respect that this chapter explores cycling in low-cycling environments, before going onto explore how to conceptually think through infrastructural use. In doing so, it looks beyond the backgrounded physical there-ness of infrastructure by considering how things become infrastructure and the inequities of the affordances they provide to different users.

The structure of this chapter is as follows. The first section begins with transport geography and its empirical interest in the geographical implications of transport systems. Attention then turns to recent calls for new conceptual resources and methodological tools that can provide a fuller sense of how transport systems are being used, experienced, shared and changed (see Schwanen, 2016; 2017). The second section discusses the existing research on cycling in low-cycling transport environments that calls for better quality cycle infrastructure. Taking cues from Rachel Aldred (2013b), this section goes beyond seeing low-cycling as just an engineering problem by making the case for unpacking how car dominated transport environments operate in particular sorts of ways for those cycling. This is an approach that reflects a scepticism about cycle friendly changes to the physical objects and spaces making up streets is only thing missing from low-cycling environments like those seen in the UK. This leads to the third section which is concerned with mobilities and cultural geography research that looks at the act of cycling (see Spinney, 2011). While especially adept at describing emotional and embodied experiences of cycling, this mobilities work is shown to be much less proficient at considering the practical ways streets get used by those cycling. And so, thinking about how those cycling use streets and how they and other road users think about the appropriateness of these actions is the original contribution being made by this thesis to transport geography. And this is why exploring infrastructural use is so important. The final section takes up such a task. Attention then turns to the way

infrastructural systems arise, persist and fail in relation to the everyday actions and understandings of users (Star and Ruhleder, 1996; Pinch, 2010). In doing so this begins an original conversation in transport geography about the various material and immaterial elements that go into how infrastructures happen.

2.1 Studying Transport: More than Engineering

Transport Geography is a relatively young sub-discipline of human geography. The *Journal of Transport Geography* recently celebrated its 25th Anniversary and is concerned with the geographical dimensions of transport, travel and mobility. The main conceptual resources and methodological tools employed by transport geographers have close affinity with the academic as well as professional discipline of transport studies. Transport studies, with its roots in engineering, emerged in the early-to-mid-twentieth century when the rise of the automotive city presented authorities with the practical problem of managing the growing amount of motorised traffic. Streets in 1920s North America and Europe were a place where people and goods were moved on foot, bicycles, horse-drawn vehicles, trams and for a privileged few, automobiles (see Gregory, 1985; Norton, 2008; Pooley, 2018). Over the past century these movement spaces have been physically, legally and normatively reconstructed to better serve the efficient flow of motorised traffic. Streets, in these wealthier parts of the world, have evolved from places where motorised traffic were an 'uninvited guest' to a place where they 'unquestionably belong' (Norton, 2008:1; Jain, 2004; Vanderbilt, 2008). It was these kinds of changes that have limited or even prohibited other uses of streets like walking, cycling, scootering, playing and so on (Longhurst, 2015; Hornsey, 2010; Emanuel, 2017).

In terms of streets, the main research agenda in transport studies has been to find the most efficient way to manage motorised traffic and improve road safety. These are just two of the practical problems where the tools of the physical sciences and rational-actor theory of human behaviour have long been set-up as the best way to address problems of congestion and coordination found in car dominated transport environments (Smeed, 1961; Taylor, 2002; Wilson, 2018). Doing so has seen transport studies promote a particular understanding of how people go about doing transport in their ordinary life. In this context, transport studies relies on 'testable theories, robust quantitative data and highly schematic assumptions about the parameters of interaction' when describing how transport systems work (Koch and Latham, 2017:9; O'Brien et al. 2014; Goodman and Cheshire, 2014). Moreover, their usefulness can be appreciated without accepting the underlying assumptions being made in this approach to how people act and interact with others. However, the problem in the

context of low-cycling environments is that thinking about streets through modelling gets easily drawn into optimising how streets are currently used and extrapolating predictions of the future based on high levels of motorised traffic use (though see Lovelace et al. 2017). The effect is that these predictions reflect an assumed inevitability about the car-centric ways streets are currently shared. And this is clearly still the case in the UK, as key policy stakeholders remain actively involved in predicting and planning for a future where more people are assumed to inevitably travel by car (DfT, 2018; though see Lyons and Davidson, 2016; Marsden and McDonald, 2017).

A growing number of progressive transport planners have increasingly turned to the way transport can facilitate the creation of more sustainable and liveable cities that are focused on more people than traffic (LaPlante and McCann, 2008; Gehl, 1971; 2010). Among transport geographers, notable contributions have emphasised how transport systems shape individual transport choices and the nature of cities (see Banister, 2008; 2011; Jones, 2016; Lyons 2016a). With four in ten of all trips being less than 2miles (c.3km) in the UK (DfT, 2016), cycling has emerged as an obvious part of future sustainable transport systems. Cycling is framed by policymakers and others as a sustainable, inexpensive, healthy and accessible mode of transport (see Batterbury, 2003). Yet, the well-documented challenges of getting more people to cycle in car dominated transport environments can be broadly summarised in two parts. First, there is the attractive convenience, status and normality associated with car use that most people value (see Mackett, 2003; Clark et al. 2016). Second, conventional policy wisdom in the UK continues to create and, in many ways further entrain, transport environments based on the assumption that car use is natural, inevitable and makes sense (Lyons, 2016a; 2016b; Marsden et al. 2018). This has been reported before and, to borrow from Thaler and Sunstein (2008:3), it supports a particular 'choice architecture' that arises from past attempts to predict and provide road capacity creating the very latent increases in driving trips that were being predicted (see Lyons and Davidson, 2016; Marsden et al. 2018). So, the modelling tools developed with the good intention of anticipating and responding to congestion, reflect a particular way of thinking about whose movement takes priority on streets.

For researchers seeking to expand on the ways transport geographers think about transport systems, attention is increasingly focused on the predominance of certain conceptual and methodological tools within this sub-discipline (see Keeling, 2007; Buliung et al. 2012; Kwan and Schwanen, 2016). Shaw and Sidaway (2010) pointedly suggest mathematical predictions and engineering approaches have their place. But to only use these tools and approaches 'is

to miss an important aspect' to the ways in which transport systems function, get used and could change (Shaw and Sidaway, 2010:513). Put slightly differently, when people move around cities and use transport systems they are engaged in 'social actions that are as much social problems, as they are technical' (Shaw and Sidaway, 2010:514; Shaw and Hesse, 2010). To explore these social problems requires some use of qualitative approaches given they can often be better placed than the quantitative approaches to analysis that are familiar to most transport geographers (Schwanen, 2016; 2017). What Shaw and Sidaway (2010) and others (see Keeling, 2009) are suggesting, is that the predominant approach of understanding streets as simply an engineered space used by rule-following automaton individuals, misunderstands how this space functions as an infrastructure and why it matters to those who are using it. This suggests that transport systems are too important to ordinary life to be 'left to conceptualisations of traffic engineers' that largely emphasis optimal coordination and flow efficiency (Longhurst, 2015:240; see Schwanen, 2016; 2017). It follows that the problem spaces around why transport systems function in particular sorts of ways could benefit from working in conversation with some of the conceptual and methodological resources developed by other geographers and social scientists. In doing so, this should prevent transport geographers from simply reproducing the 'social physics' pursuit of general modelling laws that get easily drawn into defending and propagating a particular car-centric vision of how streets could and should be used (Schwanen, 2016:3; see Vanderbilt, 2008; Lyons and Davidson, 2016; Oldenziel et al. 2016).

2.2 Cycling: A problem of Material Infrastructures?

There is extensive academic literature on cycling spanning a range of disciplinary perspectives from sociology and history to engineering and data science. The diversity and vigour seen in this work reflects the various ways cycling is performed in different environments and how it gets easily drawn into conversations around sustainability and health (see Rissel et al. 2010; Garrard et al. 2012; Mindell, 2018). This section does not attempt to review the vast literature that exists on the topic of cycling (see Horton et al. 2007; Buehler and Pucher, 2012; Ekblad et al. 2016). Instead, it selectively looks at work focused on increasing cycling modal share in low-cycling environments like the UK. First, it examines those transport geographers and engineers who emphasise that this is largely an engineering problem caused by the inadequate provision of infrastructure for cycling. Second, it looks at those sociologists and mobilities scholars who engage in wider efforts to unpack how low levels of cycling is the result of it being socially and culturally stigmatised.

A growing number of studies over the past decade have sought to identify the barriers inhibiting safe and inclusive cycling in the UK (see Horton et al. 2007; Pooley et al. 2013; Jones et al. 2016). Here mass cycling is presented as a commonsensical solution that can help address chronic city wide issues like air pollution, obesity and congestion (APPCG, 2016; DfT, 2016; see Banister, 2008). The most influential academic work on cycling has compared the cycling infrastructure found in the UK with those of similarly wealthy countries like the Netherlands and Denmark where a third of all trips are currently cycled (Pucher and Buehler, 2008; 2017; te Brömmelstroet, 2016). For Pucher and Buehler (2008:465), the significant discrepancy in cycling levels reflects how for many people in the UK, cycling is 'anything but a safe, convenient and attractive' mode of transport (see Wardlaw, 2014; van Goeverden et al. 2015). The problem of growing cycling then, seems easy to define as one of deficient infrastructure. According to these reviews of infrastructural configuration, the primary solution is to identify and then replicate the best-practice cycling provisions already supporting high levels of cycling in Denmark and the Netherlands (MacKinnon et al. 2008; Pucher et al. 2011). Though it should also be noted that the residential streets of suburban Tokyo show how high levels of cycling can be achieved in rather different ways (see Berent and Yoshida, 2017).

In short, infrastructure is front and centre of concerns in cycling research. Many academic and activist voices conclude growing cycling in places like the UK is a matter of changing the material configuration of streets. That much is certainly true. Sustained investment is required in the sorts of cycle provisions that are appropriate for the place and movement functions of a street; from physical segregation of cycle traffic on arterial carriageways to traffic-calming on shared residential streets (see TfL, 2014; DfT, 2016; Aldred et al. 2017; Parkin et al. 2007). These changes to the material infrastructure are seen as precursors for enabling more women, children and elderly people to feel comfortable cycling on a given street (Fyhri and Hjorthol, 2009; Aldred et al. 2017; Aldred and Dales, 2017).

However, for some, like John Forester (1994; 2001), this belies how the existing road network in low-cycling environments is the rightful and safest place for the few people who currently cycle. The reasons why vehicular cycling seems to appeal to Forester is that it aligns with, rather than challenges, a particular car-centric understanding of how streets should perform, who should be prioritised and what this all means for ensuring road safety. Such arguments have been opposed by John Pucher (2001). Moreover, the historian James Longhurst (2015) suggests such an emphasis on vehicular cycling wrongly rules-out most cycling practices on the grounds of a car-centric vision of road safety that demands a form of cycling with a

speed, predictability and orderliness akin to the motorised traffic. What is clear from these critical responses to Forester, is that where cycling fits into the spaces making up streets outruns neat descriptions about simply reconfiguring its material infrastructures. That is to say, they point to other important questions about how streets should ideally be used and by whom alongside whose movement and safety should be prioritised over others.

The literature discussed so far focuses on providing better quality infrastructure for cycling, a strand of sociology and mobilities studies explores how the culturally 'stigmatised "cyclist" identity' acts as another barrier to its wider uptake in car dominated environments (Aldred, 2013a; 2013b:253; Jungnickel and Aldred, 2014; Lubitow, 2017). Here a distinct social and cultural geography has been outlined that shows these cycling identities do not easily reflect desirable notions of normalised movement. With the motorised street being seen as an 'arena for complex and differentiated identify' formation, 'cycling is never just cycling' given the ways in which people think about it says a lot about whether it is treated equitably on this movement space (Aldred, 2013b:253; Aldred and Jungnickel, 2014; see Horton, 2007). This stresses the real value of 'hearing from cyclists themselves' about the cultural stigma of 'being a cyclist' in low-cycling transport environments (Aldred, 2013b:253; Cox, 2008). This is a research theme to have been explored in conversation with: adult commuters (van Duppen and Spierings, 2013; Nixon, 2014; Walker et al. 2014); school children (Lang et al. 2011; Jain et al. 2011; Fusco et al. 2012); and those cycling recreationally (McIlvenny, 2014; 2015; Spinney, 2006; O'Connor and Brown, 2010).

For those researching cycling an important yet often implicit starting point is what those cycling are doing in car dominated transport environments makes sense as a reasonable thing to do. Aldred (2013b:237), for example, describes the problematic struggle faced by those cycling as they navigate the objects and practices that are expected to be understood by other road users as the markers of 'incompetency' or being 'too competent' on a bicycle. When combined with car dominated environments not being the most accommodating places to cycle, it is easy to see why cycling gets framed as a risky and irresponsible thing to do (Rissel et al. 2010; Garrard et al. 2012; see Latham and Wood, 2015). In this respect, the low levels of cycling seen in the UK are understood to result from a set of infrastructural and cultural barriers that inhabit its normalisation amongst the wider public. What is interesting about these findings, is the way such work connects back to the importance of infrastructure. The streetscape has far-reaching implications on how those cycling relate to the culturally mediated identities and notions of appropriate action, some of which is often explicitly communicated through the physical configuration of public highways themselves.

In summary, previous studies have suggested more people would cycle in the UK when there is better quality infrastructure provided for those cycling. These would be infrastructural changes that are expected to help recalibrate the cultural identities around cycling towards those already seen in the Netherlands where it remains a normal thing for most people to do. But there is also another message here. Developing infrastructures for cycling is not the only thing missing that perpetuates the UK being a low-cycling transport environment. To explore this further, a slightly different approach is taken here. Similar to that of Rachel Aldred (2016; see Aldred et al. 2017; Aldred et al. 2018), the aim is to explore how streets in car dominated transport environments are currently shared and how they could be incrementally re-purposed to afford greater accessibility for cycling. There are multiple ways such questions can be approached. One is the data-driven Propensity to Cycle Tool (PCT) which visualises what a range of future cycling levels might look like on the existing UK road network (Lovelace et al. 2017; Aldred et al. 2018). It seeks to re-think what is understand as the infrastructural purpose of carriageways and to build-up cycle provision along routes with the greatest potential to grow cycling (Lovelace et al. 2017). Another is to explore the emotional and embodied experiences of cycling in its social and cultural context (Spinney, 2006; 2007; 2009; Kidder, 2011; Cook and Edensor, 2017). This latter body of research is explored in the next section.

2.3 On the Move: Thinking about How People Cycle

This section considers work that has explored how people go about cycling on streets. Of those to look at the act of movement – in its various forms – the arguments developed by mobilities scholars like John Urry (2004; 2007) have focused on the embodied and emotional experience of mobility. Travel then is far more than just having the means to achieve a particular transport goal like going to work. This is because the very act of moving is framed as being physically and emotionally experienced in ways that shape everyday life (Sheller and Urry, 2000; 2006; Edensor, 2010; Bissell, 2016; 2018; Spinney, 2016). There has been a large amount of research interested in the embodied and emotional experiences of cycling as a means of understanding this practice in its social and cultural context (Spinney, 2006; 2009; Kidder, 2011). Being there when people are cycling enables these researchers to capture what they see as the rich and distinctive cycling experiences that reflect the position of those cycling within car-centric urban environments (Spinney, 2007; Simpson, 2017; Jones et al. 2017). This work is presented as an opportunity to discover the cultural meanings of movement and to critically reinterpret everyday life. All of which is deemed possible by

exploring how people experience transport; traits that define the turn towards the cultural and experiential in human geography more broadly.

Taking a lead from cultural geography, this mobilities research is seen to provide a more accurate representation of the embodied and emotional experience of cycling. And as such, they provide a critical window on the politics of car dominated transport environments (Spinney, 2011; 2016; Kidder, 2011). This is the central contention underpinning the empirical focus on how bicycle messengers go about using streets in London and New York by weaving through traffic and jumping red lights (Fincham, 2006; 2008; Spinney, 2010; Furness, 2011). This seemingly inappropriate use of a transport system, which was designed and regulated around motorised traffic, has been manipulated through the messengers' bike handling skills. For Jeffrey Kidder (2011:182), this sees a shift as the 'material environment no longer controls but is controlled' by the bicycle messengers. Throughout his book on bike messengering in New York, Kidder (2011) talks about the visceral sense of freedom experienced both in the alternative messengering culture and the kinds of cycling they perform that challenges infrastructures scripted by automobility (Featherstone, 2004). Viewed this way, bicycle messengering seem to represent a direct challenge to automobility and wider efforts to 'materially and discursively' frame cycling through 'commuter-focused infrastructure' (Spinney, 2016:450; Kidder, 2011).

Bicycle messengering is a very niche and fundamentally anti-social way to use streets for cycling. The arguments developed by Spinney (2011; 2016) and Kidder (2011) when analysing this kind of cycling pay little attention to how streets work, are expected to work and where those cycling fit in here. In doing so, they ignore the forms of cooperation amongst road users that allows this space to function as a movement space in particular sorts of ways. These are things that, to varying extents, are scripted by the rules of the road written in *The Highway Code* in the UK (DfT, 2015). *The Highway Code* being a socio-technical script that is drawn up by the UK Government to instruct all road users on how to behave on the public highway alongside providing guidance on how to negotiate the actions of others (see Gregory, 1985; Norton, 2008; Christmas and Helman, 2011; Latham and Wood, 2015). In this respect, such a pre-occupation with bicycle messengering among those to have explored how streets are used by those cycling, stems from the way these cyclists are seen to physically and metaphorical ride rough-shod over *The Highway Code* and the particular kind of car-centric social contract it has come to represent. To follow Kidder (2011) and Spinney (2010), in effect, sets up a misplaced and unhelpful narrative that has two key elements. First, those cycling are always seen to right when it comes to challenging the prevailing ways streets

function as infrastructure. Second, infrastructure and its rules are seen to only function in a highly scripted and imposed manner. Together, this illustrates the limits of being preoccupied with the emotional experience of cycling and seeking to extrapolate their significance by forcing them through pre-existing critical narratives about the social world being defined by exclusion and injustice[2]. To do so, overlooks how *The Highway Code* in the UK helps traffic, albeit mostly the motorised variety, to move safely along a street with a sense of order and fairness. The question is where do those cycling fit within this system and how might their presence bring about change.

To answer these question and to explore how those cycling use the spaces making up streets requires something different. It requires an approach that observes infrastructural use and explores the way they think about the practical ethics structuring reasonable and appropriate conduct. Latham and Wood (2015) have explored the first element. They done this by observing the novel ways that the car dominated streets of South London get used by those cycling – uses that do not always follow the logic set out by traffic engineers. For Latham and Wood (2015:300), part of the appeal of paying close attention to the actions of those cycling is that infrastructures and the formal rules governing their use are being 'taken-up and reinterpreted' in all sorts of ways through their 'everyday use and inhabitation' (see Gregory, 1985). This suggests that looking carefully at how infrastructures come to be used in certain ways has obvious merit in low-cycling transport environments. The argument being developed here is that observing the actions of those cycling, offers scope to explore how they and other road users think through the kinds of rule-breaking, rule-bending, rule-making and social justification they make about the appropriateness of these actions in a given situation.

It is in this respect that this thesis follows the work of Latham and Wood (2015) by observing how the spaces making up a street are being used by those cycling. And extends this line of research, by exploring how those cycling and other road users go about making sense of these cycling practices with reference to their estimation of the practical ethics for using and sharing streets when cycling. These questions should matter to those interested in cycling and cycle infrastructure in low-cycling transport environments. They connect to the practical and moral expectations that all road users, not just those cycling, draw upon when evaluating

[2] Those notable for this style of thinking when it comes to infrastructure and cities are critical urban scholars. They maintain infrastructures make visible the underlying power structures that script everyday life (see Graham and Marvin, 2001; Klein and Kleinman, 2002; Young and Keil, 2010; Koglin, 2015).

and justifying how people on bicycles can appropriately use the spaces making up streets. And clearly, what might seem fair and appropriate to those cycling might not be so obvious and reasonable to other road users. Providing answers to precisely these sorts of questions is the substantial and original contribution being made here to transport geography knowledge. To do so, requires conceptual resources that can think through the ways in which people can reflect upon the infrastructural. But first, let us consider how to conceptually engage with infrastructural use.

2.4 Thinking through Infrastructural Use

What is infrastructure? Infrastructure often conjures up images of transport systems like streets, bridges, railways and airports that are themselves increasingly conceived as megaprojects (see Flyvbjerg et al. 2003; Flyvbjerg 2009; 2014). Streets are spaces constructed of concrete or tarmac, perhaps paving slabs, cobblestones, gravel even. It is a carriageway but also a footway and may be even a cycle lane. There might be signs, road markings and street furniture, like railings, barriers, bollards, traffic signals, speed humps, pedestrian refuges and zebra crossings. The physical character of these materials capture how infrastructures are often conceptualised as the background and 'underlying foundation of wider economic systems' and ordinary life (Frischmann, 2012:4; McCormack, 2009; Lee, 2009). This functional understanding of infrastructures, as backgrounded, material and taken-for-granted, reaffirms how these systems are often a 'shared means to many ends for the movement of people and goods' (Frischmann, 2012:4). Such characterisations reflect the root of the word itself. It comes from the Latin *'infra'* to mean below and *'structure'* being the relational arrangements of complex parts (McCormack, 2009; Lee, 2009). Infrastructure then supports and shapes everyday movement as well as the character of cities (see Finger et al. 2005; Künneke and Finger, 2009)[3]. In its various guises, infrastructure plays a key role in the movement of 'people, goods, energy, information and money' with what is 'often unprecedented ease' (Flyvbjerg et al. 2003:2-3; Frischmann, 2012).

[3] Another way to think about infrastructure comes from critical urban studies. These scholars have selectively drawn on STS. Urbanists define much of the debate in geography about why infrastructures matter since their configurations reflect 'sociotechnical geometries of power' that make visible and exacerbate existing inequalities (Graham and Marvin, 2001:10; Klein and Kleinman, 2002; Young and Keil, 2010). Recently, however, this research has been strongly criticised by STS scholars, like Furlong (2011) and Coutard (2008), on the grounds it is less than convincing about how infrastructures get used and evolve over time. As Furlong (2011:461) summaries, following Graham and Marvin (2001) would wrongly assume the 'impact, function and use of infrastructures' can be taken as a given. Moreover, this would overlook the 'small-scale, localised or incremental' ways infrastructures can evolve and be transformed over a period of time (Latham and Wood, 2015:303).

It is clear that infrastructures are the background systems and networks that allow ordinary life to happen and keep on happening in certain kinds of ways. Indeed, often the most obvious dimension of infrastructure is this physical there-ness. When these systems work well, they get taken for granted by users. Take the example of a traffic light signal turning red. For the red light to illuminate a whole host of interconnected infrastructures have to work. There are sensors and timing sequences that impact how long a red light is to be shown; the cables running from the signal to a circuit board; more cables connecting this up to the national grid; the power stations producing the electricity and so on. This illustrates how infrastructures are nested in other infrastructures in ways that are relational and entangled. For Leigh Star (1999:381-2), this reflects how infrastructures have an: 'embeddedness; transparency; reach or scope; learned as part of membership; links with conventions of practice; embodiment of standards; built on an installed base; becomes visible upon breakdown and is fixed in modular increments, not all at once or globally'. In some respects, infrastructures are only made possible because they are planned, designed and engineered into place. Yet, in another important respect, they are also systems that only function as they are being held together by certain kinds of rules, institutions and patterns of use. And it is this latter relationship between users and what becomes infrastructural that has attracted the attention of those working in Science and Technology Studies (STS). Within this body of work empirical focus is on how and why infrastructures happen in particular sorts of ways and why users matter to dynamic set of relations (Bijker, 1995; Star and Ruhleder, 1996; Amsterdamska, 2008; Rutherford and Coutard, 2014). On this basis, users are involved in 'consuming, domesticating, modifying and even resisting' infrastructural systems, at the same time as seeing these everyday uses being 'defined and transformed' by the very same infrastructural technologies (Oudshoorn and Pinch, 2003:1; Coutard and Guy, 2007; Furlong, 2011; Clarke and Star, 2008).

Through problematising conventional distinctions between users and produces, Bijker (1995) and other STS scholars have shown infrastructures emerge and evolve in relation to the suite of everyday practices being performed (or not) by individual users (van der Vleuten, 2004; Coutard, 2008; Farias, 2010a; Bender, 2010). This is not to deny that the form and function of a specific infrastructure or infrastructural system is planned, designed and engineered in ways that scripts how they get used in far-reaching ways (Star, 2010; see Latour, 2005). But these scripts are also being read, understood, obeyed, broken or ignored by different users in varying and often surprisingly dynamic ways (Star and Griesemer, 1989; Rutherford and Coutard, 2014). For Leigh Star (1999:380) and those taking up her

ethnographic approach to infrastructure, the important question to always ask is how and why do infrastructure function in ways that results in 'one person's infrastructure [being] another's topic or difficulty'. In the case of transport this is about paying careful to the way objects and systems that support certain kinds of movement may simultaneously prohibit or make other kinds of movement more difficult. The example that Star (1999) uses to illustrate her argument, is the stairs at the front a building which act as an infrastructure for those able to walk up them, though they are a clear barrier to those physically unable to do likewise.

The point being made here is that thinking through infrastructures and infrastructural systems requires careful attention to how their functionings arise, persist and fail in relation to the everyday actions of users (Star, 1999; Pinch, 2010; Clarke and Star, 2008). Such arguments could be eschewed by some transport geographers on the grounds that they depart from the known certainties offered by conventional notions of what is infrastructure. Yet, following Leigh Star (1999), it is clear that once any material artefact – like a street – is stripped of use it does not possess any intrinsic infrastructural properties (see Coutard, 2008; Hackett et al. 2008; Carse, 2012). This is because on closer inspection the capacity for a street to become an infrastructure – and for that matter its capacity to change over time – is as much about the situated patterns of use being performed as the way a street is designed, maintained and regulated (see Furlong, 2011; Coutard, 2008). It is in this respect that the term roading infrastructure of a street can be discussed. It is a term that aims to convey how infrastructures always involve an element of action and use. It is also used to foreground the verb-like characteristics of infrastructure as opposed to it being a noun. This should matter to transport geographers given ordinary life is defined by a whole host of actions and uses that diverge from the expectations of those designing, managing and regulating these shared resources. So, a carriageway is not an infrastructure per se, it only becomes infrastructural through the ways it gets enacted, remade and reinterpreted through the situated actions of their users. Put simply, thinking about infrastructural use should draw attention to the affordances gained by some people does not necessarily follow through to be affordance for others (see Molotch and McCain, 2008).

Exploring how things becoming infrastructural and the inequity of the affordances they provide different users is precisely what Star (1999:380) is interested in when she suggests 'one person's infrastructure is another's topic or difficulty'. And in light of the often taken-for-granted and backgrounded character of an infrastructure, Star (1999) rightly contends, answering these sorts of questions requires an ethnography of infrastructural use (see Star and Bowker, 2006; Pinch, 2010). Here there is scope to explore the interpretative flexibility

around how and when material artefacts become infrastructure through their everyday use (Star and Bowker, 2006; Hård and Misa, 2008). This explains the empirical interest in how an object can mean 'different infrastructural things to different people' for what each hold to be entirely reasonable reasonings (Star and Griesemer, 1989; Pinch, 2010; Furlong, 2011). It follows that an ethnography of infrastructure is all about the physical objects bound up with an infrastructure that are often obdurate – in the sense that once in place they are difficult or costly to rearrange or change (Hommels, 2005; 2010). But it is also about how these physical objects and networks become infrastructure through the particular patterns of use performed by users – who each have their own varying sense of the relevant rules and institutional arrangements (Star, 1999; Hommels, 2005; Furlong, 2011). In this respect, talk about the roading infrastructure of a street builds on this STS work and its emphasise on *when* something emerges as an infrastructure than merely referring to the *what* is an infrastructure (Harvey and Knox, 2008; Furlong, 2011). This means that infrastructure appears only as a relational property and not as a physical thing stripped of use (Star and Ruhleder, 1996:113; Furlong, 2011). This has affinity with the work of historians looking at the rise of automobility in the early-to-mid-twentieth century, who explored how a once-stable non-motorised street changed to prioritise motorised traffic (Norton, 2008; Jain, 2004; Longhurst, 2015).

Working from this perspective, infrastructure takes on a more malleable dimension that can be explored through the ways they are being held together by particular patterns of use as well as rules and institutional dimensions in a given situation (see Clarke and Star, 2008; Lynch, 2008; Valderrama and Jørgensen, 2008). Drawing on STS ideas around the infrastructural, offers a way of examining the material and immaterial elements that go into the making and remaking of the roading infrastructure of a street. It is understanding how streets currently become infrastructure and how its users make sense of the practical ethics of using streets that is of empirical interest here. To summarise, undertaking ethnographies of infrastructural use draws attention to the practical and discursive ways infrastructures function in particular sorts of ways and the interpretative flexibility accompanying such everyday uses, which suggests there could be more than one way for this use to happen and keep on happening.

2.5 Conclusion

This chapter started with a discussion on cycling and end by conceptualising infrastructural use. For those familiar with the growing body of research on cycling this will seem – at face

value – an obvious trajectory. Yet this chapter has set the stage in a rather different way; one that defines how this thesis will make its own original contributions to the transport geography of cycling in low-cycling transport environments. The first section looked at the predominant tools and resources used by transport geographers, the point being that these get easily drawn into seeing streets as engineered spaces for traffic. It then explored cycling in car dominated transport systems. The key relevance from this cycling literature, is that little attention has been paid to the way those cycling go about using the space making up streets. Moreover those who have looked at this topic, attention has focused entirely on talking to those who cycle. The strategic aim being sought here, is to create the conditions for mass cycling in what are currently low-cycling transport environments, for that reason, it makes sense to also think about how other road users make sense of these cycling practices. And it was thinking about these kinds of empirical questions that lead to the second section focused on infrastructure.

Infrastructures do not just happen at random. They are, of course, planned and engineered into place using materials and regulations that are in many ways familiar to transport geographers. This chapter, however, has suggested that there is more to explaining how infrastructure happen and their effects on ordinary life than its physical configuration. As Leigh Star (1999:380) outlines: 'people commonly envision infrastructure as a thing that is ready-to-hand. This image holds up well enough for most everyday purposes. Yet it becomes more complicated when investigating large-scale technical systems in the making or to examine the situations of those who are not served by a particular infrastructure'. Coming back to streets, the core argument being developed here is that there are many practical ways the roading infrastructure of a street could be legitimately used but not all uses are equally valid or appropriate. It is these dynamics and their accompanying inequities that are important when it comes to thinking about cycling in low-cycling transport environments; they show the everyday use, function and impact of any infrastructure, however obdurate, cannot be taken as the natural or inevitable way things should happen.

Working in an ethnographic register, by following Leigh Star (1999; 2010), helps to unpack: when does something become infrastructure; what should it ideally do; who enjoys the greatest affordances; how does these affordances affect others; and can be improved. Answering these questions in relation to cycling is one of the key areas where knowledge in transport geography is being advanced. In this respect, paying close attention to how infrastructures perform offers insight into the social infrastructure of rules and social norms that define appropriate action, even as they come about through the very same actions of its

users. In view of all these features, exploring the material and immaterial aspects of infrastructure is an excellent point of departure when studying the performance and availability of the roading infrastructure of streets in car dominated transport environments. In the next chapter, attention turns to this social infrastructure, how it functions as a commons (Ostrom, 1990; 2005a; 2005b) shaped by the relevant systems of rules and notions of risk, which can be outlined as part of the social justifications individuals make about the relative appropriateness of different actions.

IN SUMMARY

- Thinking about transport as more than engineering, can help transport geography to outline more than one perspective on what streets could be as an infrastructure.
- Having good-quality infrastructure for cycling is important, though is not the only thing missing from low-cycling transport environments seen across the UK.
- For those studying cycling in transport geography, cycling makes sense and how people should cycle is best answered by talking to those who currently cycle.
- Mobilities scholars are adept at exploring the embodied and emotional experience of cycling, but wrongly assume streets operate as an infrastructure in a highly scripted and imposed manner.
- Infrastructures do not just happen at random, nor should they be taken as a given; there are many ways they could function, but not all are equally valid and appropriate.
- Ethnographies of infrastructure, of the sort being developed in this thesis, explore how 'one person's infrastructure is another's topic or difficulty' (Star, 1999:380).
- Paying close attention to the way infrastructures get used draws attention to how they happen and keep happening with a certain – though not inevitable – logic and fairness.
- The term *roading infrastructure* of a street is introduced to foreground how infrastructures always involve an element of action and use; they have a verb-like character as opposed to just being a noun, a thing, whose physical there-ness can be identified.

3 Streets as a Commons: Rules, Risk and Social Justification

Streets become infrastructure in particular sorts of ways. There are various material and immaterial elements that go into these kinds of infrastructural uses. The previous chapter ended by outlining the importance of exploring how things become infrastructural and the resulting inequities in the affordances they provide different groups of users. This is precisely the situation that Leigh Star (1999:380) was thinking about when describing how 'one person's infrastructure is another's topic or difficulty'. Undertaking ethnographies of infrastructural uses is about exploring how and why infrastructures happen in ways that ensure not all uses nor users are deemed equally valid or appropriate. This chapter outlines a conceptual framework capable of helping to think through infrastructural use and the sharing of streets in low-cycling transport environments. More specifically, this is about exploring the ways road users go about discursively making sense of and relating to the practical ethics of using streets for cycling. To do so, this chapter draws on Institutional Economics, Law and Economics, Cultural Theory of Risk and the Economic Sociology work on social justification. These different bodies of research are broadly interested in the multiple – at times dissonant – ways people make sense of what constitutes the normatively appropriate ways to share and cooperate. This helps to explore how people reflect on their actions, make evaluative interpretations about those of others and appeal to shared understandings about appropriate behaviour. Doing so draws attention to the intellectual resources people use to justify their claims and accompanying sense of the rules, norms and common understandings that lead to streets functioning in certain kinds of ways.

This chapter is structured into four sections; each section contributes an additional element through which to examine how the roading infrastructure of streets get used, shared and understood in a practical and moral sense by those using them. The first section considers the idea of a commons developed by the institutional economics work of Elinor Ostrom (1990; 2005a). Emphasis is placed on a commons being a resource where certain uses and users are permissible while others are prohibited. The second section takes up the implications this first section raises about rules and the particular sense of order they propagate by making reference to work from Law and Economics (see Ellickson, 1991). The third section examines the different cultures of sensemaking around what is a risk that have interested scholars working with Cultural Theories of Risk (see Douglas, 1991; Adams, 1995). With rules and risk meaning different things to different people, this third section ends by suggesting the form, function and reach of a commons is neither inevitable nor ever entirely

settled. This leads to the last section that uses Economic Sociology work on social justification to argue all road users can evaluate actions and offer justificatory reasons as to why some actions are more appropriate than others (see Boltanski and Thévenot, 2006; Stark, 2009). The point being made here is that these justificatory utterances provide insights into the rules and reasonable patterns of coordination that people estimate reflects the practical ethics of using a resource.

3.1 Infrastructure as a Commons

Thinking carefully about how sharing and cooperation happens is central to Elinor Ostrom's (1990; 2000; 2009; 2010) Nobel Prize winning strand of institutional economics work on commons resource management. To begin, it is useful to consider why Ostrom was interested in the many aspects of sharing and resource management that cannot be fully explained by a dichotomy between the market order of Adam Smith and state order of Thomas Hobbes (Dolšak et al. 2003; Fennell, 2011). Studying the social dilemmas around how and why sharing happens, Ostrom (1990; 2005a; 2010) sought to rethink how social scientists think about the origins and practical workings of order, institutions and everyday patterns of sharing and cooperation. Her line of empirical research was about how a commons resource is produced by its users and the ways in which that involves a whole host of physical and institutional 'structures that affect incentives and [normalised] patterns of interaction' (Ostrom, 2016:92-3; Fennell, 2011). Drawing evidence from across the globe, Ostrom (1990; 2005a; 2010) and colleagues have found institutional architectures for commons resource management that combine various hybrid forms of 'markets and hierarchies, social networks and informal social relations' (Aligica and Boettke, 2012:3; Blomkvist and Larsson, 2013; Blomquist and Ostrom, 1985). This suggests that institutional systems that are neither markets nor state can successfully manage shared resources whilst simultaneously preserving the 'autonomy and freedom of choice of individuals' (Ostrom and Ostrom, 1977:47; Ostrom et al. 1999; Dolšak et al. 2003). Put slightly differently, Ostrom (1990; 2010) offers much more than an alternative to privatisation or nationalisation; she offers a new way of thinking about how certain institutional logics can improve resource performance in some circumstances but not in others.

The commons has emerged as a key conceptual tool when it comes to analysing the institutional arrangements that – in their various forms – explain how and why cooperation does or does not happen. Garrett Hardin (1968) in the *Tragedy of the Commons* sees the absence of public or private institutions as incentivising consumers to maximise their own utility

regardless of the impact on others or the wider resource system (see Olson, 1965). Yet, Ostrom (2005a; 2007) contends it would be wrong to extend such descriptions of an open-access resources (with no institutions for property rights) to the many commons resources that possess various institutional arrangements that are formulated by users themselves. Of particular interest here is the way that Ostrom (1990) understands the formation of these institutions and associated patterns of cooperation can arise from individuals having the ability to transcend self-interest and invest in something larger than themselves (see Haidt, 2012). This ability to cooperate and share a commons with others is made possible by the presence of some degree of commonsensical shared understandings about the rules – and trust – people should correctly follow (Fennell, 2011; Dolšak and Ostrom, 2003; Dietz et al. 2002). As social psychologist Jonathan Haidt (2012) puts it, extending trust and promoting cooperation through everyday social interactions is inherently risky but goes a long way to explain why human civilisations emerged and have flourished (see Blomquist and Ostrom, 1985; Berge and Kranakis, 2011). This is central to the argument put forward by Ostrom (2005a; 2005b; see Berge and van Laerhoven, 2011). People have the capacity to develop and learn complex institutional arrangements that propagate a particular sense of order and shared understanding about how a commons resource should be used, shared and even changed. Attention now turns to work in institutional economics and urban geography that is already thinking about the roading infrastructures of streets as a commons.

3.1.1 Streets as a Commons or Urban Commons?

The most substantial piece of work connecting streets with a commons resource comes from the economist Brett Frischmann (2005; 2012). With a focus on traffic congestion, Frischmann (2012) understands streets as an overused, partially rivalrous and nonexcludable resource that lacks the kind of institutional arrangements capable of managing who gets access and at what rate (see Künneke and Finger, 2005; Finger et al. 2006; Madison et al. 2010). As Blomkvist and Larsson (2013) also conclude, streets are prone to congestion because there is little connection between: the demand placed on it; the benefits each user obtains; and the collectively borne cost of these uses. This complex coordination problem stems from this resource being institutionally open-to-all not to mention the varying rates to which users of different vehicles consume this resource (see Künneke and Finger, 2005; Finger et al. 2005). For Frischmann (2012:3) then, the value of bringing road networks into conversation with the commons, comes from thinking about 'commons management as a demand-focused strategy for resource management' that can better ensure optimal levels of congestion.

These institutional economics accounts of the commons show obvious differences from the urban commons more familiar to those geographers looking at cities and mobility through a critical neo-Marxist lens (D. Harvey, 2012; Swyngedouw; 2009; Chatterton 2010; 2016). This line of critical thought draws primarily on neo-Marxist theoretical traditions to argue infrastructures reflect and propagate a particular kind of 'sociotechnical geometries of power' that is simply imposed on users (Graham and Marvin, 2001:10; Graham and McFarlane, 2015; Koglin, 2015). These scholars use the term 'urban commons' to lament the supposedly 'new waves of commons enclosure' by privatisation (Harvey, 2003:148; Moss, 2014) and instead seek to champion efforts by political movements on the Left to 'radically [re]claim their commons' and right to the city (Klein and Kleinman, 2002; Hardt and Negri, 2009; see Wall, 2014; 2017). For many urban geographers, this understanding of what is a commons provides compelling narratives through which to channel wider concerns about inequality, injustice and how best to 'envision and enact some radically alternative post-capitalist' vision of cities (Chatterton, 2010:626; Graham and McFarlane, 2015; Nikolaeva et al. 2017). Here, urban commons are seen as a collective and non-commodified bulwark against the supposed corrosive effects of the market, and increasingly the state, on both spatial and social justice (Moss, 2014; Klein and Kleinman, 2002). Something that these critical urban scholars proclaim, and wrongly in my view, that they already know what these trends and their driving forces are all about.

These narratives about the urban commons are appealing to some mobilities scholars as a way to rethink the 'value, meaning and practice of mobility' (Nikolaeva et al. 2017:17). Nikolaeva et al. (2017:17) have been one of the main advocates of 'commoning mobility'; a term that seeks a new politics that can facilitate a wider 'governance shift to more communal and democratic forms' of mobility (see Cresswell, 2006; 2010). These particular understandings of 'mobility as commons' directly criticise the work of people like Frischmann (2012). They use the term commons as a means of criticising the 'fetish for managing unrestrained movement' rather than breaking down these high-carbon and unequal mobility regimes (Nikolaeva et al. 2017:16; Moss, 2014). In line with the broader political ambitions of critical urban scholars, Nikolaeva et al. (2017) use 'commoning' as a tool to seek out ways to fundamentally challenge how some road users are prioritised over others when it comes to accessing streets (see Jain and Moraglio, 2014). One illustrative example that Nikolaeva et al. (2017:14) provide as a seminal case of this dynamic, is the difference between a 'politician crossing the city in a motorcade' compared to a 'cycling courier navigating the "leftovers" of road space' (see Spinney, 2010; 2016). An example that

for them touches on all the key trigger warnings around the supposedly known patterns of exclusion, encroachment and inequality that are all very familiar to many urban geographers and mobilities scholars.

And yet there are clear and obvious problems with drawing exclusively on this conceptual framing of urban commons. By presupposing the concerns of importance are already known, those mobilities scholars drawing on critical urban studies engage in research that is 'good at certain kinds of diagnostic critique' and not very good at knowing how things work nor how people in these spaces 'make sense of the ongoing production of the [infrastructural] spaces they inhabit' (Koch and Latham, 2012:526; 2013, see Latham, 2003; Koch, 2013). This means many of the interesting questions about streets, infrastructure and commons are the very concerns and questions left out by Nikolaeva et al. (2017) and other critical urban scholars (see Graham and Marvin, 2001; Young and Keil, 2014; Koglin, 2015). Questions about how does an infrastructure or public space happen and why do certain users have greater priority than others, are left-unanswered or just ignored. To provide answers to them, explains why circling back to the way Ostrom (1990; 2005a) and colleagues (Pennington, 2012) think about the commons is invaluable. It is a theoretically informed and empirically grounded body of research that looks with interest at how and why sharing and cooperation over a resource happens in certain kinds of ways and not others.

3.1.2 Ostrom's Commons and Roading Infrastructures

The basic aim of researching a commons[4], according to Ostrom (1990; 2005a), is to explore how a resource gets used and shared amongst a group of people. Observing these dynamics provides a sense of the institutional arrangements that, under certain circumstances, rule-in or rule-out certain uses (Ostrom, 2005a; Ostrom et al. 1994). Indeed, these rules give shape to wider notions of appropriate action, though there is no guarantee they will emerge, succeed or be held in common across a public of users (Dolšak et al. 2003; Fennell, 2011). The aspect of particular interest for this thesis then, relates to how can individuals act, reflect

[4] Ostrom (1990; 2005a) distinguishes between common-pool resources (CPR) and its specific institutional arrangements. CPR is a term to describe resources that are accessed by multiple users and are finite in nature. The specific institutional arrangements refer to whether a CPR is open-access or has various forms of private, public or common property rights. As discussed later, the public highway is not a common-pool resource in the same sense as fisheries and forestry. Though seeing it as a commons is a productive avenue for thinking about how roading infrastructure gets performed, congested and could be improved (see Frischmann, 2012).

and make claims about certain everyday uses of a resource being more appropriate than others (van Laerhoven and Ostrom, 2007; Pennington, 2012).

A commons works on the basis that 'members of a relevant community' gain access by acting in accordance to a set of commonly held rules (Frischmann, 2012:8; Berge and van Laerhoven, 2011). These rules might range from 'anything goes' right through to some 'crisply articulated set of formal rules' that exclude non-members (Frischmann, 2012:8; Benkler, 2003; 2004). As Madison et al. (2010) contend, these rules provide the terms and conditions that serve to constrain certain patterns of use by way of them reflecting a moral orderliness to appropriate behaviour.

Moving onto thinking about road systems, Frischmann (2012:92) explains using this kind of commons is not 'cost-free nor comes without any terms and conditions'. The conclusions Frischmann (2012) draws from these terms and conditions are twofold. First, the road network is currently available to the 'public on a non-discriminatory' basis by providing a 'basic capability to all users on an equal basis' (Frischmann, 2012:187). In that sense, it is still down to individual users to decide when to exercise this infrastructural capability. This is because 'priority is not for sale' nor is it legally granted to 'higher-value road users'[5] (Frischmann, 2012:195). Second, and more important to Frischmann (2012:368), commons management of road systems is difficult to create as it requires compromise among users who are 'not always commensurable with each other'. Taken together, the form of these rules and institutional dimensions, or the terms and conditions for appropriate use[6], helps to script what is currently understood as permissible or precluded behaviour, which itself, can also be re-scripted through the understandings of users.

While these insights partly stem from Frischmann's (2012) interest in a demand-focused form of commons management, how the road network functions and where those cycling fit cannot be taken as a given. This is where *The Highway Code* in the UK is useful (DfT, 2015). But as argued in Chapter 2, *The Highway Code* provides legal instruction and guidance, though there is no guarantee they will be followed all the time by all road users. Viewed this

[5] Clearly, there are times where priority is legally granted to some road users over others for what seems entirely reasonable justifications. Examples include but are not limited to: the emergency services; provision of bus lanes and other high-occupancy lanes; or even a person on a bicycle filtering past a queue of traffic (see Chapter 7).

[6] To avoid causing confusion over terminology, it should be noted that Frischmann (2012) uses the term social infrastructure to describe infrastructural resources that provide a variety of social goods. In contrast, this thesis sees social infrastructure as connecting up the institutional dimensions, rules and social norms that shape the appropriate ways a material infrastructure ought to be used.

way, Frischmann (2012) is correct to describe this shared resource being theoretically open to all on a non-discriminatory basis. Then again, this leaves out how many streets practically support patterns of use that prioritise motorised traffic even as no single mode of transport has *de jure* priority. Considering these patterns of coordination and cooperation, reaches back to how people make sense of the appropriate place, practices and relationships those cycling should have on the public highway. A set of questions that show the value of working in conversation with Ostrom (1990; 2000; 2005a) and her interest in the institutionalised rules associated with the prevailing grammars around sharing, coordinating and using a commons. The argument developing out of this work is that developing intellectually robust knowledge about the rules and institutional dimensions scripting appropriate use in a low-cycling transport environment requires attention to the grammar shaping how and why this commons gets done in certain ways. And a grammar[7] for appropriate conduct provides a particular sense of the rules, norms and common understandings with relevance here. To further clarify and develop these points it is useful to turn to what individuals understand by the form, function and reach of rules.

3.2 What are the Rules and Social Norms?

The institutional economics work on commons resources has suggested rules are important given they shape how people cooperate and coordinate with others. In terms of streets, Peter Norton (2018) and James Longhurst (2015) have already documented considerable change in the rules of the road that precipitated the rise of the motorised city in the early-twentieth century (see Hornsey, 2010; Emanuel, 2017). These historians, of course, do not elaborate on how road users currently make sense of the rules shaping where those cycling fit into the roading infrastructure of streets. However they do point out 'bicycles retain a theoretical right to the road [but that] the road itself has changed beneath them' (Longhurst, 2015:81). To aid understanding in this regard, this section works in conversation with Law and Economics scholars such as Robert Ellickson (1991). It looks to unpack what is a rule and how the form, function and reach of rules have the power to shape the actions of individuals whilst also being subject to change from these very same actions (see Taylor, 1995; Tyler, 1990; Finkel, 1995; 2000a). The conceptual narrative this section sets up then is that people's situated understandings of rules are not one-dimensional, settled nor necessarily reflect the formal rules and laws. This is because rules are created, interpreted, sustained and

[7] Grammars will be discussed further in Section 3.4 and Chapter 9.

even changed through the very actions they seek to regulate and situated understandings users make about these actions and regulations.

Rules are central to how people go about their everyday life. The *Oxford English Dictionary* (2018) defines a rule as a 'principle or regulation' that is understood to 'govern individual conduct' within a particular area of activity. Rules are guidelines of how to act. This understanding holds up well for most everyday purposes. Yet, enormous variations are found in the ways people go about make sense of and interpreting rules. This is especially true when it comes to thinking about the rules of a commons resource whose availability can vary amongst users. Clearly, rules are bit more complicated. There are, of course, formal rules written down and recognised as binding by external authorities that have the power of enforcement through various sanctions. However, there is no guarantee people will heed these formal rules and laws, or even make sense of their situated reasonableness in the same way. In fact, there are many times when people rely on informal rules to regulate behaviour. These social norms – even though they might not be directly articulated – arise from a commonly held sense of what normalised behaviour should entail. These informal rules can supplement, or even diverge and supplant the kinds of behaviour prescribed by formal rules (Ellickson, 1991; Taylor, 1995). Here the Law and Economics work of Robert Ellickson (1991) is helpful for rethinking the form, reach and relevance of various rules and regulations. Ellickson (1991) is interested in how people can cooperate under certain circumstances to gain mutual advantage without the aid of the state or being coerced by another central coordinating force[8] (see Kahan, 2002; 2003). The aspect of importance here is the way that Ellickson (1998) has shown cooperation can arise as a direct consequence of people largely governing themselves by means of informal rules – also termed social norms – that can develop, sustain and enforce a form of order without law.

What is significant about Ellickson's (1991:128; 2001) empirical findings and subsequent theorisations is that a 'rule is only being a rule' when it 'actually influences the behaviour' of individuals being targeted alongside 'those who detect others breaching them'. This relates to the basic observation that the authority and legitimacy of any rule can never be taken-for-granted given it arises – in large part – due to the ability of that rule to affect behaviour in

[8] By community of resource users, Ellickson (1991) means this is the widest possible sense. This comes from attempts to explain the various circumstances where people cooperate to gain mutual advantage without being coerced by an external power, namely the State. He looks at examples ranging from cattle-ranchers and whaling grounds, to photocopying centres and landlord-tenant relations.

the desired direction (Tyler, 1990; 2011). The philosopher Charles Taylor (1995) was also interested in the nature of rules. Taylor (1995:170) helps to develop this argument with the way he sees rules only ever 'residing' and getting 'animated' through the practices, whose performance is shaped by the functioning of that same rule (see Wittgenstein, 1953; Holtzman and Leich, 2005). For Taylor (1995:199), people draw upon a commonsensical set of 'propositions' and 'premises' from which it might make perfect sense to follow a particular rule in a given situation, whilst bending, discounting or just ignoring others (see Wittgenstein, 1953; Holtzman and Leich, 2005). And so, the form, function and reach of any rule is itself subject to moral judgements that emerge through practices justified on the commonsensical basis they conform to 'our intuitive feeling for what is right or wrong' (Taylor, 1995:227). These are points developed throughout the thesis and is what is meant when talking about situated moral judgements and commonsensical interpretations that appeal to a shared understanding; even if this shared understanding might not follow through to make sense to other road users. It follows that it is reasonable to assume those who carry out a practice will have some sense of and be able to reflect upon the rules making this an appropriate thing for them to do. Of course this could reaffirm legal rules as an external guide to appropriate conduct. But, as Ellickson (1998) shows, that is only part of the story given the various ways individuals act, share and cooperate also has profound effects on what is understood as the relevant set of rules (see Finkel, 1995).

The key empirical finding offered by Ellickson (1991) is that the laws of the legal system are like any rule in having no guaranteed relevance when it comes to regulating and guiding the actions of individuals (Kahan, 2002; Tyler, 2011; Finkel, 2000b). While resolving disputes by legal recourse is best done 'when the magnitude of what is at stake' is significant, Ellickson (1991:283) suggests the cost this incurs often incentivises a decentralised sense of extra-legal order emanating from informal social norms that may supplement, supplant or even diverge from law. Put simply, people do not live by law alone (see Etzioni, 2000; Ostrom, 2005b). There is a reciprocal relationship that begins to emerge as these formal and informal systems of rules come to 'reflect, maintain and direct' individual choices and prominent cultural values guiding what constitutes morally appropriate action (Boeckmann and Tyler, 1997:377; Finkel, 1995; 2000a). Or perhaps more significantly, this is about what is permitted or forbidden in certain circumstances, actually reflects a particular set of moral judgement that are themselves defined by a particular sense of the formal and informal rules.

Rules have a malleable and situated dimension to them. Just like the infrastructural itself, the central question being posed here by Ellickson (1991) and Taylor (1995), is less *what* is a rule

and more *when* is a rule. As Ellickson (1989; 1991; 2001) found when exploring dispute resolution among cattle ranchers in Shasta County, California, tracing through the ways people largely govern themselves by means of informal rules and norms is far harder, empirically, than identifying formal legal or organisational rules (see Kube and Traxler, 2011). Yet, this is exactly what people are doing when they use and share a resource with others in accordance to informal rules. As Charles Taylor (1995:177) contends, this remarkable form of 'practical wisdom' and appeal to shared understanding reflects how individuals can make sense of and respond to the normalised ways they and others should be acting (Tyler, 2011; Finkel, 2000a). Formal rules and laws alongside informal rules and norms prescribe a certain orderly structure around what is allowable or prohibited. This forms an essential part of facilitating understanding, cooperation and even dispute resolution. It follows that appeals to shared understandings about rules can be seen as a kind of practical ethics that defines and governs the very patterns of normalised behaviour people also help to create through their actions.

The resulting state is that a rule one group of people find obvious may not make sense in the same way, or at all, to another group. Clearly, context and the culturally mediated perspectives of users matter. People can reflect upon the relevant rules, etiquettes and notions of fairness that ought to be upheld in a given situation. And the effects of these situated interpretations often reflects a 'phronetic gap' between how people act and make sense of the rules to be followed and the written rules of the legal system (Taylor, 1995:177; see Flyvbjerg, 2004). This brings forth what counts as prosocial or antisocial behaviour is not obvious, inevitable nor settled. There can be a plurality of different interpretations and moral judgements that in turn reflect a particular sense of the form, function and reach of rules. The outcome may 'accord supporting compliance' with legal rules whilst other times they clearly 'resist the aims of the law and legal authorities' (Tyler, 1990:26; 2011). In making sense of how any rule-bound environment works it is important to examine the overlaps and differences in what those people within that space deem reasonable and appropriate (Boltanski and Thévenot, 2006; Stark, 2009; see Section 3.4). This involves asking questions that are less about making a judgement in terms of whether people are following the formal rules and more a question of what are the rules to be followed and what are the accompanying sense of moral order informing these rules.

Coming back to streets, each road user has something like their own 'private Highway Code' (Christmas and Helman, 2011:16; Gregory, 1985). Here, certain legal rules and social norms gain heightened significance over how and who ought to be using the roading infrastructure

of a street. In doing so, priority is given to certain rules and norms in a given situation that helps to justify certain patterns of use whilst criticising others. And these things matter as even *The Highway Code* contains both unambiguous formal rules and a whole host of ambiguities, rules of thumb and situated interpretations that point towards informal rule-following. The fact these rules can mean different things to different people lead to consequential effects on the patterns of sharing and cooperation expected when using the roading infrastructures of a street.

3.3 Perceptions of Risk

If people can understand the formal and informal rules in different ways, it is worth also considering how people appeal to different cultures of risk perception. At its most basic, risk describes uncertainties about future danger and reward (Twigg, 2013; Rossetto, 2013). Risk is already familiar to transport geographers and like most risk managers it is mostly understood as a mathematical probability about the likely range of future events. This kind of modelling of real risk is based on economic approaches to the probabilistic views on the future. According to the economist Frank Knight (1921), risk can be calculated using probability whereas uncertainty cannot. In this respect, risk provides a quantifiable means by which the actual future outcomes remain unknown though are governed by probability distributions known at the outset (Knight, 1921; Wendling, 2012). What interested Knight (1921) and others like him was that a world defined by calculable risk leaves no place for the uncertainty needed to make profit and entrepreneurship; since both arise from and reflect 'the ability to exploit uncertainty' that by its very nature 'cannot be measured ex ante' (Stark, 2009:14-15). As the economic sociologist David Stark (2009:15) explains, uncertainty defines entrepreneurship – the 'ability to keep multiple evaluative principles in play and to exploit the resulting friction of their interplay'. This is a point about dissonance whose significance is discussed in the next section of this chapter.

With reference to risk in transport geography, it is easy to take comfort from the sense of rigor and certainty offered by these probabilities. It helps to frame all road users as uniformly 'unresponsive to perceived changes in risk' – a style of thinking that justifies certain legal and physical changes to the road network in order to 'protect people from their own and other's stupidity' (Adams, 2011:240; Davis, 1992). As John Adams (1983; 1995; 2011) contends, this way of thinking about risk wrongly pursues the idea that there is some real objective risk out there on streets to be identified (see Wynne, 1996; Aven, 2010). Working against such an understanding has allowed Adams (1993; 1995) to outline an account of risk and human

behaviour that draws heavily on risk compensation (Peltzman, 1975; Wilde, 1998; see Fyhri et al. 2012) and cultural theory of risk (Douglas and Wildavsky, 1982). In this respect, road users are seen to 'respond to evidence of safety and danger' and given the 'right signals and incentives' can be considerate towards others (Adams, 1995; 2011:24). For Adams (1993; 1995), the perceived increases in safety provided by safety devices are to a large extent compensated by increased recklessness and speed in the actions of individual users with negative effects on their relations to other road users (see Gamble and Walker, 2016). The core argument to this work is that all risk is perceived and being the product of culture, it varies enormously from 'culture to culture, person to person' and over a period of time (Adams, 2011:250; Slovic, 2000a). By focusing on the potential multiplicity of ways people understand risk, Adams (1995; 2013) contends this can help transport geographers to better understand the uneven distribution of risk, benefits and responsibility amongst road users (Wendling, 2012; Joffe and O'Connor, 2013).

Risk is central the Anglophone literature on cycling in car dominated transport environments. Aldred and Crosweller (2015), for example, discuss the frequent exposure of those cycling to non-injury near-miss incidents as a visible manifestation of the risk faced on the UK's roads. Talking to cycle users, these incidents are mostly seen to result from poor and intolerant driver behaviour (Aldred, 2016; Walker, 2010; Walker et al. 2014; O'Connor and Brown, 2010). Dave Horton (2007) has looked at the emotional fear of cycling. Instead of dismissing this as a baffling discrepancy to the real probability defined risk of cycling nor accepting it as an accurate description of cycling, Horton (2007:147) claims that cycling is ironically 'constructed as dangerous through the very attempts to render it safe'. In both accounts the point is that risk has far-reaching effects on how people go about understanding cycling in low-cycling transport environments, which for these authors, is closely connected to the culturally stigmatisation of cycling seen in Chapter 2.

Horton (2007) connects explicitly to work by John Adams (1995). In doing so, he challenges what is commonly understood as effective road safety in the UK (see Adams and Hillman, 2002; Davis, 1992). Here those cycling are all too often framed as vulnerable and the best thing is to keep out of harm's way, even though much of this risk stems from streets being dominated by motorised traffic (Adams and Hillman, 2002; Hamilton-Baillie, 2008). So, if cycling is commonly perceived as excessively risky compared to other modes of transport, then using this to build political support for changes to the roading infrastructure of streets holds a certain logic. But such justificatory claims, as Horton (2007) recognises, could easily have the unintended consequence of further confirming this image of cycling as excessively

risky that only serves to undermine efforts to realise mass cycling[9]. It follows that past improvements to road safety in the UK[10], though not a bad thing, are largely attributable to a combination of less people walking and cycling alongside physical and regulatory interventions that keep these vulnerable users out the way of motorised traffic (Adam, 1983; Wilde, 1982; see Jain, 2004; Christie, 2018). The conclusion Adams (1995:194; 2013) draws from this sort of gross risk compensation is that what gets defined as a risk matters to what is then understood as road safety and the logic response to the risks causing harm (Slovic, 1987; 1999; 2000b; see Fyhri et al. 2012; Radun et al. 2018). And this raises the question of why do some things become a risk of heightened salience whilst others are of reduced significance?

Asking this kind of question was the long the concern of cultural theorists Mary Douglas and Aaron Wildavsky (1982). They suggest answers to who fears what and the reasons why, ultimately arise from the kinds of culturally mediated worldviews that lead individuals to make sense of the same practice in different ways (Douglas, 1992; Dake, 1991). Douglas (1992) explored the dissonant ways a real hazard get sensed as an acceptable or unacceptable risk depending upon each individual's unique nexus of practical experiences, moral principles and situated perspectives. These factors all help to give a certain shape and function to people's accounts of what the future will likely hold when doing one set of actions over others (Douglas, 1992; Alhakami and Slovic, 1994). For this reason, the very same 'cultural processes which select certain kinds of risk' for attention and control, also affect who gets burdened more by responsibility (Douglas, 1985:53; 1992; Durant, 1998; Wynne, 1996). As these conclusions suggest, risk is an 'extraordinarily constructed idea' that is open to multiple, potentially quite dissonant, set of subjective interpretations (Douglas and Wildavsky, 1982:73).

Paul Slovic (2000a; 2000b) reaches similar conclusions with his psychometric theory of risk perceptions. Interested in why people often possess different risk perceptions to the rational

[9] Horton et al. (2007:15) emphasise to anyone attempting to promote mass cycling that there is always that possibility their arguments, evidence-base and promotion of certain infrastructural changes could have 'unintended consequences'. This is not a 'cue to do nothing, but to think and work better'.

[10] Road safety can be understood very differently to that currently evident in the UK. As Vision Zero in Sweden demonstrates, it is possible to emphasise the shared responsibility amongst a plurality of road users and stakeholders. For Fahlquist (2006), Vision Zero accepts that accidents and near-misses are not caused solely by individual user failings. Rather they reflect the practical workings and priorities of the wider system that are engrained into the physical configuration and practical use of the environment itself (Christie, 2018; Jain, 2004). The net effect is to reaffirm how there is no single vision of what road safety means and that each vision reflects a particular sense of whose movement and safety is prioritised.

actor-based probabilities of risk experts, Slovic (2000a) shows how these differences reflect the workings of entirely reasonable yet different ways of making sense of the world (see Finucane et al. 2000). He and colleagues report on the 'availability heuristic' of people being far more concerned about memorable low-frequency events – like a terrorist attack – than high-frequency events – like a road crashes – even when both result in the same number of deaths and injuries (Slovic, 1987; 2000b; see Tversky and Kahneman, 1973; Kahneman, 2011; Joffe and O'Connor, 2013). Similarly, Chaurand and Delhomme (2013:1177) presented road users with hypothetical road situations in laboratory experiments and found all 'perceived less risk when they broke the law' compared to when evaluating the actions of other road users (see Salmon et al. 2013). Two factors shaping risk perception can be drawn here. One connects to the inverse relationship between the beneficial rewards and negative consequences that individuals associate with a certain activity (Alhakami and Slovic, 1994; Williams and Noyes, 2007). The second relates to an affective element that sees people base their reflective judgements not only on what they think about an event or activity but also on how they feel about it – which obviously varies with their past experiences, socio-economic status and gender (see Gregory et al. 2000). So, individual experiences, preferences for certain normalised actions and receptivity to certain mediated messages more than others, all lead to accounts of risk that differ across a public (Slovic, 2000b; Rossetto, 2013). The aspect of importance here, and to draw again on Slovic (1999:699; 2000a), is that having 'risk defined in one way' will lead to only a particular set of reasonable 'actions rising up' as the safest responses. Something that would not remain so obviously commonsensical when risk gets 'defined in other ways' by them or other people (see Finucane et al. 2000; Kahan et al. 2011; Kahan et al. 2011).

All of this applies to what people are doing on streets and their effects on others. How people understand, define and seek to manage risk 'to safeguard our way of life' and how streets get shared, depends to a large extent 'on who "we" are' as individuals and road users (Adams, 2011:254; Kahan et al. 2007). On this basis there is no single nor correct rationality about risk – just like thinking about the relevant rules and what constitutes appropriate behaviour. The point is that people offer commonsensical interpretations that appeal to shared understandings based on differing cultures of sensemaking. Clearly, some of these may only be partially held in common with those of others. And this connects to the central argument of cultural theory on risk that individuals offer mediated perspectives that 'reflect and reinforce a commitment to one or another form of social ordering' about how everyday life should play out (Kahan, 2011:726; Douglas, 1992). It follows that these cultures of

sensemaking go a long way to explain why different road users and cultures can perceive risk in differing ways that each hold their own reasonableness.

The strength of this kind of engagement extends beyond the specificity and contingency around what is understood as a risk. Douglas (1992), Slovic (2000a) and Adams (1995) point to the different cultures of sensemaking people draw upon and articulate when asked to evaluate risk. It is reasonable to assume similar processes of sensemaking are at play when people are asked how the roading infrastructure of streets should perform in a practical and moral sense. Empirically to explore these processes is to focus on how and why certain uses of streets become more appropriate than others. As discussed already, these practical ethics for appropriate use are based upon road users correctly accounting for the practices of others, expectations around normalised behaviour as well as the institutional and physical configurations of the resource itself. This has obvious affinity to the ethnographic work of infrastructural scholars such as Star (1999) and Pinch (2010). It involves engaging with the disputes and dissonances around how infrastructures should be used (Thévenot, 2002a; 2002b; 2014; Stark, 2009). And so, it is about people's critical capacities – their abilities to evaluate and justify what they are doing as well as make sense of the reasonings articulated by others. To examine the 'actual evaluative and calculative practices' that can lead people to have similar as well as a differing sense of what is worthy, it is useful to turn to Boltanski and Thévenot's (2006) work on social justification (Stark, 2009:10; Tilly, 2006).

3.4 Social Justification and Making Sense of Things

Talk of commonsensical interpretations about a commons, rules and risk perception can give a sense of how an infrastructure should work and who can legitimately access them. But when people disagree about these things, the veracity and appropriateness of their appeal to shared understanding cannot be made on the 'grounds that it works' (Stark, 2009:103). To claim that something has value greater than others articulates a criteria for appropriateness that is based on a particular sense of the relevant principles of evaluation (Boltanski and Thévenot, 2006; Stark, 2009). There can be situations where a single principle of evaluation is enforced but there are a great many other situations where people simply disagree about the principles of evaluation. Each of these principles articulate 'alternative conceptions of what is value, what is worth and what counts' (Stark, 2009:5; Thévenot, 2002a). However, the dissonance and misunderstandings that arise from the coexistence of multiple principles of evaluation can still be productive. This is because 'no [single] standpoint can be taken-for-granted as the natural order of things', which creates the ability to exploit uncertainty

(Stark, 2009:18). This involves engaging with the disputes and dissonances around how infrastructures should be used. And so, it is about people's critical capacities – their abilities to evaluate and justify what they are doing as well as make sense of the reasonings articulated by others. Talking about everyday critical capacities, involves paying careful attention to the ways individuals are actively engaged in 'evaluative and calculative practices' (Stark, 2009:10; see Boltanski and Thévenot, 2006; Tilly, 2006). Learning from these practices give an insight into the kinds of practical ethics individuals sense define what constitutes the appropriate and reasonable way for a street to happen.

Social justification theory, as a form of economic sociology, is concerned with the effects of modern economies comprising of multiple principles of evaluation, or what is termed orders of worth (Boltanski and Thévenot, 1999; 2006). Whereby, each order of worth defines what is fair, just and appropriate according to its own specific criteria. For Boltanski and Thévenot (2006), social justification theory purposefully looks at the form and content of the claims individuals articulate when making sense of the relative appropriateness of their own actions and those of others. In this sense, 'rationality is not opposed to moral judgement', rather it is bounded up 'within particular orders of worth' (Stark, 2009:13). The core argument to this work is that individuals act and – during disputes – can fashion reasonable justifications for the appropriateness of these actions within the context of a moral economy they are involved in constituting, reinterpreting and substantiating through these very same justificatory utterances[11] (Thévenot et al. 2000; see Barnett, 2014). Much of this work focuses on economic life and the internal workings of organisations. The point is that what seems fair, just and appropriate from one perspective may not follow through to make sense to other viewpoints given both reflect one particular sense of the common good and social order in that given situation. This applies as much to economic life and the internal workings of organisations as it does to infrastructural use. Doing so explores people's critical capacities that reflects both the 'interpretational freedom of individuals' as well as the wider 'cultural patterns of interpretation' that have some important scripting effects (Honneth, 2010:377; Thévenot, 2007; 2009; Wagner, 1999). What using social justification is all about then, is analysing the situated ways people evaluate, justify and offer reasons why something seems appropriate – based on principles of evaluation that are not necessarily held in common with

[11] Barnett (2014) suggests human geographers should be familiar with these kinds of arguments, as they closely follow those of Charles Tilly (2006:13), who argued 'practices of justification and evaluation' give shape and meaning to human relations, which result in social action being coordinated by the ordinary practice of searching for 'reasons, blame and responsibility'.

others. It follows that people and things are being situationally qualified with distinctive grammars, which respectively 'measure some types of worth and not others, thereby acting to validate some accounts and discredit others' (Stark, 2009:25; Lamont and Thévenot, 2000).

It is in this respect that Boltanski and Thévenot (1999; 2006) suggest articulating justifications will, to varying extents, draw on general orders of worth. The orders Boltanski and Thévenot (1999; 2006) highlight are: civic; domestic; industrial; inspired; market; opinion; and green (see Jagd, 2011; Annisette and Richardson, 2011). Each entail discrete proofs of worth. They form the very basis of a particular kind of moral accounting for what is value and how to do something appropriately in a certain part of French life. Through empirical examples from industrial relations[12], Boltanski and Thévenot (2006) demonstrate how each of these orders of worth has a particular philosophical origin. These orders of worth can operate in the same single situation. This means their relevance to individuals and their function 'varies widely and often inconsistently' (Koch, 2013:55; Jagd, 2011). Moreover, individuals can also move between orders of worth depending on the 'particularities of a dispute' (Koch, 2013:55; see Thévenot, 2007; 2009; 2014).

On the one hand, the orders of worth offered by Boltanski and Thévenot (2006) provide a sense of the different ways in which individuals can go about making sense of what is reasonable and appropriate. Where each hold a certain reasonable logic based on a particular sense of worth and moral order when it comes to describing particular aspects of the economy in France. On the other hand, confining analysis to these orders of worth that are

[12] Through an initial focus on labour markets, those using these ideas have mostly looked at bureaucratic organisations and planning disputes, where existing socio-material configurations, or interventions to change them, are subject to competing justifications and thus rivalrous orders of worth (see Annisette and Richardson, 2011; Oldenhof et al. 2013). Patriotta et al. (2011), for example, trace through the evolving form of argumentation put forward by Vattenfall, a Swedish operator of German nuclear plants, as they responded to various forms of criticism and evidence articulated by those challenging the safety of these plants. Here Vattenfall moved from initially restating the engineering evidence to prove safety (industrial), to combining this with arguments about their corporate responsibility towards citizens and the environment that demands high safety standards (civic and domestic). Moving a little closer to empirical case explored in this thesis, Thévenot (2002b) himself looks at a planning dispute between supports and opponents of the trans-Pyrenean Somport Tunnel. Here the planned tunnel, through the bureaucratic planning process, became an object open to very different interpretations of 'what counts, or should count, as a "good road" and what is the reality of such a road' in the context of the Pyrenees (Thévenot, 2002b:61). Unsurprisingly, such questions about road infrastructure were answered by some in terms enabling more people and goods to move across the Pyrenees (market). Yet, as Thévenot (2001b; 2002b:61) contends, this pushes one particular way of understanding road infrastructure that downplays how other people 'allocate worth and goodness' in different ways. For this reason, the infrastructure here is best described as a 'compromised road' given these different points of view do not necessarily lend themselves to a single account of their purpose, worth or appropriate patterns of use (Thévenot, 2001a; 2002a:63; Moody and Thévenot, 2000).

based on empirical evidence from a particular institutional and socio-economic context, would seem to undermine the central purpose of social justification theory. A theory, as economic sociologist David Stark (2009:10) argues, whose foremost interested is in 'analysing the actual evaluative and calculative practices' of the people within the space of interest.

On this basis, the situatedness of any order of worth and moral judgements accompanying them, means these orders cannot be taken as something applied to all cases. And more than that, the fundamental insight of work on justification is understanding how different systems (or orders) of value become aligned (or not). Much of this work on valuing focuses on economics (for obvious reasons). But there are all sorts of other things that are valued that might also be analysed using these conceptual resources – like cycling and where it fits into the spaces of streets. This is because people, materials, rules (formal and informal) and risk are multivalent entities. They can mean different things to different people for reasons they sense as reasonable and appropriate based on particular principles of evaluation. This means that people offer situated interpretations and justifications based on evaluative principles that often differ not only from other people, but also from one situation to another (Stark, 2009; Tilly, 2006). This is not a criticism of Boltanski and Thévenot (2006), rather, it is to restate the situatedness of any principles of evaluation. What is required then is careful attention to the way people go about arguing, evaluating, justifying and offering reasons why things should be done in certain kinds of ways in a given situation.

It should be clear why this understanding of social justification is a useful tool for thinking about how people relate to cycling and make sense of how those cycling should interact with other transport modalities. Social justifications are articulated by individuals in the face of efforts to support, alter or even prohibit certain practices and forms of social ordering (Thévenot et al. 2000). As Thévenot (2006:36; 2007) puts it, social justification theory is all about: 'how human beings and their environment are "informed", so that persons can act [and] coordinate with each other, in spite of personal and material singularities which could hinder commonality'. In doing so, they provide an insight into the various components and process of ordering that, as Koch (2013:55) describes, lead people to see spaces being 'held together in certain ways' instead of others (see Barnett, 2014). Analytically, this is why Stark (2009) follows earlier calls from the American pragmatist John Dewey (1939:64), about the need to study the processes of 'actual valuation in their cultural settings'. Paying close attention, in his case through ethnography of three organisations, Stark (2009), like Tilly (2006), explores cases where different people employ rival evaluative principles. With meaning and worth seen as a function of its practical outcome (Jagd, 2011; see Barnett, 2014),

this marks a welcomed willingness to engage the messy social world not as a single social order, but more an interweaving of multiple often competing standpoints.

Engaging with the ways people think about the practical ethics of using streets for cycling involves paying careful attention to the ways 'individuals and things are being "qualified" against certain modes of coordination' that leads to certain actions being valued more than others (Thévenot, 2006:37; 2009). These justifications and criticisms are not an 'idiosyncratic response to some one-off infrastructural configuration' (Latham and Wood, 2015:316). Rather they involve a wider sense of the rules and reasonable patterns of coordination that are outlined by talking about where cycling fits into the accepted performance of the roading infrastructure of streets. It follows that people and things are being situationally qualified with distinct grammars that respectively value some things more than others – thus help to 'validate some accounts and discredit others' (Stark, 2009:25; Lamont and Thévenot, 2000). To borrow from Boltanski and Thévenot (2006:40), the form and function of a grammar is 'dependent upon the definition of the whole [infrastructural] system to which it applies'. Grammar, in this context, is the system and structure of language that allows words and statements to be linked together in ways that make moral sense and appeal to shared understandings. That there may be multiple grammars and lines of commonsensical reasoning about infrastructures is important. People can reflect upon, justify and critique how infrastructures are being held together in certain ways by various objects, rules and institutional dimensions that provide a particular – though not inevitable – kind of guidance over appropriate conduct (Boltanski and Thévenot, 2006; see Crawford and Ostrom, 1995).

Viewed this way, much could be gleaned from the way a wider public of road users make sense of how those cycling should interact with other road users. As they evaluate, justify and offer reasons why something seems appropriate, to borrow from Thévenot (2006:37), they are making situated interpretations and moral judgements about whether this is 'sufficiently good' and satisfies demands for how to cooperate. This is what is meant when referring to social justifications and how this particular kind of talk provides insight into the constructive processes through which certain grammars of ordering arise, persist and fail. So, this is all about 'why things matter to people' (Sayer, 2006). But, crucially, it is also about staging conversations across different principles of evaluation that hold a certain logic about what the common good and social orderliness entails when sharing streets. What follows in the subsequent chapters is founded on this principle that at points of friction and dissonance people can evaluate, justify and critique based on their sense of what is reasonable and appropriate

3.5 Conclusion

This chapter was concerned with developing a conceptual framework that can help to explore how and why sharing street spaces happens in particular kinds of ways. The commons as a conceptual tool draws attention to the institutional dimensions and common understandings that allow people legitimate access to a resource once acting in accordance to certain rules. These rules can be formal, as with laws of the legal system, or informal, as with social norms and rules of thumb. The significance of any rule can be heightened for some people just as it is attenuated for others; understandings that effect how and who ought to be using a resource. People have the capacity to learn, create and change the 'cultural norms and institutional rules' that affect their use of a commons and how they relate to others when doing so (Ostrom and Walker, 2003:16; Crawford and Ostrom, 1995; Haidt, 2012). Perceptions of risk similarly reflect different cultures of sensemaking and interpretation that can lead to one set of actions rising to the top as the safest and most reasonable responses. To talk of commons, rules and risk on streets, is to explore the ways people appeal to a shared understandings even if they do not necessarily follow through to make sense to other people. Thus, it is about people's critical capacities to evaluate and justify what they are doing as well as making sense of the actions and reasonings articulated by others. These conceptual resources are helpful when it comes to understanding how road users reflect upon the following: how the roading infrastructure of streets are used and shared? Why that sharing should happen in certain kinds of ways? Whose right of movement is being afforded while others are simultaneously prohibited or made difficult? In the next chapter, attention turns to the methodological practicalities of undertaking an ethnography of infrastructure.

IN SUMMARY

- A commons is about the rules, rights and institutional dimensions that structure what is understood as the appropriate and orderly way to go about using and sharing a resource with others.
- A commons comes with certain terms and conditions of use, which sees an institutional grammar emerge that can rule-in or rule-out certain uses and users.
- Unlike the urban commons familiar to urban geographers, Ostrom's commons allows us to consider how things work and how people make sense of infrastructural worlds.
- A rule is only a rule when it actually influences the behaviour of individual users, so this malleable and situated definition encourages us to ask 'when' not 'what' is a rule.
- All risk is culturally perceived, so what becomes a risk varies enormously from person to person and impacts what seems the most commonsensical response.
- These different cultures of sensemaking around rules and risk explains why only certain doings and certain understandings deemed reasonable and appropriate.
- Social justification theory is concerned with people's critical capacities during disputes, where there are multiple principles of evaluation about what is worth.
- Paying careful attention to people's social justification is all about analysing the situated ways people evaluate, justify and offer reasons why something seems appropriate – based on principles of evaluation that are not necessarily held in common with others.

4 Undertaking an Ethnography of Infrastructure

Cycling has increasingly attracted the attention of social scientists. It is clear from Chapter 2 that those researching how people go using streets when cycling have mostly focused on observing and speaking to those who currently cycle (though see Chaurand and Delhomme, 2013; Nixon, 2014; Spinney et al. 2015). However, exploring the appropriate ways to use streets, when cycling in car dominated transport environments, requires much more than finding out what those cycling have to say about it. This explains why empirical attention in this thesis is drawn to how pedestrians, drivers and those cycling think about the practical ethics of using streets. This is because their actions, commonsensical reasonings and moral judgements reflect, justify and critique how the spaces making up a street become infrastructure for some more than others. Doing so involves ethnographically understanding how and why infrastructures happen in particular kinds of ways (see Bijker, 1995; Star, 1999). As this chapter will demonstrate, a key dimension of working in this kind of ethnographic register, is to both observe infrastructural use before staging conversations that explore the logics of social justifications that serve to validate certain uses while criticising others.

Developing intellectually robust knowledge about how streets should work as an infrastructural space presents some interesting methodological challenges. What this chapter will provide is a step-by-step guide for doing an ethnography of infrastructural use. In doing so, this chapter bridges between the conceptual framework developed in the previous two chapters and the next four chapters that presents the empirical data collected from a case study in Carlisle, a smallish city in North-West England. The first section of this chapter introduces the research question. It seeks to answer how people make sense of the ways streets should work in a practical and moral sense. It then introduces the case study site of Carlisle. After which, the original two-stage ethnography of infrastructure is presented as the best way to answer this question. Each method of data collection – ride-alongs and interviews – are then discussed with reference to how they engage with the everyday doings and understandings of different road users. This is followed by sections briefly describing the participant recruitment strategy and finally, the approach to data analysis.

4.1 Research Question

Among the academic and activist voices advocating cycling in the UK, many start from the presumption that the actions and reasonings made by those cycling make perfect sense. This reflects how many of these voices come from people who regularly cycle in low-cycling transport environments. This in itself is not a problem. But it is a problem when talking to

those who cycle, if it is also assumed that their voices are the only way to make sense of the practical ethics of using streets in car dominated transport environments. It is clear that most transport geographers and mobilities scholars who have studied cycling, work off the unspoken presumption that road users found to disagree with those cycling are either ill-informed, opposed to cycling or simply wrong. Yet, clearly the unanswered question for transport geography and mobilities scholars is whether the appeals made by those cycling to shared understandings about how streets should be used, actually follows through to make sense to other road users. This is a point with added significance given most people in car dominated transport environments rarely cycle if at all. To borrow from sociologist Howard Becker (1998:37), 'failure to think about all the people involved overlooks the most elementary conception of society' that social scientists are tasked with exploring. In short, talking just to those cycling could lead to gross misunderstandings of the problem space around sharing streets. For some road users this could easily be taken as an opportunity to excuse poor driving practices, inadequate infrastructural provisions for cycling or that streets are already being successfully shared by road users. Yet, the reasons why these responses might seem reasonable and valid to some people, should be of real interest to those seeking to realise mass cycling in low-cycling transport environments. This is because such accounts and the resources used to justify them provide an important insight into how and why people expect the roading infrastructures of a street to happen in certain kinds of way.

Analytically, the ethnographic approach to how infrastructures get used and shared being developed here is concerned with explaining how 'one person's infrastructure is another's topic or difficulty' (Star, 1999:380; Furlong, 2011). In terms of transport, this is about objects and systems supporting certain kinds of movement may also simultaneously prohibit or make other kinds of movement more difficult. Working through ethnographies of infrastructural use involves paying explicit attention to *how* people's social and infrastructural worlds happen and then work in conversation with them (and others) to explore *why* they should happen in that particular way (Star, 1999; see Latour, 2005). In this thesis attention is paid to the situated ways people draw upon certain intellectual resources to outline and justify why certain uses of a street are more appropriate than others. In doing so, this connects to earlier calls to explore how these infrastructural worlds are being 'made through the work of practical, sensual and social action' (Latham, 2003:2005). That is to say, the 'sense of possibility within our accounts' of infrastructure reflects how even those most obdurate and taken-for-granted 'institutions and ways of thinking and acting' are not inevitable nor the natural way things can become infrastructural (Latham, 2003:2005; see Star, 1999; Latham

and Wood, 2015). It follows that how people make sense of the ways infrastructures get held together by various objects, rules and institutional dimensions, provide just one particular common sense of what is reasonable and appropriate conduct. Engaging with the ways people think about the practical ethics of using streets when they or other people are cycling in a low-cycling transport environment, brings us to the research question:

> *How do road users relate to cycling and make sense of how those cycling should interact with other modalities on streets; and what do these commonsensical understandings say about how the roading infrastructure of streets ought to work in car dominated transport environments?*

This question is about: how those cycling use the spaces making up a street; the commonsensical understandings people make about these cycling practices; and the situated relations between these doings and understandings. As discussed in Chapter 2, this reflects a scepticism that dedicated physical infrastructure for cycling is the only thing missing in car dominated transport environments like the UK. Here a different focus is taken. Similar to Rachel Aldred (2013a:181; 2015), the focus is to explore the various material and immaterial processes that go into creating 'acceptable or good cycling environments' in the UK. This challenges the assumed inevitability of streets being dominated by motorised traffic by way of considering what roads users sense as fair and appropriate – claims articulated in part through their own everyday practices of users. The methodological challenge is to explore the moral domain around how the roading infrastructure of a street is shared amongst different users. How is an ethnography of infrastructure to be carried out when it comes to cycling on streets in low-cycling transport environments? And how can this set-up the sorts of conversations with road users that allow their commonsensical interpretations and accompanying lines of justifications to be examined?

4.2 The Case Study: Carlisle, United Kingdom

This thesis is concerned with how streets are being used for cycling in car dominated transport environments where very few people currently cycle. The United Kingdom, in this regard, is typical of many countries in the wealthier parts of the world. Cycling peaked in the UK in 1949 representing 39% of all traffic (Horton et al. 2007). Since then, the rate of cycling has seen significance decline. Only recently has there been modest increases and cycling currently represent just over 2% of all traffic (DfT, 2016) – though substantial local and regional differences are evident across the UK, with high levels of cycling seen in Cambridge and some inner-London boroughs (APPCG, 2016). So why Carlisle, a city of 100,000 inhabitants in Northwest England? Like many small to medium-sized towns and cities in

the UK, Carlisle currently has low levels of cycling. Streets in Carlisle are dominated by motorised traffic. A point reflected in the 2011 UK Census that shows commuting trips in Carlisle by modal share, was: 65.7% by motorised vehicle (compared to 60.2% nationally); 14.6% for walking (9.8% nationally); 7.2% for public transport (16.4% nationally); and 2.5% for cycling compared to a national figure of 2.9% (see figure 4.1; ONS, 2016; Parsons Brinckerhoff, 2015).

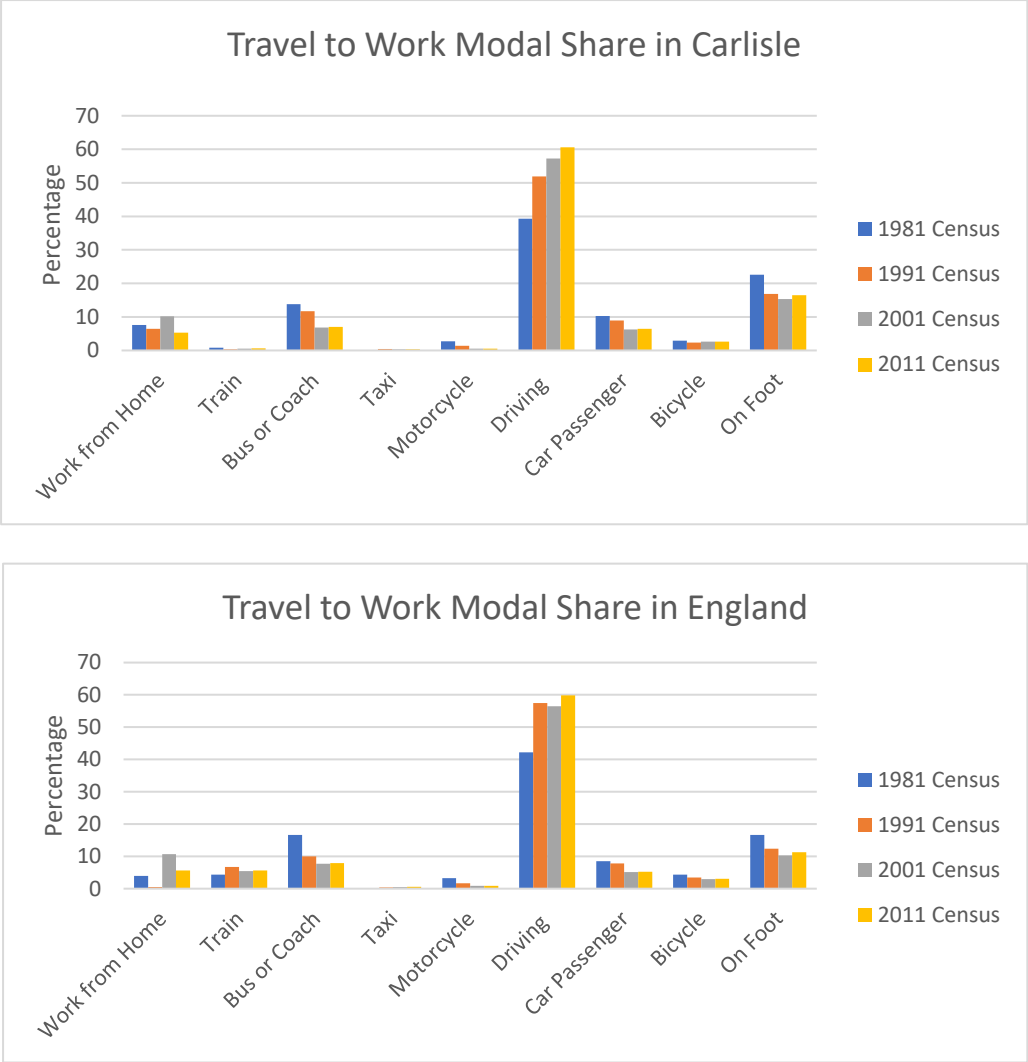

Figure 4.1 – Travel to Work Modal Share in Carlisle and England

These two graphs show the travel to work modal share data for Carlisle and England, the data represented in these graphs is drawn from the 1981, 1991, 2001 and 2011 Census. Comparing across these two graphs shows how the trends in travel to work modal share observed in Carlisle show a close relationship to the wider trends observed across England. What these trends also show, is that the composition of road users on the streets in Carlisle and England does evolve and change again (Source: ONS, 2016; ONS 2005a; 2005b; 2005c)

These modal share figures connect to the four reasons why using Carlisle as a case study has wider implications for other towns and cities in the UK. First, most people in Carlisle use streets for driving and very few currently cycle – a high ratio between those driving and cycling repeated across most of the UK. Second, the city has the sporadic, incomplete, poor-quality or simply absent cycle provisioning typical of much of the UK. Third, for small to medium-sized towns and cities to grow the levels of cycling there are challenges and opportunities that are not entirely the same as those found in the larger cities currently attracting policy and research attention in the UK. Fourth, the formal rules and laws governing streets in Carlisle are the same as those in force across the UK.

These four points explain why findings from Carlisle have wider application to the car dominated transport environments seen in most small to medium-sized towns and cities in the UK. Indeed, the value of focusing on these kinds of places, rather than metropolitan areas, is evident in the way they face particular challenges and opportunities when it comes to creating sustainable transport systems. Moreover, Carlisle is my home city. It is a place where I would like to see incremental changes to the roading infrastructure of its street that could support a more liveable and sustainable city. This motivation underpins the arguments being developed here.

4.3 Research Design

To understand how people are using streets for cycling in low-cycling transport environments and the commonsensical understandings they and other road users make about these actions, the ethnography of infrastructure developed here involved two stages of data collection.

The first stage began in Spring 2017 with an accompanied ride-along. Here, the researcher cycled behind and video-recorded each participant as they performed what they deemed to be a 'typical' cycle trip. In total, 21 ride-alongs were completed with 21 adults (8 Female; 13 Male). These participants were recruited on the basis that they cycled at least three times per week in and around Carlisle. This was the only criteria for participation and did not qualify this on the grounds of the distance or speed cycled. This criteria is reflected in the purpose of the recorded trips: commuting (11 rides); shopping (2 rides); visiting friends (1 rides); sport participation (3 rides); and other personal business (4 rides). The ride-alongs were video-recorded on a chest-mounted Go-Pro camera that the researcher wore when cycling behind

each respondent[13] (figure 4.2). Before each ride, the respondent was asked to cycle the trip as they would normally[14]. In total, the ride-alongs produced over 9 hours of video over a cumulative distance of 187km (c.120miles). Journeys ranged from 1.6km (1mile) to 37km (23miles). The mean distance was 8km (5miles), which fell to 5.7km (3.59miles) once longer trips for sport participation and an outlier commute of 37km are excluded from the mean. Video clips were then analysed. Road-markings, signs and the rules outlined in *The Highway Code* were used to gain a sense of whether participants were cycling in accordance or at variance to these formal rules.

After each ride-along, a recorded interview was organised with each cycling participant. During these interviews, the discussion focused on the various cycling practices seen in the ride-along video and what the cycling participant sensed was reasonable and appropriate about this cycling. Based on an earlier pilot study, showing 11 short video-clips of the respondent cycling was the optimal number for an hour long interview. During these interviews, the inconsistencies between what those cycling are doing and why they are doing it were probed with reference to the legal rules and guidance offered by *The Highway Code* (DfT, 2015). Questions were also asked about how these cycling practices would likely be interpreted by other road users. This will shed light on how and why some cycling practices hold a certain logic in terms of the right and wrong ways to use a street. At this point, much previous work on cycling would have been content with reporting this dataset.

[13] In order to control for the wellbeing of the researcher, a protocol was set up to anticipate any excessively dangerous cycling routes by asking beforehand, where the trip forming the ride-along would go. Additional control measures came from the researcher being a highly trained bicycle users and very experienced at cycling in Carlisle. If the ride-along itself put the researcher in any excessively dangerous or uncomfortable situations, then the agreed response would be to stop and meet at the agreed destination. Such an incident did not arise, but if it did, then it would have been an interesting topic of discussion in the interview.

[14] Requesting participants cycle as they would normally cycle, was the only control for variations caused by being followed and video-recorded. Doing multiple ride-alongs was considered as a potential additional control but based on the expected cost-benefit burden of participating, one ride-long was deemed sufficient.

Figure 4.2 - How the Ride-along was set-up

The picture on the left shows the GoPro Chesty Mount harness and the forward-facing position of the GoPro Hero 3 camera as worn by the researcher. The picture on the right shows the forward-facing view of the cycling participants taken from one of the ride-alongs. The use of only one video-camera was deemed sufficient given the main aim of the ride-along was to record what those cycling are doing within the spaces making up a street (Source: Author's Own, May 2017)

Stage 2 began with a detailed thematic analysis of all 21 ride-along videos. Eight different themes were identified and coded based on situated examples, like using or not using a cycleway. This led to 11 separate video-clips being selected for the Stage 2 interview video. The 8-minute interview video had the following sequence:

- Cycling on a *carriageway* with modest arterial functions for traffic, no cycle-only provision;
- *Filtering* past stationary traffic without and then within a cycle lane, which was followed by another person stopping ahead of an Advanced Stop Line (ASL) at a *red light*;
- Joining an *adjacent cycleway* when cycling uphill and at times cycling in the footway;
- Leaving the carriageway and using a *footpath* to cut-through into a shopping centre car park;
- Negotiating pedestrians on a traffic-free *cycle track*;
- Two examples of *turning into a junction on the right*, one the A689 trunk road and another on a city centre street;

- Two examples of cycling down an alleyway *footpath*, one without and then one with direct negotiation with a pedestrian;
- Three examples from a major arterial carriageway with *adjacent cycleways* provided on the footway, this involved examples of people cycling: downhill on the carriageway; downhill on the adjacent cycleway; and going uphill on the carriageway;
- Leaving the carriageway for the *footway* and negotiating pedestrians at two Pelican Crossings;
- Negotiating a pedestrian on a *footpath* alongside a railway viaduct;
- Cycling in the city centre *pedestrianised zone* outside the hours it is prohibited by a bylaw.

It was at this point a further 60 road users were recruited to be shown this interview video during their own recorded interviews. These took place in Summer 2017. In total over 100 hours of interview audio-recordings was generated (figure 4.3; see Section 4.6). All 60 interviewees were regular road users in Carlisle (29 Female; 31 Male). More specifically, 20 were predominantly drivers, 20 mostly walked, and 20 regularly cycled (figure 4.4). As also discussed in Section 4.6, this sampling strategy recognised people have multi-modal experiences – something often overlooked in transport policy and research. All interviewees could regularly use walking as a mode of transport. For the cycling interviewees, they had to cycle at least three times a week, though there was no stipulation on the amount of driving or walking they undertake on a typical week. Indeed, all but two of the cycling participants had a driving license and most regularly drove in Carlisle. Interviewees chosen to represent walkers and drivers were not allowed to have regularly cycled in the past five years. It was this varying sense of multi-modality that played a pivotal role in the way that all interviewees considered the context of both the mode they were chosen to represent and the other two modes that could be using the same street. When these other modalities were discussed, either raised by interviewees or by the interviewer, how and why the interviewee went about aligning or distancing themselves with these practices was of key empirical interest. And this was something interviewees felt was aided by having the interview video as a point of reference.

Each of the Stage 2 interviews began with some background questions about the interviewee and their relationship to cycling (Appendix A). It was at this point it was stressed that there are no right or wrong answers to the next set of questions based on the interview video. Rather how the interviewee went about responding and making judgements about the cycling

practices shown in the interview video was the main empirical interest. All Stage 2 interviews followed the same protocol structure. Here, questions were asked about how the cycling compared to what the interviewee understood as the appropriate and reasonable ways for roading infrastructure of streets to be used (see Section 4.4; Appendix A). The interview video included clips of different cycling practices that helped to stage conversations in a way that allowed commonsensical understandings to be examined. They also helped to avert interview talk being defined by generic and polarised sweeping statements – of the sort common in the mass media. This is not to say these were entirely absent, rather when articulated, interviewees were asked to clarify what they meant in terms of the practices seen in cycling practice shown in the video.

Figure 4.3 - How the Interviews were set-up

This picture shows a mock-up of the interview; the researcher is on the left and the participant on the right. The interview video was shown on an iPad Mini and the participant were instructed to pause, rewind and replay the video at any point, as they so wished. The interviews were recorded using a voice recording app on an iPhone. (Source: Author's own November 2018)

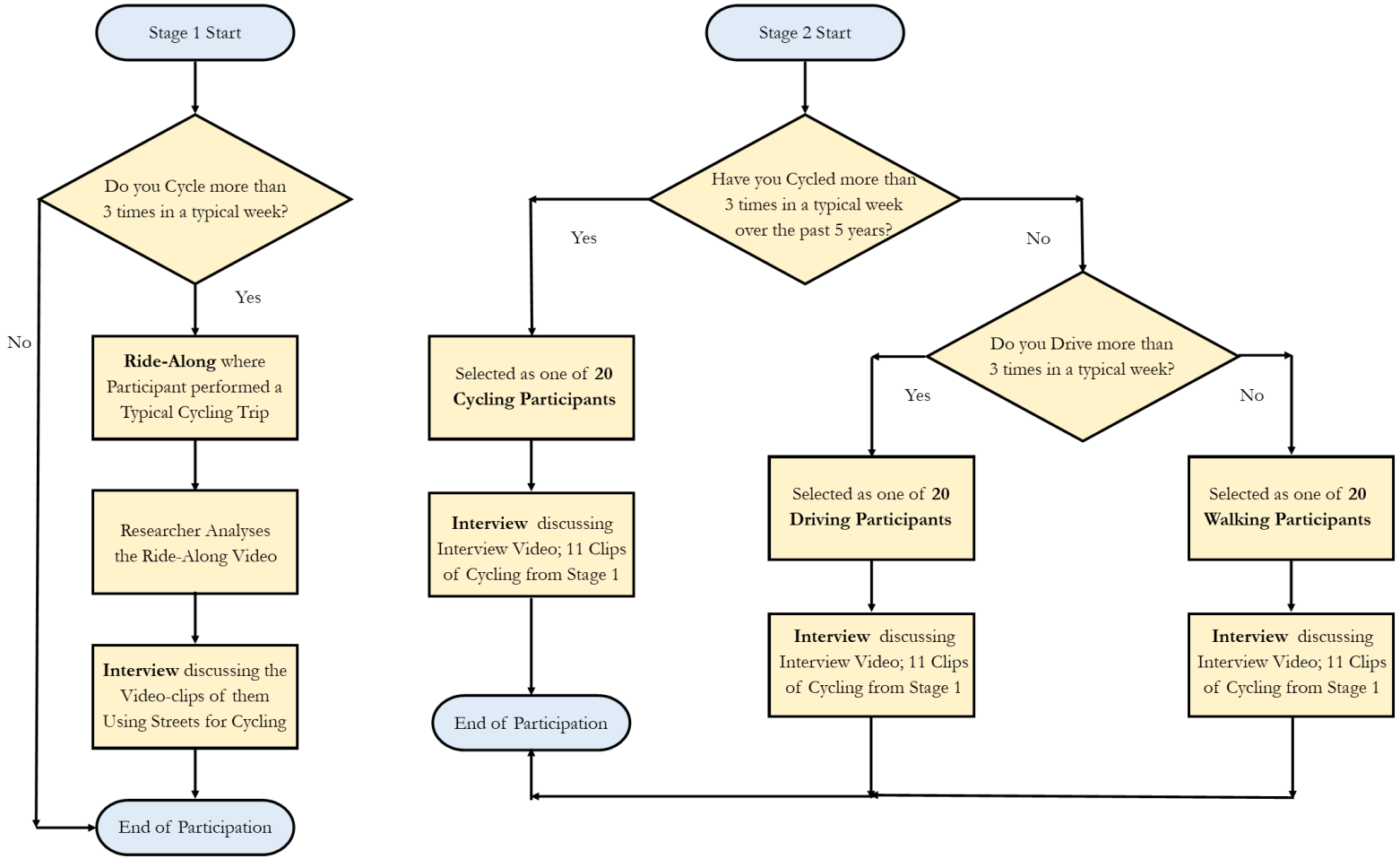

Figure 4.4 - Workflow summary of Research Design

Workflow diagram detailing how participants were selected to form part of the relevant samples in Stage 1 and Stage 2 of the data collection. It should be noted that in between Stages 1 and 2 of data collection, all ride-along video footage was analysed with 11 clips being selected to form the Interview Video shown during the Stage 2 interviews.

What the interview video provided then was the situated examples through which interviewees were being encouraged to make sense of cycling practices based on their commonsensical understandings of the terms and conditions defining appropriate use. Staging conversations in this way, meant the workings of interview talk allowed for the commonsensical reasonings that participants drew upon when justifying and discounting certain modes of action and use to be explored. To be clear, focusing on these interpretations and the intellectual resources used to justify these practical reasonings was not about grasping post-hoc accounts of the conscious and deliberative decisions people make when cycling (see Latham 2003). Rather, people could make situated interpretations during the interview as they sought to make sense of and justify the principles of evaluation against which certain actions and uses are deemed more appropriate than others. Seeing interview talk as one medium through which people can evaluate and justify, provided the space to question the grounds upon which interviewees lay claim to particular understandings of appropriate cycling practice. And these were understandings are grounded into a particular sense of the grammar providing orderly structure to how the roading infrastructures of streets function.

4.4 Ride-alongs: Video-recording People Cycling

The ethnography of infrastructure being developed here, at one level involves observing how those cycling use streets in low-cycling transport environments and then exploring how they and other road users make sense of the appropriateness of these cycling actions. This section deals with the first element of the research question - that of observing how people on bicycles are using streets.

Among cultural geographers and mobilities scholars, Justin Spinney (2009; 2011) and colleagues (Brown and Spinney, 2010; Jones et al. 2017) has shown the usefulness of the ride-along method to explore the emotional and embodied experiences of cycling in its social and cultural context. This method broadly involves a researcher being on a bicycle and using a video-camera to record a participant performing a typical cycling journey[15]. In many ways, the origins of the ride-along as a mobile method has its roots in the mobilities work of John

[15] It should be noted that the use of video to record what people are doing and to prompt reflection on these doings is not just restricted to this mobilities inspired work. This kind of research design has been used rather extensively in educational studies (Rosaen et al. 2005; Rowe, 2009; Tripp and Rich, 2012; Cherrington and Loveridge, 2014; Berber, 2015) and increasingly medical studies (Henry and Fetters, 2012; Heath et al. 2017). In transport, videos have been used by the Transport Research Laboratory (TRL) in a focus groups to encourage participants to be critical observers of the road situations shown (Reid, 2002) and forms part of a street Mobility Toolkit developed by Mindell et al. (2017).

Urry (2000; 2007) and those inspired to look into the processes and emotionally experiences of cycling mobility (see Buscher and Urry 2009; Fincham et al. 2010). This has resulted in the ride-along becoming a kind of go to method for those looking at: bicycle messengers (Fincham, 2006; Spinney, 2007; Kidder, 2011); individuals doing short intra-urban trips by bicycle (Pooley et al. 2011; Jones et al. 2016; Simpson, 2011; 2017); and even, how people cycle together (McIlvenny, 2014; 2015). Within these different applications there are some important variations in the way ride-alongs have been previously been used. Some have relied solely on a detailed form of ethnomethodological analysis of ride-along videos (McIlvenny, 2015; Latham and Wood, 2015), while others, in the Netherlands, record and talk to interviewees about their emotional experiences during the very act of cycling (van Duppen and Spierings, 2013). This latter use of ride-alongs have focused on the experience and the importance of being there when others are cycling, which defines how most cultural geographers in the UK research cycling through ride-alongs (Spinney, 2011; Larsen, 2014; Simpson, 2011; 2017).

For Justin Spinney (2006; 2011; 2015), the ride-along method provides the empirical basis for video elicitation interviews that can unearth the supposedly otherwise unspeakable emotional and embodied experiences associated with the act of cycling. In line with the mobilities and cultural turn in human geography, this method is framed as far better equipped than sit-down interviews when it comes to the topic of our 'mobile experiences of moving' (Kusenbach, 2003:463; Carpiano, 2009). For Spinney (2009:821), when ride-alongs are used in conjunction with follow-up interviews they provide a critical focus on the 'sensorial, kinaesthetic [and] political' factors that fundamentally define this movement space (Fincham et al. 2010; Simpson, 2017). Subscribing to the view that ride-alongs provide the closeness required for more accurate and critical accounts of the politics of mobility, then, as Spinney (2015; 2016) suggests, the next step would be to combine these methods with bio-sensing technologies that can extract physiological responses to the joys and anxieties of cycling (Jones et al. 2016). However, as Chapter 2 suggested, attending solely to the emotional experiences of those cycling cannot provide answers to the important, yet unanswered, questions about how and why do the spaces making up streets become infrastructure in some ways and not others. Perhaps that is why Spinney (2016) increasingly looks to connect his experiential focused ride-alongs with the theoretical narratives of critical urban studies. A body of research that Chapter 3 has clearly demonstrated is not very good at understanding nor is it focused on the ways people relate to and make sense of the infrastructural worlds they inhabit.

It is in this respect that a more pragmatic approach to the ride-along method is being taken up here; one that employs this method as a practical means of recording how people use streets when cycling. In the case of low-cycling environments, the ride-along provides an effective means of observing and recording the various ways the few who do cycle, go about using the roading infrastructure of a street. It might be suggested that this seems blatantly obvious and that everyone can agree on how people cycle. Yet, to again borrow from Howard Becker (1998:124), infrastructural worlds and how they are performed by different people are 'hardly ever just as we imagined'. Work like that of Latham and Wood (2015) have used ride-alongs in a similar way to give a sense of the surprising and counter-initiative ways people who cycle in the UK are using the spaces making up streets. Part of the appeal of using the ride-along then is that it helps to explore how people are not always cycling in the same predictable ways. And so, the ride-along method was used to record how those cycling are using the different spaces making up streets in low-cycling environments; and evidence discussed in the following chapters has shown this was not as obvious nor self-evident as would first seem the case. More conceptually, this is about working with a 'sense of possibility within our accounts' of infrastructure that reflects how even those most obdurate is not the only nor inevitable way things become infrastructural (Latham, 2003:2005; see Star, 1999; Latham and Wood, 2015). But it is also about doing so within a methodological procedure that can observe how people are using street spaces for cycling before using this empirical material to stage conversations with them and other road users. Here, the points of agreement and dissonance in their talk is so important when it comes to thinking about how people think about how infrastructures get held together by various objects, rules and institutional dimensions.

Using the ride-along as a means of observing and recording different cycling practices, immediately raises the theoretical question of: what kinds of insights can be attributing to video-recordings? The ride-along as a method is only made possible due to recent innovations in sports-action video cameras that record high-definition videos on the move. For Spinney (2011), video-cameras provide a means of obtaining a total sense of the act of cycling. These understandings, however, suffer problems that are epistemic in nature. This is because to suggest a video provides a complete record of a social world, where the researcher 'being there' further aids fuller exploration in a follow-up interview, misunderstands how individuals relate to the worlds they inhabit let alone how social scientists can understand them. Another possibility comes from Jack Katz's (1999) work on road rage in Los Angeles. Here the video captures some sense of how people move through

a city, though like Eric Laurier (2010; 2014), these are only ever a reminder that a journey took place and not a means of providing some definitive representation of these practices. Understandings that accept the complex social processes and multiple mediating perspectives that define people's situated doings and understandings of the social world. These ethnomethodological approaches hold that with repeated frame-by-frame analysis, video-recordings can be the sole source of data collection (Laurier, 2010; 2014; Laurier and Lorimer, 2012). While inspired by paying careful attention to video, to follow these recommendations would only address the 'doings' of those cycling and thus only the first part of our research question. To explore the commonsensical understandings people make about these practices, meant paying attention to people's talk. And so, an interview video was created using selected ride-alongs clips that was discussed during the Stage 2 interviews.

4.5 Interviews: Commonsensical Interpretations and Justifications

Interviews were central to the ethnography of infrastructure being developed here since they provide the means of answering the second part of the research question. In many ways, this reflects how 'talking to people, as a means of understanding their everyday practices', remains a core method of data collection in the social sciences (Hitchings, 2012:61; see Kvale, 2007). Here interviews were used to elicit, compare and probe the commonsensical perspectives offered by road users along with the kinds of resources drawn upon to justify their particular interpretation of the practical ethics for using streets when on a bicycle. Kvale (2007) contends the strength of an interview comes from asking interviewees questions that reflect research questions alongside having the flexibility to respond and seek clarifications about what each interviewee is saying (see Valentine, 2005). Yet expecting people to provide talk-based answers to these open-ended questions is only part of what makes a successful interview. This is because, like any form of conversation (see Tilly, 2006), listening to the responses and silences is a key part of the interview method as they gesture towards further questions that can be asked. These might look to probe about inconsistences, request clarifications or even ask how the respondent might react to certain hypothetical situations (Becker, 1998; Hitchings, 2010; 2012; Hitchings and Latham, 2016).

One obvious question is whether it is wise to interview participants who had their cycling recorded. Could they talk about the very mundane practices of interest or should alternative methods be used? This is a question in human geography that has troubled Hitchings (2012). For him, growing interest in the habitual and mundane nature of everyday practices is closely connected with trends to use mobile methods on the basis that people are probably unable

to comment verbally about their mobile practices (Hitchings, 2012; see Merriman, 2014). In response, Hitchings (2012) states people can 'talk about their relative mundane actions' and this can be further facilitated by the willingness of researchers to ask about the seemingly obvious (see Hitchings and Latham, 2016). Such arguments have been enthusiastically taken up by Merriman (2014:183), who understands them as a means of challenging the 'unthinking use of mobile methods' to explore everyday movement practices. While Merriman (2014:183) calls for a 'more balanced discussion' about the advantage of different methods, his central argument can be summarised as being any question can be answered just by doing better interviews. To demand this, fundamentally misunderstands the argument put forward by Hitchings (2012). And for that matter, earlier calls to question the unthinking use of interviews by cultural geography studies on everyday life (see Latham, 2003). What needs stating, as Hitchings (2012:66) suggests, is that interviews are one of many possible tools for thinking about routine practices and that each method provides 'access to alternative aspects'. In this respect, videos can reveal the 'intricacies of what people do in ways retrospective discussion probably cannot' (Hitchings, 2012:66). This is illustrated in more recent work by Hitchings and Latham (2016:508), who found doing an accompanied run before interviewing a runner, provided a 'useful orientation and valuable background' that meant they were 'not discussing running in general but in the detail' of what they had seen being performed.

It is in this respect that interviews were being used here. Each Stage 1 interviewee was engaged in discursively working out the appropriateness of their own cycling. And each Stage 2 interviewee was discursively working out the appropriateness of the cycling shown in the same interview video. The aim here was to stage conversations that could explore how each interviewee makes sense of the practical ethics against which different cycling practices were being evaluated. It was about how people go about evaluating, justifying and critique what people are doing and why they should (not) be doing it through their talk. And this is what talk is fundamentally all about. Indeed, Latham and Wood (2015:316) make it clear that these kinds of justifications are not an 'idiosyncratic response to some one-off infrastructural configuration'. They are entangled with a wider ethical and moral sense of how streets should function that people can draw upon when making these situated interpretations. As mentioned in Chapter 3, these interpretations take place within the context of a wider moral economy whose form and structure is being shaped and reshaped by these same justificatory utterances (see Boltanski and Thévenot, 2006; Stark, 2009). This all meant that interview talk was the medium through which people engaged in 'evaluative and calculative practices' about 'why [only] some things are of value' (Stark, 2009:10; see

Boltanski and Thévenot, 2006; Tilly, 2006). Taken together, the purpose of the interviews in Stages 1 and 2, was about exploring the different families of commonsensical understanding around how the roading infrastructure of streets should be used and where those cycling fit within this space. In this respect, interview talk not only articulated a wider sense of the rules and reasonable patterns of coordination on streets but also provided scope for the interviewer to question the grounds upon which these claims were being made. On this basis, these interviews can be understood as one way to respond to earlier calls to explore how 'practices are themselves partly sustained by the patterns of talk that surround them' (Hitchings and Latham, 2016:513).

4.5.1. Asking the Right Interview Questions

One of the challenges faced when doing interviews concerned with practical ethics, was setting up the conversations in such a way that interviewees evaluate and provide social justifications about the cycling practices shown in the interview video. This was especially the case with the Stage 2 interviews. These interviewees, most of whom rarely if ever cycle, were asked to make sense of the appropriateness of 11 video-clips of different cycling practices performed by other people. Here an invaluable starting point comes from Howard Becker (1998:58) who documents that 'asking people "why" they did something inevitable provokes a defensive response'. In contrast, '"how" questions give people more leeway, are less constraining' and crucially, they 'invited people to answer in any way that suits them' (Becker, 1998:59). Drawing on his seminal work looking at why illegally smoking marijuana makes sense to those doing it, Becker (1998:59) explains, these *how* questions often led people to 'tell a story that includes whatever they thought important for it to make sense, whether I had thought of it or not' (see Tilly, 2006). In many respects, this also parallels the questions asked by management science research that draws on social justification theory (Annisette and Richardson, 2011; Oldenhof et al. 2013). This is not to say only *how* questions were used, given there are occasions, as Becker (1998:60) rightly suggests, where a *why* question is best placed to ascertain 'the exact reasons people give for doing what they are doing'. The point is that focusing on 'open-ended, unpredictable' conversation seeks out ambiguity (Stark, 2009:3; Dewey, 1939; 1933[1998]).

These recommendations informed the pilot interviews for both Stages 1 and 2 of this data collection. The first pilot study formed a Masters dissertation and looked at the cycling practices of 14 adults and how they understood the appropriateness of these doings. Before commencing full data collection, a second set of pilot interviews was carried with 4 adults –

all of whom do not currently cycle. They were shown a select number of ride-along video-clips from the original Masters dissertation dataset. The aim of these pilot interviews was twofold. First, they tested whether people can provide justifications about different cycling practices they had never seen before, which they can depending on the questions asked. This pilot also showed that the best interview structure has a maximum of 11 short video-clips that are shown only the once, though interviewees were given the option to re-watch a clip. Second, they provided an opportunity to experiment with different lines of questioning that could invite the kinds of social justifications that offer a sense of what is fair and appropriate.

To further explain what these interview questions were trying to do, the following extract comes from the Stage 2 interview with Simon, an accountant in his forties who was defined according to the Stage 2 recruitment criteria as a walker. The extract begins just after one of the interview video clips of Christopher cycling along a footway and across two Pelican Crossings had been shown to Simon (see Chapter 6):

MN So, how would you describe the cycling there then?

Simon First, he went through the No Entry sign and that is something that you shouldn't be doing, even if it is a quiet road... then you went along and then up onto the path and pavement... the trailer, they didn't seem to inconvenience pedestrians going at that speed you know, mmm... I think that he was on the pavement at speeds that were not that great. Then coming across the crossings, again, it is illegal for a Highway Code, but then the manoeuvre in front of the car, the car driver might be a little bit perplexed at that one, but again not doing anything that is particularly wrong at that moment in time. It was kind of find... but I think that you shouldn't be dragging the trailer like that behind you especially when you are coming along a pavement.

MN Right, how does that sit with cycling on the pavement being illegal then?

Simon Yes, but he only went onto the pavement as he approaches the main road, so I can kind of see why he did it... side-street and onto main road that seems a different situation.

MN Right, when I was chatting to him, he mentioned that he does break the rule of riding on the pavement but explained that he does this because he wants to keep out the way of traffic and tries to do it with the upmost respect for the pedestrian,

being like a pedestrian on a bike you know, so breaking the rules is trumped by his desire to be safe. My question to you do you agree with that description of his cycling? And do you think that it is an acceptable reason for what he's doing?

Simon Yes, I do think that it is legitimate the way that he is riding, apart from the fact that he is towing something and that is something that really is a problem... the speed that he was going is a walking pace, so in some ways he is like a pedestrian at that point, albeit that he is going along on two wheels... you know... While it was wrong legally, it didn't seem particularly anti-social if you know what I mean, and I don't think that he was particularly inconveniencing anyone really coming along there like that, really...

MN What in that sort of situation would be an anti-social way to ride on the pavement in that sort of situation?

Simon I think that it would be down to the width of the pavement, the amount of pedestrians on it, and a big thing is the speed and the way that comes to influence the way that you are negotiating them as they are coming along there... as it is not sort of coming up at a great speed and then braking, but it is about being clearly aware of what is ahead of you and slowing long before you get to the pedestrians, which is what I think that he was doing there...

MN If you were walking along there, what would you be thinking about that person riding past you?

Simon I think in that sort of situation I would be more thinking, and looking at the novelty of what he was dragging along behind him coming along there, as it was a bike but not a bike as he was coming along there you know... basically an articulated vehicle.

This interview talk gives a sense of the different questions and clarifications that were used across all the interviews. Stage 2 interviewees were asked to comment on the appropriateness of the cycling shown in the interview video, whether they themselves would do the same thing if cycling, and if not, what they felt was a more justifiable approach. They were also asked to comment on the justifications provided by the original ride-along participants. They found the interview video made it easier to discuss and make intelligible the ways those cycling should go about using the different spaces of a street in relation to other road users.

And doing so, provided a feel for the common sense rules that inform road user understandings of appropriate patterns of use (Sayer 2012; Tilly, 2006). These were probed using questions that included:

- *Encouraging* interviewees to firstly describe what they saw in the video-clip, which for some was initially an awkward topic of discussion given it seemed all too obvious. Then again, this gave each interviewee the opportunity to include what they thought was important to what is going on in the video-clip. Insights that were an invaluable source of information when it came to orientating the subsequent conversation around the points they had raised or sought to avoid.
- *Listening* to responses, like cycling on footways is illegal but is kind of acceptable, was key to questions that probed about these inconsistencies. Doing so, provided insights into the commonsensical perspectives held by interviewees about how this space should be used and the reasons why they hold a certain reasonableness. Approached this way, it was possible to get a sense of the social infrastructures of rules and informal social norms defining what to each interviewee seems the prevailing notion of appropriate conduct.
- *Considering* how and why things matter to interviewees was further aided in the Stage 2 interviews, by appealing to shared understandings about how a person cycling should be using street spaces. Here the interviewee was asked to respond to a scripted summary of the justificatory utterances provided by the person doing the cycling, which focused on: what they were doing; why they were doing it; and how in that particular circumstance it seemed a reasonable. The objective here was to stage conversations between the views of those doing the cycling and other road users to compare their lines of reasoning and the resources they use to justify them. In effect, this began the analytical task of locating and comparing the different cultures of sensemaking around the rights and wrongs of using this commons.
- *Showing* an interest in the seemingly obvious, underpinned questions seeking clarifications about the meaning of commonsensical statements, like the cycling 'didn't seem particularly anti-social'. Rather than allowing the commonsensical to pass on the basis "we all know what we're talking about" (Garfinkel, 1967; Tilly, 2006, see Chapter 6), further questions attempted to tease out further insights through an "interviewer naivety" about what is commonsensical here. This stems in part from an interest in what makes sense to one group of interviewees might not

necessarily hold for others given the potential for multiple perspectives on the grammars of reasonable conduct.

In addition to these lines of questioning, a further two kinds of questions were also drawn upon that were not seen in the extended extract above, these include:

- *Suggesting* hypothetical situations that were intentionally at variance to that offered by the interviewee provide a successful way of gaining further insight into the relevant terms and conditions of use with relevance here. This often involved asking whether appropriate conduct varied as a result of changes in the number of other users present, the time of day or who was doing the cycling.
- *Speculating* about the commonsensical reasonableness of alternative perspectives to that already outlined by the interviewee, sought to provide another opportunity to probe and clarify the reasons why some things make perfect sense while others do not. In this respect, the key topic of interest was the grammars seen to buttress appropriate practices.

In many ways, these questions straddle clearly explain why doing interviews is better placed than standardised questionnaires at answering the research question. In one respect, they meant interviewees were asked to talk directly about cycling performed in the context of a particular infrastructural context. In itself, this should be of interest to transport engineers seeking to change how this specific material infrastructure operates. In another respect, responding to these questions saw interviewees engage in evaluating, justifying and critiquing different cycling practices. Paying close attention to these justifications and exploring the reasonable reasonings that underpinning them, gave rise to a wider sense of the relevant rules and social norms shaping the grammar of appropriate conduct. Such intellectually robust knowledge allows us in the following chapters to start staging conversations across these different cultures of sensemaking that lay claim to reasonable forms of reasoning about the rights and wrongs of using this commons[16]. Above all, the data collection was not 'looking for a single unified truth' given the interview talk from all the interviewees were 'shot through

[16] At the design phase of this research project, the idea of purposefully staging conversations within a focus group setting was considered. This has been used by TRL Ltd to encourage road users to be 'critical observers' (Reid, 2002). The main concern was that focus groups could lead to confrontational arguments. And so, the methodological framework used here focused on how road users lay claim to reasonable uses of roading infrastructure and why that is appropriate, which is not necessarily how they would argue during a dispute on the road. So, staged conversations were made in a scripted manner during each Stage 2 interview, where interviewees were being asked to respond to the responses of other road users.

with an incompleteness', ambiguity and above all multiplicity and dissonance (Latham, 2003:2007; Stark, 2009). And it was this character that directed attention towards a more variegated and complex picture of what is commonsensical. It follows that the interview talk being articulated was stitching together a particular understanding of the social and infrastructural worlds being inhabited by each interviewee that was based on what they deem of worth when it comes to how a street should work infrastructurally.

In summary, undertaking the sort of ethnography of infrastructure being developed here arose from a need to provide answers to the two elements of the research question. First was to observe how do those cycling in low-cycling environments use the various spaces making-up streets (ride-along). Second was to explore how those cycling and other road users – the walking, driving and other cycling participants – go about evaluating, justifying and critiquing these cycling actions (interviews using an interview video). Paying careful attention to the situated interpretations and commonsensical understandings interviewees make about the appropriate ways to use a street, offered their sense of the reasons why streets operate as an infrastructure in particular sorts of ways. And as will be shown in the following four chapters, the form of these answers and the resources used to justify them were not as immediately obvious or self-evident as they might sound.

4.6 Who were the Interviewees?

The data presented here comes from 81 participants. As already discussed in Section 4.2, the data was collected in two stages. Stage 1 involved 21 adults who were recruited on the basis they cycled at least three times a week (figure 4.4). Participation for them involved a ride-along and a recorded interview. In line with the aim of observing different cycling practices, these interviewees were recruited through messages distributed by the local Parkrun, cycling and triathlon sport clubs and the Carlisle Cycle Campaign, as well as leafleting major places of employment, such as the cycle parking stores at NHS and factories run by Pirelli and Nestlé. Another important recruitment strategy was spending a week cycling around Carlisle directly leafleting people cycling and bicycles parked in the city centre (Appendix B). Of the 68 leaflets distributed in this way, there was a response rate of only 10%, all of whom went onto participate fully. A key part of the recruitment strategy was taking the time to reassure interviewees they qualified on the grounds they cycled three times a week and looked to explore how they understood what they were doing, a point also outlined in the 'Respondent Information Sheet' (Appendix C). Overall, the purpose Stage 1

was to get a diversity of cycling practices video-recorded and this was achieved by including commuting trips, leisure sport rides and various personal trips.

In addition to these adults who cycle, the original plan was to recruit teenagers between the ages of 15 to 18 who cycle at least three times a week. The interest in this group stemmed from initial observations that suggested they formed a key part of the public who regularly cycle in Carlisle. Moreover, there had been local media reports venting frustration at the supposedly fast, anti-social, and reckless way teenager boys in particular cycle along footways in Carlisle city centre. Ethics approval from UCL was granted for the recruitment of teenagers through their secondary school. However, even working with personal contacts at the four secondary schools in Carlisle, there was a deep reluctance on behalf of school authorities for pupils to take part. A common response was that participance must be a private arrangement with the family but if there was an accident it would be a serious issue for the school. This was an intractable problem as undertaking such a private arrangement would have been in direct conflict with ethics approval. To avoid excessively delaying the entire research project, the decision was made not to pursue recruitment of those under the age of 18. Having a video of a teenager cycling on the footway would have provided an invaluable insight given the illegal and supposedly dangerous way they cycle. As this was not possible, a number of hypothetical questions were raised during Stage 2 interviews that encouraged interviewees to evaluate, justify or critique the appropriateness of this kind of footway cycling.

Stage 2 involved interviewing a further 60 adults who live in Carlisle. Its purpose was to ascertain what a public of road users made of different cycling practices. The objective of the sampling strategy was to ensure such a public was recruited and was based on a selection criteria defined by current modal preference. Here, 20 people were recruited on the basis that they cycled at least three times per week; another 20 because they drove at least three times a week and do not cycle; and a final 20 who walk (including public transport) more than drive and do not cycle (figure 4.4; Appendix D). These interviewees were recruited through: direct leafleting people using streets; personal networks; introduction by a mutual acquaintance; as well as email correspondence with employers and community groups. Again, time was given to reassure interviewees empirical interest was focused on how they understood the different cycling practices and stressed there were no right or wrong answers to questions. In summary, the sampling and recruitment strategy emphasised the diversity of people who form the public of users on the roading infrastructure in Carlisle.

It also should be noted that in accordance with this pragmatic approach, none of the a priori assumptions about matters like age, class, gender or race were used to determine the relevance of the justificatory claims being made. As Boltanski (1999; 2011; 2012) suggests, studying the affairs of a given situation and how they become important to people, focuses attention on the processes of argumentation, cooperation and the formation of certain kinds of social order. For this reason, matters like age, class, gender or race are relevant but how they become relevant and the ways they overlap and differ from each other, cannot be taken as a given nor assumed to be obvious or self-evident (Boltanski, 2012; Feeny et al. 2002). According to Latour (2005), these matters are the explanation and should not be confused with the topics social scientists should be trying to explain (see Boltanski, 1999; 2011; 2012). In this respect, while the sampling strategy aimed for diversity, data collection and data analysis very deliberately suspended making presumptions about these matters. In doing so, this aided exploration of the emergent overlaps and differences in perspectives that form a critical part of how people think about the social worlds and practical ethics of using streets for cycling in the low-cycling transport environment they inhabit.

In light of who the interviewees were and the potentially contentious nature of the research topic being discussed with them, meant careful consideration was paid to how the researcher presented themselves during the interview and its potential effects on any data collected. In this respect, reflexivity, meaning the conditions through which research is produced, disseminated and received (see Valentine, 2005; Kvale, 2007), was important. It was a central consideration in the way this ethnography of infrastructure was set up, piloted and carried out. And given people were actively recruited because they did or did not cycle, the practical responses to concerns of reflexivity varied between Stages 1 and 2 of data collection.

During Stage 1, people were being asked to take part in what was overtly promoted to them as a piece of cycling research. Here it was beneficial for the researcher to be seen as someone who cycled and was someone keen to identify ways to improve the condition of cycling in Carlisle. Being open in this way, not only aided recruitment of cycling participants but also helped to reassure participants they would be doing the ride-along with someone who regularly cycles in Carlisle just like them. In order to mitigate risk of the researcher coming across as 'too competent' and the potential participant feeling they were 'too incompetent a cyclist' to offer any value to the research (Aldred, 2013b:237), a number of specific measures and approaches were put in place.

- First, the recruitment strategy emphasised and reassured cycling interviewees that they qualified on the grounds they cycled three times a week – speed, distance and importantly, how they cycled, were not qualifying criteria.
- Second, initial conversations (either face-to-face or via telephone/email) about the logistics of arranging the ride-along, including the length and route of the ride, informed the researcher's decision about which kind of bike to use. For the vast majority of ride-alongs, the bike chosen was a ten year old city bike, which aimed to convey an everydayness to the researcher's relationship to cycling. For two rides, one with the sport cyclist and another with a long-distance cycle commuter, a road bike was chosen. This was based on the fact this was the type of bike used by the participant and would allow the researcher to keep up more easily with them.
- Third, the type of clothing worn by the researcher when doing the ride-alongs also mattered. All ride-alongs, except that with the sport cyclist, saw the researcher wear casual clothing (often shorts and t-shirt), which aimed to convey an everydayness to the researcher's relationship to cycling. For the ride with the sport cyclist, sport cycle clothing was worn on the basis this was a key part of the cycling practice being recorded during this particular ride-along.
- Fourth, cycling participants were informed that UCL Ethics required the researcher to wear a helmet. It was made clear to them that it was entirely their decision to wear a helmet or not, they were simply asked to do what they would normally do if doing the cycle ride by themselves.
- Fifth, and as discussed in Section 4.5.1, participants were told that the key topic of interest was what might seem blatantly obvious to them. They were going to be asked questions and further clarificatory questions, all with the aim of teasing out what is commonsensical and why. Here it was helpful for the researcher to again adopt an "interviewer naivety" around what makes sense when cycling on Carlisle's streets. This was made possible by suggesting hypothetical situations and speculating about the commonsensical reasonableness of other potential viewpoints that sought to question and further probe the basis of the interviewee's viewpoint.

During Stage 2, most people were being recruited on the basis they do not cycle. This in its own way created new issues and potential implications for the data collected given the researcher was someone who regularly cycles in Carlisle. Here it was beneficial to suggest to potential participants that the researcher was simply interested in knowing more about how people use Carlisle's streets and in particular, their thoughts on how those cycling use these

spaces. One of the main challenges during Stage 2 interviews was how best to listen to and probe participant's commonsensical understandings even when these clearly run contrary to the researcher's own experience as someone who cycles. The aim here was for the researcher not to react negatively. Rather it was to show a genuine inquisitiveness to know more about their viewpoint and the basis upon which it was justified. Again, this was made possible through adopting a kind of "interviewer naivety". And, this is what underpins the full range of clarificatory questions outlined in Section 4.5.1 that sought better understandings by probing about what seems obvious and commonsensical to the interviewee.

On a more practical level, it was deemed appropriate that when the researcher cycled to an interview, they parked a few streets away and walked to the agreed interview location. The aim in doing so was to avoid being seen from the outset of the interview as a 'cyclist'. Often interviewees asked where the researcher had parked, and the default response was 'around the corner' or 'I walked here from another interview'. Interestingly, a common response at the end of many Stage 2 interviews was a question about 'how the videos were recorded'. A question that it is reasonable to suggest implies the measures taken by the researcher helped to mitigate any overt and obvious sense that they were someone who regularly cycles.

And so, the validity of the findings stems in part from thinking carefully about reflexivity. These measures included varying how the researcher presented themselves as a road user in Stages 1 and 2, went about communicating the aims of the research project and how they went about exploring multiple forms of the commonsensical intelligence without passing overt judgement on their respective veracity.

4.7 Analysis: From Data to Themes and Findings

The analytical procedure developed for this PhD was designed to handle a total of nine hours of ride-along videos and over 100 hours of interview audio-recordings. It followed the ethos and hallmarks of grounded theory as first developed by Glaser and Strauss (1967; see Corbin and Strauss, 1990; 2008). The aim was to explore both the specificities and generalities in the empirical data without being excessively guided by preconceived theoretical concepts (Corbin and Strauss, 2008). Doing so involved a combination of observing and reading both the audio and visual data; highlighting and annotating key points within each data source; and with time, coding and recoding the data for general themes. In this respect, the conceptual resources discussed in Chapters 2 and 3, particularly those on rules and sharing commons resources, were engaged with as a consequence of the particular ways in which interviewees sought to justify their particular sense of how streets should be used. In

analytical terms, this was an iterative process between the empirical material and relevant conceptual resources. The result was the formation of thematic 'parent' codes alongside various modifier 'child' codes, the latter being sub-codes that were adding to, varying and/or restricting the sense of the parent code (see Appendix E for full coding framework). Thinking carefully about the empirical data continued right throughout the processes of writing and redrafting the data chapters.

Coding qualitative data can be carried out using pen and paper or by using qualitative analysis software. Both approaches were employed in this thesis. What follows provides a brief overview of the analytical procedure when it came to analysing the ride-along videos and a separate procedure for analysing the interview from both Stages 1 and 2 of data collection.

The stated aim when analysing the ride-along videos was to identify and select a limited number of clips to be shown during the interviews. The same basic procedure was used for selecting the videos shown to Stage 1 interviews as well as the creation of the Stage 2 interview video. Analysis started immediately after the ride-along. Summary notes were taken of the key moments and interactions observed during the ride. Each ride-along video in its entirety was then watched three times, during which further notes were taken about key moments, incidents or points of potential contention. Afterwards, the video was manually coded. Here, coding focused on two things. First, where was the cycling happening, was it on the carriageway, an adjacent cycleway or footway, for example. Second, how was the cycling being performed, was it in clear accordance or contravention of *The Highway Code,* which included reference to its many grey areas of interpretation. Based on these coded insights, all the videos relating to 'filtering', for example, were selected for further consideration and comparison. It was at this point that a single, or multiple clips were selected for inclusion in the interview videos, which was created using GoPro Studio, a video editing software package. This resulted in a Stage 2 interview video that included various examples of cycling taking place in different spaces of a street. What is important to note here, is that each of the video clips making up the interview video represents many other video clips that depict very similar kinds of cycling practices.

The analytical procedure used for analysing the interview material is summarised in a workflow format in figure 4.5. It combined coding on pen and paper copies of each transcript before undertaking further rounds of coding using NVivo, a qualitative analysis software. The same procedure reviewed data collected during both Stages 1 and 2 interviews. Analysis begun immediately after each interview with summary notes of interesting points

and any inconsistencies requiring further consideration. Afterwards, the audio-recordings for each of the 81 interviews were transcribed. This was also an opportunity to add to the summary notes for each interview transcript; again further highlighting nuances and inconsistencies. The next stage of analysis involved open-coding the data. Through reading, highlighting and annotating hard copies of each interview transcript, a list of codes unique to that transcript were drawn up. These included, for example, generic code groupings for terms like 'footways' as well as the coding of specific words like 'rules of the road', 'common sense' and 'dedicated space'. This process continued with the second round of reading each transcript and coding by hand on paper, though increasingly nuances within codes and connections between codes were being drawn out. At the end of this stage, each interview transcript had its own list of codes. Making sense of the data in this way formed the basic ground work of paying careful attention to the nuances underpinning how individuals justified their claims to shared, commonsensical understanding.

This was the point in the procedure where a coding framework was first formulated. This involved grouping the list of codes developed for each interview into code groupings and writing summary notes about each code grouping. Here points of overlap and difference began to emerge between the interviews. One of the advantages to emerge from this initial coding framework was that identifying high-level codes (e.g. 'dedicated space', 'sharing') helped to pull out commonalities and differences across the interviews.

At this point each interview transcript and this initial code structure was inputted into NVivo. Using NVivo supported the process of analysis by providing the means of efficiently sorting coded data. It became apparent, however, the real strength of NVivo over manual forms of coding was its ability to facilitate experimenting with new codes, making connections between codes and crucially, recording points of nuance and inconsistency within codes. This was made possible by 'parent' codes being able to have modifier 'child' codes that add to, vary and/or restrict the sense of the parent code. The result was a coding framework that was continuously being refined and expanded upon through the inclusion of these 'child' modifier codes around points of nuance and inconsistency. The final coding framework included 28 'parent' codes and an additional 109 'child' codes can be found in Appendix E.

To illustrate this point, take the example of the 'parent' code 'Laws and Rights'. Working in NVivo allowed for the addition of 13 'child' codes within the family of 'Laws and Rights', which included for example 'in theory, in practice', 'follow rule no problem' and 'entitled'. Each of these were modifiers on the 'parent' code and helped to identify points of nuance,

agreement and disagreement. All of which adds to the rigor of the arguments that will be presented in the subsequent data chapters. Moreover, identifying one person to talk about 'in theory, in practice' in the context of 'Laws and Rights' in these data chapters, comes to represent many other people who were coded making the similar arguments. And so, it was the systematic and rigorous nature of the analytical procedure that gives real confidence to the high-level themes identified across the dataset and the arguments developed in the following four empirical chapters.

4.8 Conclusion

Empirically, the focus of attention is on the commonsensical ways all road users think about using streets for cycling and the way they should relate to other road users. This underpins the methodological tools outlined in this chapter; where the ride-alongs video-recorded the doings of those cycling while the interviews were structured around a selection of these video-clips to explore how a public of road users understand the appropriateness of these doings. And so, such ethnographies of infrastructural use also carry wider significance for how to go about social science research. Seen in these more general terms, ethnographies of infrastructure can explore the social phenomena around how the roading infrastructure of streets get used and shared rather than retain the misplaced presumption, to borrow from Becker (1998:33), that 'we already know the answers'. In this respect, everyone might know what the roading infrastructures of street do and in many ways that is common sense. But as social scientists, the task should always be about 'going and looking for ourselves and find out' what is going on, why it happens that way and who benefits, which are all questions that open up 'rather than just accept conventional answers' as commonsensical (Becker, 1998:83). The ethnography of infrastructure presented in this chapter is best placed to do just that when thinking about cycling in a car dominated transport environments. It seeks to explore the dissonant lines of commonsensical reasoning around the terms and conditions for using streets. A focus that might jar with what for many, including many transport geographers, see as the obvious problems and logical solutions in a transport environment currently dominated by motorised traffic. Exploring how people are cycling and how they and others make sense of these practices, was the basis for staging the sorts of conversations that sees the social scientist as an interpreter between different cultures of sensemaking that each reflect their own forms of reasonable reasoning.

In the following four chapters, the data collected using this ethnography of infrastructure is presented. Each chapter has a specific thematic focus that is considered with the aid of a

particular example of cycling practices performed in a car dominated transport environment. All four chapters follow the same basic three-part structure. First, a cycling example is introduced. Second, the thematic focus of the chapter is discussed in conversation with the relevant literature. Finally, attention turns to the understandings of these doings as articulated by a wider public of road users. Throughout, attention focuses on substantiating how the terms and conditions for appropriate use are understood by road users through different lines of reasoning around how the roading infrastructure of a street should perform. Chapter 5 looks at sharing and owning through the use or non-use of cycleways adjacent to the carriageway. Chapter 6 then considers common sense, rules and social norms through the case of cycling on footways, footpaths and pedestrianised zones. This leads into Chapter 7 where the notion of trust is discussed in terms of turning into a junction on the right. After this Chapter 8 considers risk and responsibility through the example of filtering past a traffic queue, where the idea of disagreement is also considered. Together each of these chapters layer in a key commonising aspect that influences how a roading infrastructure gets done and subject to multiple forms of commonsensical understanding.

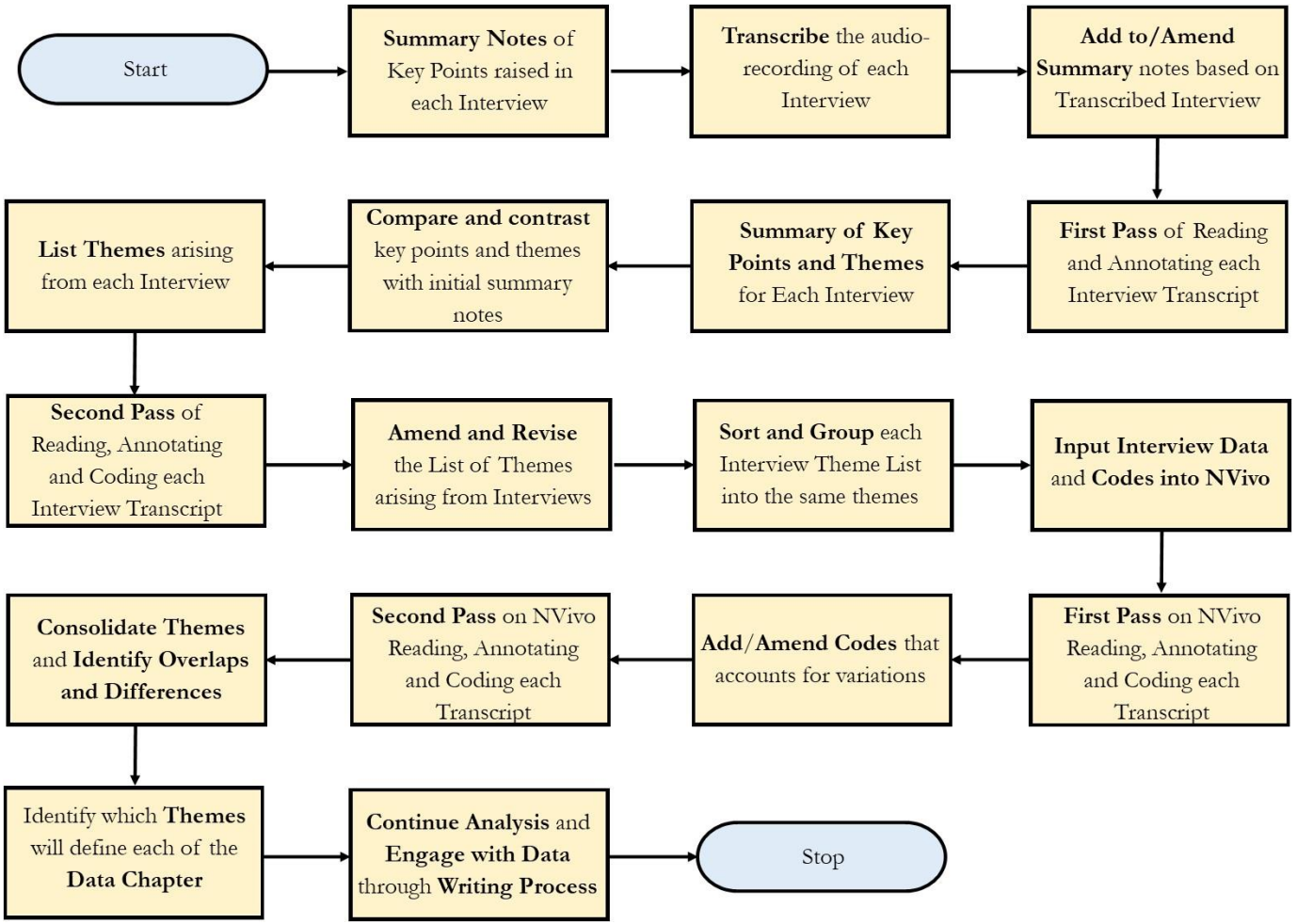

Figure 4.5 – Workflow Summary of Analytical Procedure

Workflow diagram of the Analytical Procedure for the interview data, which allowed for a rigorous and systematic approach to analysing the interview data.

IN SUMMARY

- The research question guiding this thesis is as follows:
    - *How do road users relate to cycling and make sense of how those cycling should interact with other modalities on streets; and what do these commonsensical understandings say about how the roading infrastructure of streets ought to work in car dominated transport environments?*
- To answer this question, an ethnography of infrastructure was used that had two parts:
    - In Stage 1, 21 interviewees (8 Female; 13 Male) who regularly cycle took part in a ride-along and then an interview where they were shown video-clips of them cycling.
    - In Stage 2, 60 interviewees (29 Female; 31 Male). More specifically, 20 were predominantly drivers, 20 mostly walked (including public transport), and 20 regularly cycled. Here discussions mostly focused on the cycling shown in the interview video.
- Ride-alongs provide a practical means of observing people cycling, which is important as it cannot be assumed how those cycling use the roading infrastructure of a street is already known.
- Interviews where videos of different cycling practices were shown allowed interviewees space to evaluate the fitness of these practices to the situation, which involved certain kinds of resources to justify these claims.
- Interview talk responding to *how* questions often led to justificatory utterances about how a street should be used and where those cycling fit into in this grammar.
- Carlisle is a suitable case study as very few people cycle and most drive, its roading infrastructure is dominated by motorised traffic like most places in the UK.
- The ethnography of infrastructure developed here observes how some things become infrastructural and explores the dissonance at the heart of how users make sense of the practical ethics related to this use.
- This ethnography of infrastructure opens up the commonsensical understandings road users have about the grammars for sharing that define who can use an infrastructure.

5 Who belongs Where? Common Grammars of Sharing

Streets were understood to be about coordination and cooperation. All interviewees had some sense of the rules defining how particular forms of coordination and cooperation ought to happen on a street. But, why are certain patterns of sharing deemed more valid and appropriate compared to others? And how do road users go about making sense of where those cycling fit into car dominated transport environments? This chapter considers these questions by examining how interviewees went about discursively working out where those cycling belong on carriageways with a poor-quality cycleway carved out of the adjacent footway. The interview talk presented in this chapter saw road users articulating a commonising language as they appealed to shared understandings about who belongs where on a street and how they should behave (see Frischmann, 2012; Longhurst, 2015). It is clear that these understandings were not necessarily held in common with everyone and yet, in doing so, they provide a particular sense of the rules, rights and obligations people within the space deem relevant and expect to be followed.

This chapter consists of four parts. It begins by considering how those cycling go about using streets with cycleways on the footway and examines how they reflected upon its appropriateness. Here, there was a strong sense that those cycling are legitimate users of a street, so long as they are legally in the right place at the right time. Second, and in an effort to understand how and why sharing is expected to happen in certain ways (and not others), the idea of the commons developed by Ostrom (1990; 2005a) is discussed. It helps to explore the institutional implications being raised by interview talk that in various ways talked of who belongs where on a street. Afterwards, two further empirical sections report on how other driving, walking and other cycling interviewees went about making sense of the cycling practices shown in the interview video. For some, once a cycleway is provided on the footway that is the only designated space available to those cycling. For most people, in fact the majority, staying on the carriageway when there is a cycleway seemed irresponsible since it was space perceived as the safest for those cycling. Both perspectives saw people engage in lines of reasoning that sought to define who belongs where on a street and justify the reasons why that seemed reasonable. In doing so, those who typically use a street for walking or driving were offering a sense of the grammar[17] around how people ought to share the

[17] As discussed in Chapter 3, grammar, in this context, has parallels to the system and structure of grammar in language that allows words and statements to be linked together in ways that make moral sense. To borrow from Boltanski and Thévenot (2006:40), the form and function of a grammar is 'dependent upon the definition of the whole' infrastructural system 'to which it applies'.

spaces of a street that did not entirely follow those who cycle. It concludes by discussing the implications raised by the way road users are talking about sharing streets in terms of what, by their estimation, is legitimate, safe, correct and responsible.

5.1 Cycling on Carriageways with Adjacent Cycleways

One of the video-recorded ride-along cycling trips involved James, a doctor in his early-thirties. He is waiting in the right of two lanes at the traffic lights where Stanwix Bank leads onto Eden Bridges, the main arterial route into Carlisle from the North. As the traffic lights turn green, James accelerates down the relatively steep incline onto Eden Bridges where he passes a dropped kerb providing access to a cycleway carved out of the adjacent footway (figure 5.1). Staying on the carriageway, James is cycling at speeds close to the legal limit of 30mph (c.50kph). Crossing Eden Bridges, which is relatively quiet for 8am on a weekday, James passes another dropped kerb recommending those cycling use the cycleway rather than continuing on the carriageway he uses towards Hardwicke Circus, a major gyratory up ahead.

Talking about his cycling here, James freely admits to 'aggressively, but legally, owning the road like a car'. Something he felt was entirely reasonable because his speed means 'no driver is getting slowed down, if they keep within the speed limit'. Questioned about the significance of his speed here, James went onto explain that experience tells him that going 'even slightly slower tips the balance of risk and reward' towards the adjacent cycleway given 'you get much less respect' from motorists if they feel physically impeded by a person cycling. The cycleway James refers to here, is separated from the wider footway by a faded white lane and has an uneven slabbed surface which is partially blocked at various points by street furniture. Though James admits it is 'rather selfish' not to use the cycleway, he felt its poor quality 'is plain for all to see' and being placed in 'too close a proximity to pedestrians' demands 'cyclists obviously should slow right down to share' this space with them. A set of practical expectations that reflects how the kind of cycling James wants to do on his morning commute, appears to him, better suited to the carriageway and not the adjacent cycleway. In this sense, terms such as 'owning' the carriageway lay claim to an obvious sense of reasonableness equated with acting 'just like a car' even when there is an adjacent cycleway provided. For this reason, his doings and understanding of those doings might be more accurately understood as being organised around him, as a person cycling, being an equal in speed and thus de factor right here to those in driving motor vehicles.

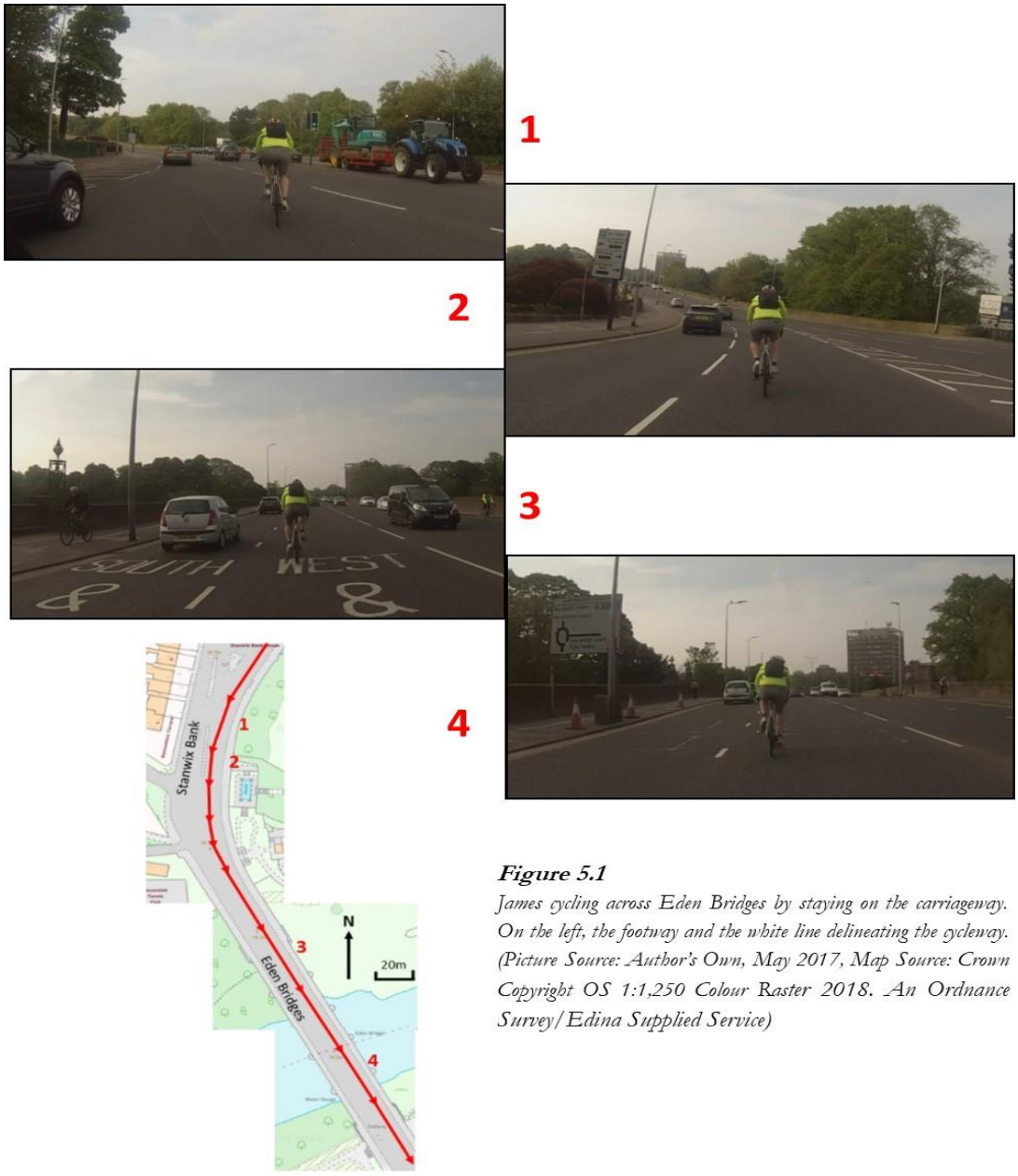

Figure 5.1

James cycling across Eden Bridges by staying on the carriageway. On the left, the footway and the white line delineating the cycleway. (Picture Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

Starting with this example highlights the way all cycling participants had a clear sense of where they should be on the roading infrastructure of a street and why that was legitimate. This was most apparent when cycling interviewees were asked about the effect of their changing speeds relative to other road users. Here the legitimacy of any cycling was premised on being willing and able to fit into patterns of use they expect of the motorised traffic using the carriageway or the pedestrians on the footway from which the cycleway is carved out. Laying claim to this sense of doing what is right, showed surprising close parallels to the legal rules and guidance offered by *The Highway Code*. That is, continuing to cycle on the carriageway, in law, is undiminished by the provision of adjacent cycleways that are 'not compulsory but can make a journey safer' for those cycling (DfT, 2015:22). Indeed, these

official guidelines were invoked in the responses heard from those cycling as they sought to justify the suitability of the carriageway or adjacent cycleway for the kind of cycling that they were willing, able and comfortable doing. This is important, as more broadly, the law was selectively invoked by cycling interviewees depending upon whether it helped to further substantiate what they wanted to do on the road.

A typical example of this reference to the legal rules came from Barbara, a retired teacher, when she talked about part of her twice-weekly trip to see family, where she uses the cycleway along London Road – the main arterial route heading South of Carlisle. This cycleway with its uneven tarmac surface weaves around: traffic lights; street furniture; trees; and side-roads. For the most part, Barbara cycled along the smoother surface provided by the wider footway and only momentarily cycled in the cycleway when it detoured across her path or when she moved to pass a pedestrian (figure 5.2). Here, Barbara initially talked in ways that reflect *The Highway Code* recommendations; as using the cycleway 'makes complete sense to me, due to the amount of traffic' using the narrow lanes on London Road. But, for her, cycling on the 'smoother bits for pedestrians' was also a complete non-issue as 'nobody is walking there, nor would they use a cycleway, because if they were cycling, that is clearly very uneven and has plenty of broken glass'. Barbara, in effect, claimed 'everyone' knows that the cycleway is clearly unsuitable for cycling and even though the footway is not the space for cycling, 'common sense' for her suggests it can be used as there are no pedestrians in that given situation. Viewed this way, her justificatory line of reasoning sets up this notion that using the footway over a cycleway can be shared without causing direct concern or harm to pedestrians. In a word, this was acceptable regardless of it being illegal. Yet she only felt able to do so since her commonsensical understandings were assumed to be obviously commonsensical to everyone else (see Chapter 6). For this reason, the way Barbara reflects on how she cycled along London Road, using the footway to bypass a poor-quality cycleway, sought to outline a form of practical reasoning whose reasonableness should be as obvious and commonsensical to other road users as it is to her.

Figure 5.2

Barbara is cycling along the cycleway and footway along London Road, beyond showing the poor-quality of the cycleway, these images give a sense of the gradient she is cycling up here. (Source: Author's Own, April 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

When questioned about why illegally using the footway trumped staying on the carriageway, as a way to bypass a poor-quality cycleway, the tone of response from Barbara became more defensive. At first, Barbara restated how being on the road was seen as a dangerous place to cycle. It was at this point that her responses went on to outline other rules, norms and common understandings that she sensed permitted her actions and ordered the way sharing this street ought to happen. As Barbara tried to explain, cycling uphill in the narrow traffic lane of London Road means 'you are going too slow and unnecessarily holding up' the flow

of motorised traffic in ways that 'even with the best of intentions will really infuriate drivers'. To 'dawdle and impede the traffic', as Barbara moves towards a summary statement, would 'still be perfectly legal but crosses the line of what is acceptable and safe, if I am being honest'. A situation that would needlessly expose her to the 'unnerving and dangerous sense of pressure' from the approaching traffic that makes the cycleway an obvious choice here. Although not particularly surprising, given Rachel Aldred (2013b) has discussed how being safe when cycling in the UK unfortunately often requires going as fast as the traffic, these distinctions help to demonstrate what is legally permissible is not necessarily the same as what is acceptably available to those cycling. The *de jure* rights of those cycling did not align with what seemed the *de facto* rights and priorities. Put another way, reflecting on the formal rules there were times they were followed, bent, reinterpreted or just ignored. In this way, Barbara offered her sense of how sharing a street ought to happen and by implication, how her actions reasonably satisfy these expectations. Consequently, it is not morally acceptable for those cycling to stay lawfully on the carriageway when travelling at speeds that would detrimentally impact the flow of motorised traffic, but they seem equally able to disregard the law prohibiting the use of footways when it is free of pedestrians and allows them to bypass a poor-quality cycleway.

Jean is cycling slowly along the cycleway adjacent to the carriageway that James used earlier on Eden Bridges (figure 5.3). Cycling at little more than a walking pace, Jean passes three separate groups of pedestrians before passing a dropped kerb angled to provide access from the carriageway on her right. For many cycling interviewees who use cycleways like those on Eden Bridges, the objective was to ensure their safety and cycle in a way that reflects that they are now directly negotiating pedestrians and using what is essentially a footway where people are allowed to cycle. Talking about this in the negative, was clearly evident in James's unwillingness to use the cycleway as it would involve travelling at much slower speeds than he can achieve on the carriageway. When talking to Jean, a self-described touring cyclist in her late-fifties, the right way to use the cycleway should involve those cycling 'stopping being a vehicle' and start performing a 'pedestrian on wheels' kind of cycling. Asked to clarify what this all meant, Jean's response was twofold. Firstly, the appropriate way to cycle here involves 'mimicking the speed of pedestrians' as the cycleway is ultimately carved out of the footway which 'everyone knows is for pedestrians'. Secondly, and perhaps more importantly, being legally permitted use of this space does not result in 'having the right to go like a bat out of hell' along what essentially still seems a footway. A turn of phrase Jean was less than keen

to expand upon any further, given such talk makes obvious sense as this was a space to share with others walking and cycling.

Figure 5.3

Jean is cycling along the cycleway carved out of the footway on Eden Bridges, in the final image we see the dropped kerb allowing access to the cycleway. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

In many ways, as Latham and Wood (2015:303) have shown, this reflects the difficulty of fitting those cycling into a streetscape built around the 'established and well-understood

infrastructural settlement' delineated between driving and walking. People spoke of a sense of orderliness set up around how different parts of a street become legitimately available to those cycling, which in a practical sense was, to varying extents, defined by legal and extra-legal rules. What those cycling understood as a reasonable way to use the different spaces of a street did not completely follow the formal rules and laws nor guidance provided by the design and physical configuration of the material objects making up the street. This reflects how those cycling sensed their place within the dominant pattern of use seen on this street – be it the motorised traffic or pedestrian traffic. It follows that using a cycleway along a footway requires cycling more like a walker and using the carriageway instead of a cycleway requires cycling more like a car. In short, speed relative to other users was seen to have far-reaching effects on the nature of the relations between them.

The general principle those cycling appealed to was that the spaces of a street, even in a car dominated transport environment, can be shared. But this sharing can only happen in particular sorts of ways. With this talk of where road users belong and how they should interact with other road users, insights were also gained about their sense of the rules, norms and conventions backing up how these spaces of streets were expected to work. So when it comes to using streets with a carriageway and a cycleway on the footway, the cycling interviewees talked about their speed relative to the motorised traffic being the main qualifying factor. Using the carriageway only became legitimate and acceptably safe when their speed ensured they did not impede the flow of motorised traffic. Something that was situationally conditioned in various ways by: topography; physical fitness; the kind of bicycle used; and how the existing roading infrastructure of a street is expected to perform.

So, describing what is possible and prohibited when cycling on this particular kind of streetscape, saw a strong sense about who can use streets, leaving legitimate access and patterns of sharing to be defined by a form of rules-based ownership. In short, different users must be in the right spaces at the right time and perform their practices in the right sorts of ways in relation to others. Clearly, these justificatory utterances could easily be seen as an indictment on a transport environment with inadequate cycle provision, which if subject to the necessary improvements would aid the actions of these marginalised users. That is certainly true. Yet there is more to the lines of reasoning being articulated by those cycling than a need for better infrastructures. This is because, on closer inspection, why those cycling were doing what they were doing, stems from a particular sense of how to share and why that is important; understandings that reflect a particular sense of the rules and by implication whose movement and safety is prioritised more than others. Throughout, cycling

interviewees talked about the relevant legal rules and informal norms that helped to articulate and justify a reasonable definition of the boundaries for appropriate conduct. They were surprisingly articulate about these matters of informal rules. Talking in the negative – about actions that by their estimation were inappropriate and contravened rules – helped to make the form, function and reach of the informal rules intelligible. More broadly, such talk of the right and wrong ways to use the roading infrastructure of a street lays claim to users having situated availability to only parts and not all of this space. The far-reaching implications this raises explains why it would be wrong to assume the lines of reasoning offered by those cycling have it all sewn up when it comes to which parts of this streetscape are available to them and other users. Before considering how these different cycling practices are understood by the walking, driving or other cycling interviewees, it is worth pausing to think about what is sharing and its relationship to the concept of a commons resource.

5.2 Sharing a Commons: Doing the Right Thing in the Right Places

Sharing describes the processes through which a jointly accessed resource is distributed among a specific group of users. In this respect, how people expect sharing to happen says a lot about their sense of the relationships between users, their respective priority of access, and the practical workings of the resource itself (Bowes and Gintis, 1998; Widlox, 2013). Indeed, some game theorists have found people's propensity to cooperate is a condition of mutual trust and the durability of relationships among individuals (see Schelling, 1978; Axelrod, 1984). Outcomes that do not necessarily stem from efforts to maximise individual utility. Humans are social creatures who learn, follow and reshape informal social norms, habits and rules of thumb (Axelrod, 1984; Ostrom and Walker, 2003). This suggests that people's willingness to share is affected by both their relationships to other people as much as their 'emotional feelings of attachment' to the things in our possession that could be shared out (Belk, 2009:722; see Schelling, 1974). On this basis, Benkler (2004) goes as far to suggest the ability to share, how that sharing happens and what it culturally means to successfully share, were the fundamental processes that made it possible for human civilisations to emerge, endure and evolve over time (see Haidt, 2012).

In resource management the most influential work has started from the presumption that sharing a resource is a social dilemma given the assumed egotist nature of individuals (Olson, 1965; Hardin, 1968). Here the classic example presented is a commons resource, like an open-access pasture, where each pastoralist is assumed to be individually incentivised to

accrue as much personal gain as possible without considering the effects on other users or longer-term resource sustainability (Hardin, 1968). These predictions stem from an understanding of human behaviour that is founded on individuals being rational actors driven by the pursuit of a self-regarding desire to maximise individual utility (G. Becker, 1976; Ajzen, 1991). Approached in this way, pastoralists, like individuals more broadly, are believed to lack the collective means – the civic resources – to create, sustain and enforce the institutional arrangements, rules and norms capable of addressing this kind of social dilemma (Olson, 1965; Hardin, 1968; though see Ostrom 1990). The policy implications often drawn Hardin's (1968) tragedy of the commons is that both resource management and the ability to share a resource can only flourish under a formal set of private or public ownership rights imposed by an external centralised power (see McCay and Acheson, 1987; Feeny et al. 1990).

This impulse towards rational actor accounts mirrors the approaches often taken by many in transport geography and transport studies more broadly. Here, road users are imagined as idealised rule-following individuals, who move optimally between nodes of economic value (see Taylor 2002; Wilson, 2018). In this sense, the problem space on a street is one about creating efficient coordination between automaton users. An approach to human behaviour that leaves many questions about the variability of social practice, cooperation and their situated appropriateness, either ignored or merely classified as the cause of sub-optimal behaviour. Doing so maintains that road users can get along with each other by simply following the relevant legal rules and engineered forms of coordination. In contrast, the problem set up by those cycling in Carlisle was firmly about sharing and cooperation. This is because how people talk about sharing provides a particular sense of what the resource being used is all about, who are the legitimate users and how should access be distributed amongst them. This matters since these are all responses involve moral judgments that can vary. People can agree as much as they can disagree, for what they hold to be entirely reasonable reasons. As discussed in Chapter 3, how sharing happens has consequential effects on the form and function of a shared resource. In other words, there is an institutional dimension to sharing and this sort of dimension has long attracted the attention of institutional economists like Elinor Ostrom.

Following Ostrom (1990; 2005a), it is recognised certain communities of resource users are capable – in certain circumstances – of using their 'ingenuity to devise an appropriate set of rules' that defines the boundaries for appropriate forms of sharing (see Pennington, 2012:41). Clearly, there is a small margin for error given most attempts to share a commons often fail

(Ostrom, 1990; 2012). Yet, for those communities that can figure out effective rules for excluding all but the acceptable uses of a commons, they are the ones mostly likely to reap the gains of cooperation (Ostrom et al. 1994; 1999). This underpins Ostrom's interest in the factors that facilitate commons governance and when these can be relied upon as an effective source of rule-based social order around sharing without the need to resort to public or private ownership (Fennell, 2011; Rose, 2011). Commons management is all about ensuring those lacking the necessary rights of ownership are excluded from the parts of the commons they are not permitted to use. This means common property refers to a particular kind of sharing among those with the relevant rights of ownership, whose boundaries of exclusions define what is legitimately permissible 'without the resource itself being divided into individual private (or public) pieces' (Ostrom, 1990:6; Pennington, 2012). What individuals articulate as an acceptable form of sharing then, will be structured by a particular sense of the relevant formal laws and informal social norms that they understand to rule-in the correct patterns of use. Or, to put it another way, claims about the appropriate ways to share a commons provide important insights into where different groups of users should be and how they ought to perform the right kinds of everyday practices.

How sharing happens and keeps on happening says a lot about the institutional form, boundaries and exclusionary functions that define conditional access to only certain parts of a commons resource. Of course, there are many practical ways sharing a commons could legitimately function, just as one groups of users could be right in their understandings to the point that everyone else is wrong (see Bowles and Gintis, 1998; Widlox, 2013). Yet, for those cycling in Carlisle, talk about where they belong on streets was fundamental to the way they relate to and made sense of the appropriateness of their actions. Justifications that maintain these doings and understandings are consistent with the grammatical structure defining the ways people should share and cooperate. Coming back to Ostrom (1999; 2005a), this does not mean all users get an equal share nor absolute access to the entire commons (Crawford and Ostrom, 1995). More specifically, talk of such a grammar and practical ethics is based on users correctly accounting for the practices of others, expectations around normalised behaviour as well as the institutional and physical configurations of the resource itself. This is what underpins the appeal to shared understandings heard from James, Barbara and Jean that sought to outline the relevant grammar defining how to share the spaces making up the street. This is what a common grammar for sharing is all about; examining the dominant institutional structures that shape how sharing a resource happens. The bigger question raised by what it means to share as well as then to understand the

relevant functions of a commons, is whether these culturally mediated perspectives from those cycling are held in common across a public of resource users.

5.3 'The name says it all: Use the Cycleway when Cycling'

It may come as no surprise that many driving and walking interviewees were less than impressed by cycling practices that do not take full advantage of a cycleway when one is provided. Many were at pains to stress everyone can get along when people use their own dedicated space, be it: footways for pedestrians; cycleways for those cycling; and carriageways for motorised traffic. Sticking to these dedicated spaces makes for sharing this kind of streetscape as it allows other people to anticipate and predict where other types of road users belong. These interviewees were asked whether sharing, as they understand it, extends to include instances when those cycling are legally found outside of a cycleway and on the carriageway. Norman thought not. A retired plumber who has not cycled since passing his driving test nearly six decades ago, Norman explained 'when there is a cycleway provided that's their designated space' on the public highway, 'you know, you cannot get more obvious than that'. Likewise, Janice, a retired nurse who has not driven nor cycled for a number of years, was also adamant those cycling 'should only be on their cycleway'.

Brian, an HGV driver in his late-fifties who has not cycled since childhood, was clearest about what those cycling should be doing when there are cycleways provided. He pointed out James was 'not using his cycleway', an infrastructural provision that 'cost time, money and effort' to create for those cycling. When the poor-quality of this particular cycleway was highlighted to him, remember it is partially blocked by street furniture and has an uneven slabbed surface like the footway from which it is carved out, Brian was unmoved. This is not to say he was oblivious to this poor-quality, but it was just like 'our carriageways have potholes as well, you know'. The point he was making here is significant for two reasons. First, the carriageway is not always in an ideal state for those driving, but they still have to 'their space', so why should those cycling expect special dispensation to avoid a poor-quality cycleway. Second and more importantly, any cycleway was assumed to work acceptably well as an infrastructure otherwise it would not have been designed that way by engineers. In short, it was those cycling causing unnecessary problems for themselves and other road users. In this regard, the way Jean was cycling along the cycleway attracted Brian's attention as proof it works as an infrastructure and also illustrates the ideal way it should be used by all. Turning to those, like James, who stay on the carriageway over a cycleway, Brian was clear that his fellow drivers would find it 'absolutely infuriating that this dickhead thinks they can

encroach on our road' especially when 'everyone sees' there are separate spaces 'for you lot cycling and for me driving'. Such comments might be understood to reflect a general hostility towards those cycling – especially as their structure starts with the term 'dickhead' before explaining why that was so. Yet that would be too simplistic an interpretation. As the disgust Brian went onto explain, arose as a direct result of what he sees as those cycling clearly being in the wrong place on the spaces making up this street. That is, where those cycling – as neither a pedestrian nor a driver – fit into this streetscape and how they should share streets, was made perfectly clear by the provision of a cycleway. In this respect, the commonising language Brian used to define where cycling should happen on streets, sees those transgressing these boundaries being unfair to other law-abiding road users, but especially those driving – a line of reasoning that sets up a form of driver injustice.

Notwithstanding these justificatory reasonings and their sense of reasonableness, it was important to examine how they sit alongside the legal rules permitting those cycling to stay on the carriageway. For many arguing along the same lines as Brian, the specific form, function and reach of the legal rules defining where different modalities belong were not entirely relevant to the infrastructural arrangements and cycling practices being presented to them. This was evident in Norman's unwillingness to discuss beyond terms like footways, cycleways and carriageways given the terms themselves provided a commonsensical way of knowing who should be where on this streetscape. When talking to Brian he too acknowledged those cycling 'are not doing anything legally wrong' by staying on a carriageway, 'but common sense surely says otherwise, you know, use your cycleway'. A point made with a tone of voice that gestured towards this being an entirely reasonable expectation and one that seemed plainly obvious given what he discussed earlier. On following up his reasonings here, Brian found it easy to return to talk that offered a commonising sense of the right and wrong places for those cycling to be on this street. By way of explanation, he pointed to the way those walking are 'legally allowed anywhere, on the pavement, cycleways or even roads, but there's no issue with them since they know where they should be'. He goes on, when 'people drive they know it's illegal to be on pavements and cycleways'. The net effect for Brian, is that those cycling like James are in the wrong place and further in the wrong for thinking they can 'selfishly encroach on our road when they have their own cycleway'.

The interesting point about this line of reasoning is this extra-legal sense of order assumed far greater significance than any formal legal rules when interviewees like Brian sought to define the boundaries around where those cycling should be the spaces that make up streets

dominated by motorised traffic (see Ellickson, 1991). The presumption underpinning this particular grammar for sharing, was that non-driving road users have an obligation to know the spaces they are normatively allowed to use, thus keeping off other parts that belong to others. Though people who cycle possess the legal right to use the carriageway when a cycleway is provided, it is seen here to normatively belong only to the motorised traffic who have no other, and crucially, dedicated alternative, like a cycleway or footway. The key point for these interviewees was that the physical design and distribution of a street into footways, cycleways and carriageways, goes a long way to define what is received as the commonsensical way for only certain parts of this commons to become available for those cycling. Just as Barbara and James did in the previous section, albeit to justify a rather different sense of the grammar ordering the used of streets, the likes of Brian lay claim to the fitness of their own commonsensical understandings on grounds that they should be obvious to all other road users. Seen this way, Brian and others like him, had concluded it seems morally reasonable and only fair that as soon as a cycleway is provided that those cycling lose their normative right to use the carriageway. Put simply, the cycleway regardless of its quality has a consequential effect on the boundaries of the commons available to those cycling. The result is that those cycling on the carriageway are seen from this perspective to be 'outsider… non-members' that Ostrom et al. (1994:12) describes being excluded by the legal and extra-legal rules structuring the 'principles for ordering appropriate uses'.

Such an understanding of the rules, rights and obligations placed on those cycling to correctly use streets, shows clear differences compared to the particular sense of this commons articulated by those doing the cycling. Yet, for many like Brian, their understandings made complete sense given the roading infrastructure of streets is physically configured with cycleways and performed in ways dominated by motorised vehicles. This raises further questions about how these interviewees make sense of the understandings offered by James and Barbara, where cycling at a car-like speed was seen to justifiably open up the carriageway for them to use. When presented with these reasonings, Janice scoffed at the idea 'a cyclist thinks they are being like a car'. This was again partly about the position on the carriageway 'only being right if done by a person in a car, not on a push bike'. But it was also about the mis-match in size, mass and speed between those cycling and driving; an inevitable point of difference that makes the cycleway obviously the safer alternative compared to the carriageway.

Compared to those cycling, the appeal to a shared understanding heard from Brian, Janice, Norman and others point to issues of compatibility and infrastructural tension when

negotiating people cycling on streets with a cycleway. Put simply, their sense of the commons available to those cycling was different to those cycling. And it was this difference that underpinned their sense of annoyance and hostility towards those cycling, who were by their estimations, in the wrong place by using the carriageway when a cycleway is provided. A point with added significance as those cycling are seen to have their own dedicated infrastructure, which means for them to stay on the carriageway, compromises the only spaces on a street that is available for those driving to use. Both perspectives emerge from different cultures of sensemaking about the rights, obligations and responsibilities that different groups of road users, which each gives rise to a particular grammatical shape to the commons those cycling are understood to legitimately use and inhabit. Following the logic articulated by those like Brian and Janice, it is understandable that they go further to suggest the risk faced by those cycling on Carlisle's streets are largely the product of their own making. It follows that cycling on carriageways when cycleways are provided, involves using a space whose primarily infrastructural purpose is to ensure the rapid movement of motor traffic by keeping non-motorised road users out of harm's way (see Adams, 1995; Norton, 2008).

In this section, attention was paid to the way road users – who were mainly drivers and many of whom have not cycled for a long time – make sense of different cycling practices on a roading infrastructure with cycleways running parallel to the carriageway. As should be now clear, these interviewees followed those doing the cycling by articulating a kind of commons that should be shared among different road users. Likewise, they also discussed what it means to share in terms of road users belonging to only certain parts of this commons. Notwithstanding these similarities, interviewees in this section were articulating a very different sense of the relevant rules, rights and obligations faced by those cycling. Insights that resulted from, and gave rise to, a profoundly different sense of the commons as a whole and the relevant parts reasonably available for those cycling. Here the use of possessive pronouns like 'our' and 'their' combined with words like 'designated' and 'encroach' offer a clear sense of the grammatical structure to the commons available here to those walking, cycling or driving. These commonsensical understandings about who belongs where, represent an 'emotional attachment' to the parts of this roading infrastructure that are obviously just for them as drivers and not for those cycling (Belk, 2009:272; see Kahan et al. 2005). This certainly explains the sense of disgust heard when relating to cycling practices found outside where it is supposed to happen. A problem set up here as unique to those

cycling, whose supposed ignorance and selfishness prevents them doing the right thing of using cycleways when provided on car dominated streets.

Following the logic of people like the interviewees in this section, a particular sense of social order and what is morally reasonable serves to blind them, in much the same way as those cycling, to the possibility that alternative perspectives could also possess their own reasonableness (see Adams, 1995; Haidt, 2012). It follows that this section gives a clear indication that the 'working rules' road users sense defining the spaces on a street that are available to those cycling is subject to multiple situated interpretations and dissonances about what is permitted or forbidden (Ostrom, 1990:40; see Chapter 6). Perhaps more importantly, it shows hostility to the presence of those cycling on the carriageway is defined by a particular understanding of the rules that seeks out a fairer distribution of the shared spaces that takes into account those walking and cycling have been provided their own dedicated spaces.

5.4 'You can choose, but surely the Cycleway is Safer'

Iain is an IT developer in his late-thirties who spoke of driving almost everywhere and only very occasionally cycling with this daughter during the summer. When shown the different cycling practices performed by James, Barbara and Jean, his response was telling. Iain initial set about explaining that for 'most drivers they would be absolutely adamant' those cycling should 'always get out the way of the traffic and use their cycleway'. Asked whether this was also his view, given he too regularly drives, Iain said not. For him, staying on the carriageway was legal and practically acceptable 'when those cycling go at speeds similar to the traffic and if it is safe to do so'. All three of the cycling practices shown earlier in this chapter were understood to appropriately share their respective spaces on a street since they were cycling either 'at the speed of the traffic' on the carriageway or at 'almost a walking pace past pedestrians' on the cycleway. This sense of situated reasonableness was by far, the most common response offered by interviewees regardless of whether they drive, walk or cycle. What is interesting about these interviewees is that many, like Iain, did so by also displaying an unease at those cycling on carriageways when a cycleway has already been provided. This was partially about the need to go at a relatively high speed, akin to the motorised traffic, to legitimately gain access to the carriageway. But it was also about many interviewees relating to cycling as excessively risky, which meant 'unnecessarily' staying on the carriageway, given there is a cycleway, did not make any sense given their greater vulnerability compared to those driving. It follows that it seemed reasonable to interviewees like Iain that those cycling should take responsibility for their own safety by avoiding the carriageway. So, keeping out

of danger, away from the motorised of traffic, trumped claims about what is legally permissible.

With several responses along the lines that the cycleway 'keeps cyclists away from cars' and is 'there for cyclist safety', it was clear this said much about the uneasy compatibility of those cycling into the roading infrastructure of a street dominated by motorised traffic. So, most interviewees (regardless of their modal experience) were broadly supportive of adjacent cycleways as they were seen to provide a clear solution to what they understood as the unavoidable dangers of cycling along carriageways with arterial functions. Typical of this was Danielle, an administration assistant in her early-thirties who walks daily across Eden Bridges to work, as she does not currently drive or cycle. For her, cycleways seem 'much like the footways for pedestrians' as these 'dedicated spaces are much safer than being on the road'. While seeking to avoid direct criticism of those who stay on the carriageway, she explains 'they can use the road - you are legally allowed to - but I would have thought any cyclist would think they are better off on the cycleway than being exposed to all the cars'. Continuing, she had no idea why anyone cycling would 'want to be on the road, up close to all the cars, that just seems frightening and needless when there is an alternative already there for you'. Now this could easily be explained by connecting back to the thoughts of Brian from the previous section. But on closer inspection it was mostly about the cycleway, just like the footways Danielle regularly uses when walking, providing an ideal space for vulnerable road users to keep safely out the way of the traffic. From this perspective, using cycleways were obvious and gave a clear indication that safety was correctly being put as the main priority. So, even though staying on the carriageway still formed part of the commons available to those cycling, with it being dominated by motorised traffic, there are profound effects on the landscape of risk non-driving road users should be anticipating and compensating for here.

The result here was clear and consistent. Responsibility to avoid risk was central to how all interviewees relate to cycling in the UK and it helps to make sense of where it should happen within the spaces making up a given street. This was most apparent when responding to questions about how interviewees would cycle in the circumstances depicted in the earlier ride-along videos. Hannah, an administration assistant in her early-twenties who drives everywhere, spoke for many in terms of her fear that the 'traffic would get too close and misjudge things' if she were cycling, which are 'accidents, easily avoided by using the cycleway or better still not cycling at all'. Carriageways then were being understood as dangerous spaces to do the dangerous practice of cycling. When asked about the way interviewees came

to understand cycling as risky, a common and obvious response was the fact that it is not a motorised vehicle using a space dominated by this kind of traffic. Moreover, as very few people regularly cycle in Carlisle this has a profound effect on how and whom is expected to use this roading infrastructure and importantly, what is meant by road safety. As Hannah describes in terms of James cycling on Eden Bridges: 'he just seems very exposed and, being in that lane, you get a real sense of how small and vulnerable he is compared to the traffic, I would even go as far to say he's at the mercy of the traffic'. Indeed, several responses were along these lines that a person cycling would inevitable experience an accident and come off worse than those in a car. For this reason, interviewees like Hannah were sure that any 'responsible person cycling would look to minimise the risk' that arises from being in 'close proximity and competition with the traffic'. What is more, failure to compensate their cycling actions in the ways expected to ensure road safety, raises obvious concerns about whether those doing the cycling are responsible road users that can be trusted to act in a reasonable rule-following manner.

These connections between the landscape of risk and related notions of responsibility that underpin what is meant by road safety here. They highlight how cycling is simultaneously understood to be at greater risk than those driving and through prevailing social infrastructures, are normatively expected to compensate their cycling to ensure their own road safety. In doing so, the way cycling is sensed by many as an unacceptable risk combines with this account of road safety to sustain a particular sense of how roading infrastructure of streets should practically and morally happen. When this was introduced to these interviewees, the sense of control that James talked about in terms of his cycling, interviewees like Hannah doubled-down on the fact they were right and James was wrong. Based on Hannah's estimation her conclusion was justified given James's obviously insignificant and exposed road position. These findings are consistent with what John Adams (1983; 1995:14; 2013) terms the 'gross risk compensation' by those walking and cycling that was discussed in Chapter 3. Above all, this talk of cycling being dangerous sees it being culturally constructed as a risky practice that is all too familiar to researchers of low-cycling environments (see Horton, 2007; Aldred, 2016).

For Horton (2007:147), this fear of cycling emerges alongside people's existential 'fear of the cyclist', which he associates with the growing realisation by individuals that 'they too might take up cycling and become a cyclist'. This develops a line of practical reasoning that assumes overcoming the cultural marginalisation of cycling in the UK removes the barriers preventing everyone from accepting it makes perfect sense. As should be now clear, however, it is

helpful to be sceptical of such presumptions, especially in a low-cycling transport environment. Indeed, these findings offer an account of risk, responsibility and the reasonableness of cycling that is rather more multi-faceted than the simple 'fear of the cyclist' offered by Horton (2007:147). While most people relate to cycling as a risky thing to do, amongst those who rarely cycle, this was accompanied by talk about the risk and uncertainty they face when driving or walking that arises from negotiating people cycling. To explore this further, interviewees were asked how those cycling on the carriageway become a risk to them whilst they drove[18]. In summary, cycling was positioned here as a source of uncertainty compared to the predictable and familiar follow-the-leader patterns of movement performed by motorised road users.

In the case of Lindsey, for example, though she recognised James was allowed on the carriageway, in practice she 'would not like to follow him at all'. A restaurant worker in her thirties who drives everywhere, Lindsey explained her trepidation here was 'a genuine worry about anticipating what a cyclist might do next'. On reflection, this was partially about her greater confidence in her fellow drivers to 'use the road properly by being in the right places, following the rules and going at the right speeds'. But it was also something to do with the lightness of the bicycle. In one sense, this is closely connected to the fact those cycling can be badly hurt by those driving, which held added significance since her recent road traffic collision with a person cycling. In another sense, this lightness underpins much of the unpredictability caused by those cycling being able to fit into and through spaces that are not physically possible in a motorised vehicle[19]. When asked about how this compares to the risk those cycling are perceived to face, there was a broad reluctance to extend discussions beyond the safety dividend gained from using the cycleway. Comments that give effect to the way Anthony, a retail assistant who cycles daily, talked of using cycleways at every opportunity 'to avoid unnecessarily pissing people off by impeding the traffic flow and so I can ensure self-preservation'. While many drivers like Lindsey accept those cycling could legally stay on the carriageway, they found it hard to accept anyone would wish to do so when there is a cycleway provided. This was a common way most driver and walker interviewees reacted to the videos shown. In other words, they were concerned about the welfare of those cycling that arises from them been seen to show insufficient responsibility for their own road safety, which they themselves should prioritise, by staying on the carriageway. The effect was that these interviewees felt they and other drivers are obliged to

[18] For a discussion about footway and footpath cycling, see Chapter 6.
[19] For a discussion on filtering through spaces between congested traffic, see Chapter 8.

uphold a reasonable duty of care towards those cycling since they cannot be trusted to look after themselves.

Anyone who understands and values road safety in this way, assumes that cycling out the way of the motorised traffic on the cycleway makes perfect sense as a paternalistic way to improve overall road safety. With cycling understood as an excessively risky practice and certain spaces making up a street are a dangerous place for it to take place, the obviousness of this compensatory action is only upheld because of this particular understanding of this problem space (Slovic, 2000a; 2000b). As discussed in Chapter 3, what is a risk and who is burdened with responsibility for ensuring safety, can take on a different shape depending upon the cultural processes through which certain parts of everyday life are subject to heightened attention (see Douglas, 1992). This explains why risk compensation as a means of ensuring road safety among non-driving road users is so powerful in the context of a car dominated transport environments (Adams, 1995; 2013; see Fyhri et al. 2012; Radun et al. 2018). Such arguments are entirely reasonable for Hannah and Lindsey, even as those doing the cycling see the landscape of risk in such a way that staying on the carriageway can be ideal for them. Clearly, these findings run contrary to the "harm principle" outlined by J.S Mill (1869) in *On Liberty*. Following Mill (1869), these findings reflect a paternalism that dangerously encourages the lawful liberty of those cycling to be selectively curtailed since others deem it not to be in the individual's own good in that particular circumstance[20]. Of relevance here, is the way many interviewees thought it was perfectly acceptable, indeed necessary, to normatively rule-out staying on the carriageway when a poor-quality cycleway is provided. These interviewees, in effect, define the commons available to those cycling on account of the normative and practical reasonableness of them "compensating" for the risks posed by the motorised traffic. It follows that this makes the source of this risk or any alternative notions of road safety difficult topics of discussion with these interviewees. This is because such an understanding of this problem space is based on the commonsensical presumption that those cycling must do what it takes to safely fit onto the roading infrastructure of streets that otherwise work well for the motorised traffic.

[20] This is not an argument against the need for good-quality cycleways. Rather it is wrong to assume one groups understanding of risk and road safety makes perfect sense to everyone else, given the consequential effects this carries for our own sense of risk and the commons available to different road users. Like Horton (2007:15) rightly cautions, this reminds anyone attempting to promote cycling there is always the 'possibility for unintended consequences from their efforts, which should be a cue to think and work better'.

5.5 Conclusion

The way people expect to share the spaces making up a street in car dominated transport environments does not happen by random nor is one perspective on how it should happen right or inevitable. People act, interact and experience roading infrastructure through various practices and situated circumstances that give rise to certain commonsensical claims to shared understanding about how sharing should happen. Once conversations were staged through reference to the cycling shown in the interview video, interviewees found it relatively easy talking about where those cycling do not belong, and in doing so, outlined a sense of the relevant rules, boundaries and functions of this roading infrastructure. Through this strong sense of who belongs where on a street, alongside talk of seeking to avoid excessive risk, was central to how the walking, driving and cycling interviewees relate to cycling and made sense of appropriate action. What is clear from the data presented in this chapter is that the prevailing response among all interviewees was that: a) streets are to be shared – including by and with those cycling; b) this sharing is defined by rules (formal and informal); and yet c) there was disagreement about how sharing should happen. This disagreement reflects how the formal and informal rules regulating who belongs where on the street was being subject to multiple reasonings about what practically and morally counts as reasonable and appropriate. The effect was that the patterns of sharing some road users found obvious not only failed to follow through to make sense to other road users but was a key reason for why other road users felt so exercised about the irresponsibility and contempt associated with the reasonings of the former.

Drivers interpreted cycling on streets with cycleways through their own situated sense having to negotiate people on bicycles when driving. The prevailing response among these interviewees was that cycleways were quite clearly the safest place to cycle in car dominated transport environments. To use cycleways, particularly on heavily trafficked streets, was seen here to remove what would otherwise be an unpredictable and unexpected presence in the flow of motorised traffic. A point reflected in the paternalistic value placed on those cycling keeping out of harm's way that benefits their own safety whilst allowing drivers to avoid the extraordinary situation of negotiating someone cycling. Yet some drivers went much further. Their responses were defined by talk of users having rights, obligations and responsibilities based on whether their modality has its own dedicated space. For this group of drivers, cycling on the carriageway was never allowed once any form of cycleway is provided – regardless of its quality – and though they knew this was not currently law, they were convinced it should be made law to ensure the smooth flow of traffic.

Evaluating this same cycling, interviewees who cycle drew on their own practical experience to suggest not all cycleways can be infrastructure – given their vastly different quality and affordances. Cycling interviewees differed in the specific situations in which they might use the carriageway when a cycleway was available. Yet, the prevailing response among these interviewees was that using a cycleway or carriageway is a choice, allowed by law, and its morally appropriateness all depends on their situated relationships with motorised road users. This line of reasoning was about two things. First, it was about ensuring their own road safety and that of other more vulnerable road users (i.e. pedestrians). Second, and more significantly, these lines of justificatory reasoning spoke of the rights, obligations and responsibilities that those cycling have in relation to other road users. Both points were outlined in relation to the commonsensical understanding about helping to keep traffic moving swiftly and safely.

Pedestrians, on the whole, made sense of cycling on streets with cycleways through the lens of road safety. Much of their responses centred on the risk of being needlessly exposed to motorised traffic regardless of any legal right to using the carriageway. In this respect, using the cycleway whenever one is provided seemed just as obvious as using the footway when walking. Most spoke of a general principle that did not say using the carriageway was prohibited – they were clear it was not – rather a rule of thumb suggests there is little point needlessly mixing with traffic when a safer alternative is provided. One perhaps surprising feature of what walking interviewees had to say, was the varying concern raised about cycleways being carved out of the footway. Here increases in the age of these interviewees was a predictor of increased anxiety about the recklessness of those cycling in a cycleway in close proximity to pedestrians. This saw speed and the accompanying risk of being harmed being the source of concerns, though younger walkers were far more reticent about this being an issue. It should be noted only a small minority expressed the view that once a cycleway is provided that is the only space where people can cycle.

If there is one thing you should take away from this chapter, it should be that all road users talk about streets as spaces that work because people are sharing and cooperating, even in those spaces dominated by motorised traffic. Those sharing streets differentiate on the grounds of what is legitimate, safe, correct and responsible; always taking into account a personal risk management strategy that keeps them safe given their relations to other road users. They use the same personal risk management strategy as a standard against which to assess and monitor how others are using and sharing the spaces making up streets. This is not the usual adversarial vision of road user politics. Rather it is a willingness to share streets

with those walking, cycling and driving. Though being set up as a kind of commons, their talk outlined certain boundaries and rules that meant not all cycling (or other) practices are appropriate since they must take place in the right places, at the right time and in the right ways. Thinking about streets in this way, recognises what is meant by sharing. It is open to multiple and at times competing perspectives among road users, even as each perspective carries a certain commonsensical reasonableness to its proponents.

In this chapter, there were three broadly defined perspectives that overlap and differ from each other as interviewees laid claim to where those cycling should fit onto a streets with poor-quality cycleways. Without passing direct judgement on these perspectives, each articulate a common grammar for sharing based on ensuring those deemed to lack the necessary rights of ownership to parts of this commons they are excluded from using. These justifications were structured around a particular commonising sense of the relevant formal rules and informal social norms governing the appropriate way to share the spaces making up streets. On this basis, certain kinds of sharing can become more obdurate as their related social norms are 'copied, diffused and replicated' in ways that further entrain a particular sense of how this commons gets appropriately done (Bowles and Gintis, 1998:5). The way in which individuals align or distinguish themselves from what it means to share, provide insights into their commonsensical understandings about a street should function and the sense of orderliness this normatively entails. Perhaps more importantly, the form and content of these justifications saw all interviewees equate what is commonsensical to them, with what should also be obvious and commonsensical to everyone else. This seems to account for the respective blindness seen when it comes to the obviousness of their own commonsensical understandings compared to another perspective bound up with a differing sense of order around the appropriate use of the street. All of which impacts the form and function of the relevant system of working rules. As the next chapter goes onto discuss, the rule of law was not always the most relevant when it came to what is permitted or forbidden (see Ostrom, 1990; Ellickson, 1991).

IN SUMMARY

- Even in car dominated environments, streets are spaces for sharing including by those cycling are for sharing. People spoke with a commonising language about how that sharing should happen.
- Talk of who belongs where on the roading infrastructure of a street was fundamental to the way interviewees made sense of the rules and obligations governing how those cycling should appropriately use this commons.
- What interviewees suggest is an acceptable form of sharing, provided important insights into the relevant laws and social norms seen to legitimately rule-out certain patterns of use in certain circumstances.
- Each interviewee gave their own sense of a common grammar for sharing, which reflects a particular sense of the form and exclusionary functions that defines the way any road user has conditional access to only parts of a commons.
- Risk and Responsibility was central to how interviewees relate to cycling and for many, who rarely cycle, this meant the cycleway made perfect sense as a paternalistic way to ensure the road safety of what obviously seems a vulnerable road user.
- The commonsensical lines of reasoning and accompanying justifications articulated by individuals here sought to frame what is commonsensical to them with what should be commonsensical to others. This came in the form of a personal risk management strategy applied to themselves and the standards of others to keep everyone safe. It was about caring for people to ensure they keep safe – though the form this took did differ between road users.

6 Rules, Norms and Common Sense: Cycling on Pedestrian Spaces

The spaces making up a street are defined by rules. Thinking about why road users act in the particular ways that they do raises two important questions. How do people make sense of the rules to be followed, bent or ignored? And what might this say about who they are as individual users and their sense of how the roading infrastructure of streets should happen? In the UK, it seems obvious to begin this discussion with *The Highway Code* that instructs all road users on how they should behave on the public highway (DfT, 2015). Its rules and guidelines subtly differ for those on foot, bicycles or the various classifications of motorised vehicles, for example, the driving license required to ensure a certain competence among those driving or that all carriages must not use the footway[21]. Talk of rules is nothing new to transport geography. Indeed, traffic engineering says much about the flow capacity of carriageways based on this being conceived as a highly regulated space where rule-following individuals move in standardised ways between nodes of economic value (Hunt et al. 2005; Wilson, 2018). A quantitative and engineering approach to the world of traffic that focuses on averaging out these 'follow-the-leader flows' while downplaying the disorderly noise caused by the 'peculiar' manoeuvrings of non-motorised users (Gashaw et al. 2018:166; see Daganzo, 2002a; 2002b; Gonzales and Daganzo, 2013). It follows that transport geography has often understood rules as highly formalised, officially promulgated and obdurate entities. Indeed, traffic engineers have played a significant role in codifying a particular vision of where different groups of road users belong, with the aim of ensuring the smooth, efficient and safe flow of traffic (see Emanuel, 2017; Norton, 2008; Jain, 2004).

The argument developed in this chapter is that it is important to look with a keen interest at how streets are less of a traffic problem of coordination and more a human problem of cooperation – given its various forms of 'human weirdness' where informal rules and grey areas are fundamental to its practical workings (Vanderbilt, 2008:120). This will add a qualitative perspective to the quantitative and engineering approaches to rules in transport systems. The unspoken grey areas are built-in features of the system and not a corrupting bug that can be removed to get back to some pure performance based on the written legal rules. To understand these features, is to also recognise transport geography has long overlooked the various ways a public of road users make sense of the relevant rules governing the who can use the spaces making up a street. Following on from the common grammars

[21] In the UK, a bicycle is legally defined as a carriage according to the Highways Act (1835), meaning those cycling, like anyone using a motorised vehicle, must not use the footway (see Rule, 64; DfT, 2015).

for sharing discussed in Chapter 5, the wider implications arising from what people sense as the relevant rules, plays a significant role in shaping their sense of appropriate action as well as the form and function of a commons resource. Through focusing on cycling practices performed in spaces legally defined just for pedestrians, this chapter will explore how these commonsensical understandings can at times be shaped more by the written legal rules whilst other times, informal social norms take on greater prominence. Outcomes that to varying extents manifest in rules and commons meaning different things to different people for what respectively seems entirely reasonable reasonings.

This chapter consists of five sections. The first section introduces three examples of cycling on footways and footpaths. They are examples that represent the common way in which those doing the cycling went about evaluating and justifying their actions by setting up an extra-legal sense of orderliness that outruns the perceived constraints of the legal rules. This leads into the second section that considers what social theory understands by rules, norms and common sense. The third section hears from interviewees who are opposed to any form of cycling on footways and footpaths. To these *legal-centralists*, such cycling practices will always harm those walking, whom these spaces belong, and the authority of the legal rules they are subverting. In the four section, attention turns to interviewees who are willing to tolerate cycling on footways and footpaths so long as no harm is being caused to those walking. Amongst these interviewees, by talking about how cycling should ideally happen, they provide a sense of the extra-legal rules and conditions that must be met to satisfy their *consequentialist* line of reasoning about what is morally appropriate conduct. This leads to the final section that concludes by considering these groupings in relation to the moral foundations developed by Jonathan Haidt and its obvious affinity to cultures of sensemaking when it comes to risk perception discussed by John Adams. The chapter ends by exploring how different user groups had different estimations of the relevant rules for using a street when cycling, which lead to the *legal-centralist* and *consequentialist* lines of reasoning gaining support from walking, cycling and driving interviewees.

6.1 Commonsensical Cycling on Pedestrians Spaces

Christopher, a retired academic, is leaving the carriageway for the footway on Petteril Street, before he reaches its junction with Warwick Road and Victoria Place, two arterial carriageways leading into Carlisle from the East (figure 6.1). Here Christopher, who is on an afternoon trip to the grocery store, slowly cycles along the footway before crossing Warwick Road at a Puffin crossing. He does the same when crossing Victoria Place, though this time

he stops behind two people on foot who are already waiting for the motorised traffic on the carriageway to stop. Once it does and the green figure of the Puffin crossing illuminates, all start to cross the carriageway with only Christopher turning left onto the far-side footway where he slowly cycles to the next residential side-street where he turns off Victoria Place and re-joins the carriageway. The way Christopher uses the footway here to avoid the carriageways with the most amount of traffic, could be read as a clear indictment on the dangers posed by its poor-quality provisions for those cycling. This is roading infrastructure that is founded on a strict separation of vehicular traffic and pedestrians. Within this context, perhaps it is not surprising that the kind of cycling Christopher performed seemed a better fit for the footway – and mixing with pedestrians – than being on a heavily trafficked carriageways. Yet, to legally use this combination of footways and Puffin crossings, *The Highway Code* in Rule 64 is unambiguously clear (DfT, 2015). Christopher should be getting off his bicycle and becoming a kind of bicycle-wheeling-pedestrian. So, why did Christopher come to adopt this kind of cycling and what makes these spaces ideal for such a practice?

In response to this question, Christopher set up a narrative that sought to directly address the illegality of his cycling, before making it clear that he still sensed his cycling to be entirely reasonable and appropriate. To begin, he raised the hypothetical prospect of being stopped by a police officer, who in his account is seen to strictly enforce the legal rules. Though Christopher would just 'get off and walk without arguing with them', it was telling he still felt what he was doing 'may be illegal but is not really a problem in the grander scheme of things'. On reflection, his cycling here was practically and morally justifiable since he was 'going along just like a pedestrian, slowly and considerately, not to mention there were few people walking there at the time'. Were he to cycle any faster or more pedestrians were present, then this extra-legal sense of reasonableness would cease to exist. Such understandings meant the law prohibiting cycling on the footway can be bent when the cycling does not cause harm to those walking. A line of reasoning given added significance by many of those doing this kind of cycling, who saw footways as a sensible 'backup space' for those 'cycling too slowly and too unsteadily' to be on the carriageway. In other words, using the footway to cycle was positioned with reference to an extra-legal set of rules that legitimises the stitching together of this kind of cyclable route. All because it can compensate for the perceived dangers of using heavily trafficked carriageways.

Figure 6.1

Christopher is seen cycling onto the footway before using both footways and two Puffin Crossings to navigate around the junction and the carriageways of Warwick Road and Victoria Place. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

Geraint, a journalist in his early-fifties, is cycling along a narrow footpath leading to Wetheral Viaduct, a railway bridge across the River Eden, a few miles to the East of Carlisle (figure 6.2). Approaching a woman walking towards him with two dogs, Geraint freewheels and moves to his left as both say 'good morning' as they closely pass one another. Afterwards, Geraint cycled past a sign indicating 'Cyclist Dismount'. He continues along the footpath onto the bridge where there are also no other users.

Talking about his cycling here, Geraint freely admits this is a 'contentious part of my commute' since he understands by the 'letter of the law' those cycling should dismount and walk along the footpath[22]. For Geraint, most people he knows also cycle across this footpath meaning he seems right in suggesting 'it's just common sense, you know, it seems trivial to expect cyclists to get off and walk, when you can still cycle and be courteous to pedestrians by slowing right down'. To look beyond the illegalities of such cycling practices, as encouraged by Geraint, invokes his understanding of what is commonsensical as an entirely reasonable and obvious basis upon which all road users can settle on what is appropriate conduct. Developing this narrative further, Geraint explained some pedestrians will 'forcefully demand you get-off and walk' though that 'makes no sense at all along here' as becoming a bicycle-wheeling-pedestrian 'takes up far more of the footpath than when I am slowly cycling'. For interviewees like Geraint, the effect of taking up less space while cycling in a manner that obviously shows careful consideration for those walking, holds a certain logic that works for him without eroding to much of the space legally defined for those walking. Saying he was all too aware not everyone will agree with him, was not that significant. Rather, the message from Geraint was one of a reluctance to accept the reasonableness of such criticisms, given it values the rule of law to such an extent that those cycling are expected to act in ways far removed from what seems commonsensical and harmless. The interesting point being made here is what seems commonsensical to Geraint was used to justify his own cycling practices and by appealing to shared understanding, he sought to question the reasonableness of those critical of actions and line of reasoning. These justificatory accounts, far from mere excuses for rule-breaking, attest to an extra-legal form of rule-based social order that frames the cycling practices they perform as evidence of what any reasonable person would understand to be an acceptable form of cycling.

[22] A footpath is different to a footway, as it is an unmaintained highway over which the public have right of way on foot only. To cycle here is a civil tort against the landowner, unless there is a specific by-law created by the Local Authority that specifically prohibits cycling (Highways Act, 1980; DfT, 2015).

Figure 6.2

Geraint cycling along the footpath leading to Corby Bridge where he passes a pedestrian with two dogs and then a sign indicating 'Cyclist Dismount'. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

What was clear from talking to interviewees like Geraint and Christopher, was comparing the supposed reasonableness of their own cycling with a hypothetical example of irresponsible cycling. Talking in the negative helped them and us to make sense of the relevant rules and boundaries of the spaces available to those cycling here. A typical response was that footpaths cannot be used by anyone cycling 'aggressively fast' or worst still, assuming they are 'entitled to own this space'. To own this part of streets, meant those cycling were wrongly using their greater size, mass and speed to anti-socially force those walking into compensating their actions by moving out the way. This could be partly

explained in terms of the risk posed to pedestrians that does vary with physical changes in the relative speed of those cycling. But it also relates to talk from the previous chapter about who belongs where on a commons and the disgust shown when those cycling transgress these rule-based boundaries to using the street. In this respect, interviewees who did cycle on footways and footpaths were at pains to emphasise how these spaces can be justifiably incorporated into where those cycling can be, so long as they are being considerate and harmless to those walking. Sharing these spaces then, was closely equated with those cycling slowing down and having sufficient space to pass without causing any harm or anxiety to those walking. After all, Geraint and Christopher did suggest people should make sense of their cycling as basically akin to how a pedestrian uses the footpath. A line of reasoning that provided a sense of the extra-legal rules governing how these kinds of spaces can be organised and shared without making recourse to the legal rules (see Ellickson, 1991).

The message from the cycling interviewees doing the cycling was clear. With no harm being caused to those walking there should be no problem with people cycling on footways or footpaths. They knew these spaces did not legally belong to them. Yet, they point to a grammatical structure through which they felt reasonable in cycling along these pedestrian spaces. As Anna, a shopworker in her early-forties, put it in her interview, those cycling legally belong on the carriageway and to do otherwise would contravene her own 'strong sense of what is right and wrong'. Once discussing her own footpath cycling (figure 6.3), Anna suggested 'cycling slowly and being ready to stop if needs be, showed obvious courtesy to those walking'. In this respect, her footpath cycling was 'neither entirely legal nor was it simply unreasonable'. Before quickly adding the 'correct and proper thing, would be to walk and not cycle, as that is the law'. Exploring the contradictions here was not something Anna want to explore in much further detail. Across interviewees like Anna, there was a sense of 'fuzziness' around where those cycling fit into a streetscape whose spaces are defined either by walking or driving. Again, this reflects and sought to substantiate claims about any reasonable use of footways and footpaths being ultimately premised on cycling in a manner that is akin to being a pedestrian. This is because cycling clearly possesses traits that were similar to walking and driving, even as they are never entirely one or the other. It is now clear that these narratives resonated with a wider sense that cycling on spaces legally defined for pedestrians can be justifiable when performed in ways that do not threaten those walking. Put simply, these spaces work well for those cycling and are non-issue when they are harmless to those walking.

Figure 6.3

Anna is seen signalling left with her arm as she leaves the carriage-way of St Nicholas, using a dropped kerb to gain access onto a foot-path that she uses to cut-through into a supermarket car park. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

What was being outlined by those doing the cycling, was the rule-based boundaries defining where they belong on the street. The point here is that these understandings led the extra-legal rules and norms to assume greater significance when defining the commonsensical ways cycling on footways and footpaths could be problematic or totally acceptable. This could lead us to ask whether those cycling should be exempt from the legal rules prohibiting the use of these pedestrian spaces since they seem to know best when it comes to knowing the situated availability of the different spaces making up the street. It is almost as though the fuzziness and ambiguity around how those cycling fit into an existing infrastructural settlement defined by motorised and pedestrian traffic, necessitates and legitimises a form of extra-legal rules that make safe cyclable routes possible. Then again, what would other road

users, many of whom rarely cycle, make of such commonsensical notions is critical. How do they make sense of the various ways a street can or should happen? What are the rules accompanying these understandings? And what constitutes a harm towards those walking? Is harm caused by merely breaking the rules?

6.2 What is a Rule, a Norm and the Commonsensical?

Before going onto consider how road users relate to these different cycling practices: what are rules, norms and common sense in the context of low-cycling transport environments? Rules are often understood as a regulation governing how to act, which reflect and serve to substantiate a certain orderly structure around what is allowable or prohibited. As discussed in Chapter 3, this definition does not hold up well when it comes to thinking about a commons resource, whose boundaries and situated availability was seen in Chapter 5 to vary in far-reaching ways amongst road users. Thinking about rules and norms in this context is what makes the work of Robert Ellickson and Charles Taylor so invaluable. According to Ellickson (1991:128), a 'rule is only a rule when it actually influences the behaviour' of the individuals it targets alongside 'those who detect breaches' of the rule. This is because people's sense of the relevant rules and accompanying grammatical structure emerges through practical doings and their commonsensical understandings of those doings – regardless of whether they are performed by ourselves or others. As social psychologist Tom Tyler (1990; 2011) has argued, the authority and legitimacy of any rule, including legal rules, can never be taken-for-granted as these descriptive traits emerge through the degree to which the rule itself affects the behaviour of individuals in the desired direction (Ellickson, 1991; 1998). With rules 'residing' and being 'animated' through the very social practices they govern (Taylor, 1995:174-8), talk about the right and proper ways to perform certain practices, inevitably gives a sense of the rules and boundaries of the commons where they are performed. Most people have a clear sense of the written legal rules. Then again, the form, function, reach and relevance of informal social norms and the legal rules does vary.

So, what are norms and legal rules? A social norm is an informal kind of rule that shapes and is shaped by the behaviour of members in a society. For Ellickson (1998; 2001), informal social norms reflect commonly accepted notions of normalised behaviour and can provide an extra-legal source of social order. What is more, the key empirical finding from Ellickson (1991) remember, is that the laws of the legal system, being like any rule, have no guaranteed relevance over guiding the actions of individuals nor their claims about what constitutes appropriate conduct. People often act in ways they deem morally appropriate since they are

in part understood to align with a decentralised sense of social order emanating from extra-legal social norms that supplement, supplant or maybe even diverge from law (Ellickson, 1991; 1998; see Etzioni, 2000). It is hard then to avoid seeing a reciprocal relationship between the practical function of these formal and informal systems of rules and the way they 'reflect, maintain and direct' the prominent cultural values guiding how people appeal to shared understanding about what is morally appropriate action (Boeckmann and Tyler, 1997:377; Finkel, 1995). Coming back to streets, the idea that individuals live by the rule of law alone is the great pitfall of transport geography when it comes to thinking about how the spaces making up a street happen in a practical and moral sense.

Viewing rules as a moral domain, Finkel (1995; 2000b) points to a tension between what he terms the 'black-letter law' on statute and the 'commonsensical justice' people understand as the relevant rules governing fair, just and appropriate action in a given situation (see Rochira, 2014). Here common sense is invoked to describe what makes obvious and reasonable sense to a reasonable 'citizen on main street' (Finkel, 1995:2; 2000b). In English Common Law, the hypothetical person with reasonable character and conduct is termed "the man on the Clapham omnibus"[23]. Moral judgements of this sort are fundamental to how English Common law functions, as the reasonable actions of average person are understood to take place within the known boundaries the rules, norms and common understandings that are formalised through legal rules, precedents and standards (see Holmes, 1881; Riddell, 1918; Howard, 2010). This connects to the work of philosopher Charles Taylor (1995:171-179) who argues, 'rules exist in our lives as values made flesh' through the kinds of commonsensical practices that reasonably 'conform to a sense of what is right and fitting'. It is the reason why the form, province and relevance of any rule is best described as a 'negotiable fact that cannot be considered independently' from the ways people relate to everyday practices based on what their common sense suggests is right and wrong (Rochira,

[23] In the judgment in Healthcare at Home Limited (Appellant) v The Common Services Agency (Respondent) (Scotland) [2014] UK Supreme Court, 49, Lord Reed summaries: 'The Clapham omnibus has many passengers. The most venerable is the reasonable man, who was born during the reign of Victoria but remains in vigorous health. Amongst the other passengers are the right-thinking member of society, familiar from the law of defamation, the officious bystander, the reasonable parent, the reasonable landlord, and the fair-minded and informed observer, all of whom have had season tickets for many years. It follows from the nature of the reasonable man, as a means of describing a standard applied by the court, that it would misconceived for a party to seek to lead evidence from actual passengers on the Clapham omnibus as to how they would have acted in a given situation or what they would have foreseen, in order to establish how the reasonable man would have acted or what he would have foreseen. Even if the party offered to prove that his witnesses were reasonable men, the evidence would be beside the point. The behaviour of the reasonable man is not established by the evidence of witnesses, but by the application of a legal standard by the court'.

2014:240; Finkel, 2000b; see Boltanski and Thévenot, 2006). When thinking about what is reasonable and justifiable, the challenge is what is then commonsensical can vary among a public with profound and far-reaching effects on the commons as well as the formal and informal rules governing its use.

It is in this respect where common sense can be seen as a practical form of intelligence invoked by individuals as they relate to different practices and go about making sense of their situated appropriateness (Garfinkel, 1968; Tilly, 2006). As with all forms of intelligence and knowledge, common sense conveys a simplified understanding of the complexities of everyday social life (Schütz, 1953; 1972; Garfinkel, 1967). The point for Schütz (1953; 1972 [1932]) is that invoking common sense lays claim to a sound practical judgement about what constitutes socially acceptable behaviour and how this conforms to normalised behaviour in that social setting (see Garfinkel, 1967). Individuals might say that is 'common sense' and that 'everyone' knows it. But as sociologist Howard Becker (1998:83) makes clear, 'what everyone knows is the object of study' for social scientists. Just like the earlier discussions in Chapter 5, it is important to pay careful attention to how roading infrastructures happen in practice, how those doings are understood by road users and the rules providing grammatical structure to these normative uses and not simply accept conventional answers from one particular perspective. This is because one person's idea of what is common sense implies that it is held in common with "everyone" else; even as the topic discussed for other people, is a concern for entirely different commonsensical reasons. The commonsensical element to people's working assumptions varies then with their past experiences, culturally mediated perspectives and subjective relationships with their social and infrastructural worlds – all of which is open to interpretation and multiple meanings (Garfinkel, 1968; Tilly, 2006).

To illustrate this point, take the case of marijuana use discussed by Howard Becker (1998). For the distant observer, smoking this drug 'doesn't make any sense', though it 'might make sense' to us if we knew more about why and on what basis this 'makes perfect sense to the smoker' (Becker, 1953; 1998:25). Things often look 'incomprehensible to us simply because we are too far away' from the circumstances 'to know the actual contingencies' that made it seem like a good idea to the person doing it (Becker, 1998:25). This example from Becker (1998) draws attention to how an entirely reasonable action for some, can at the same time transgress what is commonsensical for others based on alternative reasonable reasonings. Moreover, once individuals understand something to be commonsensical, they see confirmation of their understandings everywhere. As social psychologist Jonathan Haidt (2012) explains, this confirmation bias makes it difficult to convince them that they are wrong

and others are right, especially when these arguments are made outside of their particular moral matrix (see Slovic, 2000a). This is because the commonsensical is 'formed from a [particular] "Here" in the world', which means others with the same perspectives will likely reach similar interpretations (Schütz, 1953:30). Paying close attention to talk about the commonsensical is not just saying, to borrow from Garfinkel (1967:2010), something makes 'good sense', since this talk is grounded into particular sense of the relevant system of rules governing the commons and normative patterns of use in that social setting.

Arguments about what those cycling ought to be doing on a street sees the commonsensical become relevant within an often overlooked 'phronetic gap' between the written legal rules and their practical enactment (Taylor, 1995:177; Flyvbjerg et al. 2012). Context matters to people's culturally mediated sense of the rules and commons. To follow Haidt (2012), as each individual is good at supporting their own claims about something being commonsensical, yet they often find it difficult to understand why actions they seen as problematic or unimportant are commonsensical to others. What a public of road users understand as prosocial or antisocial behaviour then is not about tracing the application of written 'transcendental rules' (Boltanski and Thévenot, 2006:7). Rather, it is more about asking questions of their respective moral judgments about what is normatively appropriate and the relevant suite of rules giving a certain grammatical structure to these understandings. Rules, whether laws, informal social norms or common understandings can be 'double-edged' for law enforcement, as these extra-legal rules in particular can at times 'accord supporting compliance' with the law while other times they may legitimise actions clearly contrary to the law (Tyler, 1990:26). That is, while certain cycling practices may be strictly illegal according to *The Highway Code*, they may be normatively acceptable based on some commonsensical notions of appropriate behaviour based on certain extra-legal rules. This is why it is so important to have intellectually robust knowledge about the practical ethics of an existing roading infrastructure and the commonsensical basis through which these understandings are made. And as the aim of this thesis is to understand how a public of road users think about the practical ethics of using streets for cycling it is even more important to ask questions of what seems commonsensical.

6.3 'Follow the Rules means Follow the Law'

To many driving and walking interviewees, cycling on footways was unacceptable given it is illegal and expected to harm those walking. Sharon, a hairdresser in her forties who drives everywhere, spoke for many of these interviewees when presented Christopher's account of

his footway cycling. For her, slowly cycling on the footway was only 'fair from that fella's perspective since he is the one cycling away from the cars and not one of the poor pedestrians having to jump out his way'. She continued, 'the pavement is not for him, as he's on a bike, we all know it is just for pedestrians'. Sharon displayed concerns that were common to many driving and walking interviewees. In short, the footway is the wrong place to cycle and the unreasonableness of continuing to cycle here overrides any justificatory claims about supposedly valuing the welfare of those walking. These were the reasons why Sharon went onto suggest those cycling 'generally do what they want as opposed to sticking to the rules, us drivers have no choice but to follow'. On this basis, those cycling are seen to wrongly transgress into parts of the commons not legally available for those cycling to use and that only creates unnecessary problems for themselves as well as other road users.

Sharon and many others like her, were concerned about the dangers of cycling on carriageways with arterial functions for motorised traffic. Yet they were also adamant the footway cannot be used as a 'backup safe space' to avoid such risk. When it was put to them that this use of footways seemed entirely reasonable to those doing the cycling, responses were again along the lines of 'you either cycle properly within the law or do not cycle at all'. This meant follow the legal rules that allow the use of carriageways and prohibit the use of the footway. To be clear, there was a tendency among many non-cycling interviewees to see footway cycling as far more problematic than the substantial risks faced when using the carriageway. This is because those seeking to justify footway cycling, were by Sharon's estimation, wrongly assume they are privileged to be 'above the law' otherwise enabling this street to perform well as an infrastructure for those walking and driving. Anne, an accountant in her fifties who drives everywhere, spoke for many opposed to footway cycling since it gives the impression that 'cyclist's want the best of both worlds, though as a general rule, "I want never gets" in life'. As in Chapter 5, the disgust shown towards those doing footway cycling can be partly explained by them gaining an unfair advantage by being in the wrong parts of the street. Yet this belies a broader sense among these interviewees about the prevailing patterns of sharing that were premised on all road users consistently following the correct set of legal rules. Viewed this way, making sense of where appropriate cycling happens is seen through the lens of the written legal rules that are understood to clearly define the boundaries of the commons available to different road users.

Questioning the doings of those cycling based on what is understood as the relevant legal rules, was something many driving and walking interviewees also did when it came to cycling on footpaths. Mary, a retired teacher in her eighties who walks most places but used to

regularly drive, offered a light-hearted story from her childhood to help her make the inappropriateness of cycling on footpath, intelligible:

Mary mmm... I wouldn't have been happy about it at all, as let's face it that is just too narrow for someone to be coming along there on a bike. You know, I think that when the cyclist met the pedestrian there was a problem, though they were fortunately facing each other.

MN Do you think that something like that is acceptable for someone to ride down?

Mary He came around the corner and slowed down, so I would say that he did his best there to avoid her... but at the end of the day he shouldn't be there.

Let me tell you a little story about that. Where I grew up as a child, there was an alleyway just like these, and mmm... it was quite broad for a bit then another alleyway joined it and for the last little bit it was very narrow. There were often some unruly kids who cycled along it. You know, it was really difficult to get through the narrow cut on foot when they were cycling, as it was just too narrow. You know, if there were any adults they would give them a right good telling off for cycling down there.

So, that's what I mean here… I think that he must be breaking the law, just because it's a footpath and the path is really not wide enough for someone to be riding a bike. I am not being funny, but I for one, would feel threatened by any cyclist there, just because it looks really quite narrow along there, and there are walls on either side, so that really should be a no go for them.

Following through this extract the problem space is a simple one. Cycling on the footway is illegal. Regardless of how the cycling is being performed on the footway, by being illegal it inevitably has a negative impact on those walking – it is taking away from their space in a street. Here the story Mary describes helped to further clarify and substantiate her sense that cycling on footpaths must be legally prohibited, which requires some form of external authority to ensure the legal rules are being followed. Mary's story resonated with the work of Charles Tilly (2006:64) by providing a simplified account of the complexities of everyday life requiring a form of 'moral evaluation that makes sense' in that particular circumstance. In this respect, the physical width of the footpath, the proximity to passing pedestrians and the relative speed of those cycling were all relevant and reasonable factors being reached for

when Mary was asked to evaluate cycling performed on a footpath. A line of reasoning that did initially parallel the understandings heard earlier from Geraint and Anna. Yet, this was a footpath. And so, Mary understood this to be a space where those cycling are not supposed to be. For many, like Mary, footpath cycling was threatening. The interesting point for us was that this baseline sense of threat was less the result of how footpath cycling was being performed and more about the sense of subversive contempt shown towards the authority of the legal rules. Mary and others like her had, in effect, concluded the relevant rules governing this streetscape are the written legal rules that clearly define where those cycling belong. Or, perhaps more accurately, the legal rules provide a clear and unambiguous sense of certainty over who should be where on streets, which better protects the safety and security of those walking on footpaths.

Among these interviewees, several responses were along the lines of 'just follow the law' and 'use your own space'. All of which emphasised the obviousness of who rightly on footways and footpaths. Ryan, who is in his thirties and drives daily to his job as a food-outlet worker, explains 'everyone knows a rule only works by being black and white, because giving people any leeway opens the floodgates, as people only care about themselves and often lack any reasonable common sense'. That is, the legal rules come with the added benefit of being an authority on what is right and what is wrong. While this partly stems from the purpose of a legal rule, Ryan's main point was that such laws are necessary as those cycling, like people in general, 'cannot be trusted to act in the reasonable way like those driving'. Perhaps it is unsurprising then that those cycling cannot be trusted once the legal rules retain such an authoritative position over what is appropriate behaviour. The attraction of this understanding comes from the belief that those cycling would inevitably be prone to acting dangerously around pedestrians once these legal constraints become weakened, less relevant or completely removed. Among interviewees like Ryan, respecting the legal rules and the particular kind of orderliness they uphold, is only made possible when these institutions retain an authority among all road users. These findings relate back to Tyler's (2011) suggestion that the effectiveness of any rule is founded on individuals appreciating its normative purpose (see McKean and Cox, 1982). For this reason, Ryan and many others like him had decided the legal rules provide a consistent basis upon which to adjudicate who belongs where on a street and that defines whose actions are ruled-in or ruled-out.

This brings us back to the central role of rules to the way people make sense of how a commons resource functions. With accounts of who belongs where defining the interview talk discussed in this section, it seems naïve to simply assume that cycling would be

unproblematic so long as those doing it followed the written legal rules. Interviewees like Ryan and Mary really value the authority of these legal rules in creating a roading infrastructure of a street that works for those walking on footways and footpaths. It supports and sustains a particular form of orderliness. Approached this way, the concerns raised about whether people are correctly following the legal rules says as much about what these interviewees understand as a relevant rules as it does about how they relate to cycling. It is now clear the 'health and integrity of external coordination devices,' like laws and institutions, were a concern for *legal-centralist* interviewees, like Ryan and Sharon since it just seemed so commonsensical to them that those cycling need these 'external constraints in order to behave well' (Haidt, 2012:340). To follow Haidt (2012) in this way, offers a new perspective on this talk of threat posed by those cycling on footways and footpaths. There is always the potential threat of pedestrians being physically harmed by those cycling. But, ultimately, opposition here came from a heightened sensitivity to the threat this illegal kind of cycling poses to the authority vested in these legal rules. Whether cycling on footways and footpaths was problematic depended how much contempt was shown towards the legal rules. Without these legal rules governing footways and footpaths, these interviewees worried those cycling will inevitably act in ways that are inconsiderate, selfish and harmful towards those walking.

6.4 The No Harm, No Problem Principle

One of the curiosities of footway and footpath cycling is the way that many interviewees were keen to look beyond the legal rules when it came to practices that based on their estimation did not harm those walking. This was a view common among the cycling interviewees as well as a surprising number of the walking and driving interviewees. A typical response came from Danielle, a local government worker in her mid-fifties who walks everywhere. For her, whether you can cycle on footways and footpaths 'all depends on showing sufficient consideration and respect towards those walking in that situation'. Asked what this kind of cycling would ideally entail, it was obvious to Amanda that 'you must go slowly and gently, giving plenty of room to pedestrians' rather than 'going like an idiot at speed'. Likewise, Glenn, an HGV driver in his thirties, had no problem with people cycling on these spaces so long as they 'visibly slow to a walking speed or momentarily come to a stop' as that makes it clear to any pedestrian 'their rights and safety are prioritised'. He continues, suggesting that this form of cycling is 'just common sense, it is a social contract among those cycling and walking'. What this notion of a 'social contract' would suggest, is that reasonable forms of cycling outrun the neat constraints of the legal rules governing footways and footpaths. Indeed, the more Danielle and Glenn talked about the

reasonableness of certain cycling practices, the more they offered a sense of the extra-legal rules capable of making this possible. View this way, talk about the self-evident obviousness of this 'social contract' helps to summarise as well as substantiate the justifiable reasonableness of these particular kinds of cycling practices.

So, far from rule-breaking, certain cycling practices on footways and footpaths were being understood as a case of rule-following; one that is constituted by a common grammar for sharing, itself, defined by a conditional rule-based obligation not to harm nor threaten the pedestrians. On the question of this cycling being illegal, responses from Danielle and Glenn were far from reticent. Whereas those in the previous section took the legal rules to be obvious and definitive markers of where the cycling should happen, these interviewees wanted to suggest that certain kinds of footway and footpath cycling can bend or simply ignore the law. They made this case on the basis that without causing harm to those walking there was no reason why these spaces cannot be used for this kind of appropriate cycling. This was partly because they understood there to be a fuzziness around where those cycling fit into an existing infrastructural settlement defined by practices of driving and walking. But it was also more broadly about, as Vicki – who rarely drives and never cycles – put it, a case of the legal rules 'working against the concept and reality of reasonable cycling behaviour'. In other words, where cycling should ideally happen for these interviewees depends far more on how it is being performed in relation to those walking and the consequences this entails rather than what is permitted by the legal rules.

With the effectiveness of a moral rule being founded on its ability to prevent harm and ensure people act and interact with each other correctly (Haidt, 2012), talk about what is appropriate cycling on footways and footpaths gives a sense of the extra-legal rules capable of fulfilling this function. This is not to suggest the legal rules are entirely obsolete. Rather, and to follow Ellickson (1991:283), the relevance of these legal rules varied depending upon the 'magnitude of what is at stake' in certain circumstances. For interviewees like Glenn, the legal rules seem largely irrelevant when it comes to the kinds of cycling performed by Christopher and Geraint since they are clearly harmless to those walking. Then again, interviewees like Danielle and Glenn knew some people will always cycle dangerously around pedestrians and this is when the legal rules are at their must relevant. Evaluating the harm caused by those cycling, as the basis for ascertaining its situated appropriateness, lays claim to a moral system whose foremost concern is about protecting the legal rights of individuals, which in this case are those on foot (see Mill, 1869; Haidt, 2012). Talk of this *no harm, no problem* principle was fundamental in making what is illegal seem morally reasonable. It

follows that when those walking are not being harmed, threatened or having to compensate for risk caused by those cycling on footways and footpaths, this particular kind of cycling practice can be justifiably sensed as an acceptable thing to do.

This brings us to another interesting angle on the use of footways articulated by those who cycle; whereby the experience of stitching together a workable cycling route created tensions around the appropriateness of cycling on the footway. These tensions are especially significant for those who have only recently started to cycle. Again this comes to back to where those cycling fit into an infrastructural settlement configured around spaces for either walking or driving. The issue here is that footways often provide critical connections allowing those cycling to compensate for other parts of roading infrastructure, namely carriageways with arterial functions for traffic, being unavailable for them to safely use. The following extract is from the interview with Luke, a software developer in his thirties who has recently started cycling after a change in office location meant commuting on foot was unfeasible. The question about whether cycling could or should happen on footways encouraged Luke to reach for a commonising language that pointed to the reasonableness of wanting to cycle in a safe environment with the fact up until very recently he mostly used roading infrastructure for walking:

MN From your experience, do you think there is much wrong with the way he used the footway and past the pedestrians there on Warwick Road?

Luke This is where I'm two-faced! To be honest, before I did cycle, and I was walking a lot, I was very black-and-white, I would get very irked by the fact that any cyclist was kind of invading the space of the pedestrian, if you know what I mean, my pedestrian space was being invaded by an imposter. But then when I did start to cycle I was on the road most of the time, but you do certainly change your views, and have a far more pragmatic view of how people might want to use pavements when, like here, it would cut out a dangerous section of road. Now that just seems like common sense.

So, when I am cycling, I would balance the fact I am invading, as it were, the space for pedestrians so I need to be going slowly and carefully, but I am doing that with a clear sense it protects my own personal safety and that seems to be something that balances out really. That seems justifiable along there really, as my life is more important, than sticking to a rigid rule. At the end of the day that

kind of absolutist view of the rule on pavements I previously had, doesn't reflect the sense of anxiety and danger that comes with being on the road along places like Warwick Road.

MN What do you think those cycling should do when it comes to the footway?

Luke I was going to say... then again… mmm… I am torn really… mmm… you sort of need to have hard and fast rules when it comes to the road, it is very difficult to make exceptions isn't it. At the end of the day, you can't have it that it's 'okay for him [Christopher] but isn't for little Jonny'. The law needs to be one or the other, so on that basis, I would say that you cannot ride on the pavement.

What is clear from the extract is that the things making perfect sense to Luke before he started cycling, did not follow through to seem so commonsensical now that he regularly cycles in the same car dominated transport environment. It is unsurprising to hear that before he started cycling Luke related to footways as a space belonging only to pedestrians, which made strict compliance with the legal rules all the more important. But once cycling himself, the relevant rules governing the use of footways shift as this space assumes an essential compensatory function that allows the excessive risk of using heavily trafficked carriageways to be avoided. These were comments also head from many non-cycling interviewees. Ones like Simon who can drive but mostly walks to work, when he was asked where cycling should ideally happen if they were given a bicycle to use. This was partly about the self-interest of ensuring their own road safety, but it was also about the greater suitability of cycling to the footway than fitting onto carriageways in certain situations. Indeed, reaching for 'this is where I am two-faced', Luke draws attention to and then quickly skirts the obvious inconsistencies between his two perspectives on where those cycling belong and what they should be doing. Luke had decided, it was easier to live with the unresolved tensions arising from these competing perspectives than to engage in a direct comparison about which one is right or wrong when it comes to appropriate uses of a footway.

When the things interviewees found commonsensical were questioned, many, regardless of their views on cycling, developed conversational strategies that reaffirmed the reasonableness of their own viewpoint and challenged the alternative account being presented to them. Asked to make this sort of moral judgement, Luke found it particularly difficult. This was because his walking and cycling experiences left him split between the reasonableness of

footway cycling being prohibited in order to follow the law and it being an acceptable and necessary part of cycling in car dominated transport environments when it is complemented with certain extra-legal rules. With each perspective being commonsensical in their own way, they are each being set up as the reasonable way all road users should relate to these social and infrastructural worlds that discounts the value of other perspectives. Though this contradiction 'made the interview feel momentarily awkward' (Hitchings and Latham, 2016:512), by grabbing for what makes a rule effective in more abstract terms, Luke sought to head off further questions about this shift in what seems commonsensical when it comes to footway cycling. Nevertheless, this shows how experience of cycling was instrumental in shifting what is commonsensical to Luke, which went onto shift his sense of the relevant rules and commons available to those cycling.

Exploring the way people think about the practical ethics of using streets when cycling has shown the significance of rules – both formal and informal. It has also shown, and perhaps more importantly, that how people make sense of the rules reflects and serves to substantiate a particular sense of the form, function and boundaries around how streets are used and shared with those cycling. In this respect, these justificatory claims may appeal to shared understanding, though they arise from one particular perspective on what is meant by the commonsensical in that situation. Clearly, getting more people to cycle would contribute towards a greater alignment in the commonsensical ways road users make sense of how cycling should happen and the common grammar for sharing to be upheld. An obvious implication of more road users simply having some individual and collective experience of cycling, which partly explains why the roading infrastructure in the Netherlands works well for those cycling. As seen in Carlisle, what becomes commonsensical as people relate to cycling has profound implications of their sense of social infrastructure giving grammatical structure to the commons being used. This was important in making something that interviewees like Danielle and Glenn understood to be illegal, seem morally reasonable when the conditions are right to uphold the "no harm, no problem" principle. However much these interviewees held their views to be obviously commonsensical, this is not a case of there being a single universal form of common sense. Rather the findings reported in this chapter clearly show there are multiple answers to the question of what road users find commonsensical. Perhaps more importantly, each of these culturally mediated perspectives go onto support a particular sense of the relevant rules that define how people discursively work out the form and function of the commons available to those cycling. What individuals hold to be commonsensical helps them to justify the particular ways they relate to cycling

and directed us towards a particular situated sense of the social infrastructures governing morally appropriate use of this commons. Put simply, this commonising language about where those cycling belong arose here from a *consequentialist* line of reasoning that appeals to a shared understanding based on the harm not caused by those cycling to other road users.

6.5 Legal-Centralist and Consequentialist Lines of Reasoning

What this chapter has found is that people can reflect on the rules and make sense of the relevant rules in different ways. These interpretative understandings shape and are shaped by what seems commonsensical to them. This brings up an irony that for all this talk about common sense, these findings show multiple accounts of commonsensical intelligence that were not entirely held in common across a public of road users. In some respects it seems obvious to find that people often disagree. The interesting point, however, is to consider the ways in which people themselves understood and talked about how the social and infrastructural worlds they inhabit should happen. All of which, as Boltanski and Thévenot (2006) suggest, requires paying close attention to the form and content of the justificatory claims individuals offer during moments of social dispute about what is appropriate and reasonable (see Thévenot, 2014; Stark, 2009; Tilly, 2006). So, instead of assuming the rights and wrongs of cycling on footways and footpaths are already known, the objective of this chapter was to use the understandings offered by public of road users to ascertain the relevant rules and commons associated with these cycling practices.

The two distinct perspectives on footway and footpath cycling carry a commonsensical reasonableness to their respective constituency of supporters. The first perspective was the *legal-centrist* view, which most pronounced among non-cycling interviewees. This focused on the threat caused by this illegal form of cycling due in part to wrongly subverting the authority and purpose of the legal rules. In this sense, the law is required to protect both those walking and the existing order that holds these spaces only belong to them. The second perspective was the *consequentialist* view on what is morally appropriate. Cycling on footways and footpaths can follow extra-legal rules as long as no harm is being caused to those walking, who retain the ultimate legal right to use these spaces. This was founded on the general principle of *no harm, no problem*; a view common among cycling interviewees as well as a surprising number of non-cycling interviewees. In short, these two perspectives reflect fundamental differences in how interviewees relate to the practice of cycling, the threats it poses as well as the relevant rules and form of the commons here, which arise from variations in what is understood as commonsensical.

What is gained from exploring the way individuals make sense of rules and lay claim to the commonsensical, is that it helps us to better appreciate why road users do not always agree about what common sense holds to be reasonable and appropriate. It is in this respect where the work of moral psychologist Jonathan Haidt (2012) has been useful. With his six moral foundations[24], Haidt (2012) provides a pathway through these findings given they are defined by two opposing perspectives on footway and footpath cycling, each of which stem from interviewees relating to cycling, the relevant rules and the commons in divergent ways. These findings also show how those sensitive to the threat posed by any cycling on footways and footpaths, were most concerned about the negative consequences arising from such law-breaking as they transgresses into a space belonging only to pedestrians. In the words of Haidt (2012:356), these interviewees were interested in upholding 'order and stability by detecting the threats' they believe subvert the 'authority of the laws and institutions' giving structure to the established way things are done. It follows that when those cycling are seen to subvert these formal rules and laws, they are also undermining the rules these *legal-centralists* felt do a good job at protecting pedestrians. In other words, without the legal rules ensuring footways and footpaths belong only to pedestrians, those cycling are expected to inevitably use these spaces in a selfish, inconsiderate and harmful manner.

Though footway and footpath cycling is illegal, the relevance of any rule including the laws of the legal system are not always guaranteed (see Ellickson, 1991). In this chapter, some responses claimed that cycling performed on footways and footways can be practically and morally appropriate when certain commonsensical conditions are met. As should now be clear, how these cycling practices should ideally happen centred on the principle of *no harm, no problem*, which provided us with a sense of the extra-legal rules giving grammatical structure to these conditions. In the words of Haidt (2012:345), these interviewees were interested in

[24] The six moral foundations Haidt (2012) develops in *The Righteous Mind*, offer six values alongside the behaviour seen to be contrary to each. These are as follows: Care/Harm; Liberty/Oppression; Fairness/Cheating; Loyalty/Betrayal; Authority/Subversion; and Sanctity/Degradation. Haidt (2012) uses these to postulate a moral matrix for Liberals and Conservatives, in the American sense of these terms, that helps to explain partisanship and seek ways to disagree more constructively. For Liberals, the first three values form their moral matrix with a great deal of emphasis placed on Care/Harm. For Conservatives, all six values are in play, with emphasis mostly on preserving the institutions that sustain a moral community. Haidt's (2012:370) overall argument is that people approach a contentious issue from different perspectives, which makes it difficult - but not impossible - to connect' with those working from perspectives different to our own. The effect is that other people 'might just have something important to say' that leads us to see a 'controversial issue in a new light (Haidt, 2012:366).

'emphasising care for the vulnerable through harm-reduction' at the same time as 'standing for tolerance' as means of ensuring the 'liberty and autonomy of individuals'. From this perspective, it only seems fair and proportional to allow those cycling to use footways and footpaths when these practices are not causing harm nor are they a social problem for pedestrians. Then again, when these practices are being performed in ways that are harmful it only seems fair that the relevance of the legal rules are reasserted. While all interviewees cared about avoiding harm, the key difference was these *consequentialist* interviewees were clear that cycling as a practice is not inherently harmful nor threatening. Instead they maintained cycling only becomes a source of harm and threat through the situated ways it gets performed in relation to those walking. Here, the fairness underpinning the *no harm, no problem* principle is about proportionality. To again follow Haidt (2012:212), this is about 'making sure people get what they deserve and not take anything more' especially when it comes at the expense of others (see Tversky and Kahneman, 1981; Thaler and Sunstein, 2008). Now clearly, this notion of fairness could justify *legal-centralist* viewpoints given they cared about those cycling sticking to where they legally belong on streets. But it could equally justify *consequentialist* viewpoints who make sense of the appropriateness of cycling in ways that clearly outrun the commonising boundaries set out by the formal rules and laws of the road.

Moreover, these findings bring us back to the distinct cultures of risk that John Adams (1995) finds to underpin the different cultures of sensemaking among individuals and institutions about what is a risk. The effect of these distinct cultures is that how people make sense of their social and infrastructural worlds leaves a small number of things attracting upmost concern while a great many other things get simply ignored (Adams, 1995; see Becker, 1998). Of particular relevance to the findings in this chapter is that arguments made about what is a risk are never consensual since they can mean different things to different people (Adams, 1995; 2013; see Slovic, 1999; 2000b). Thinking in this way, frames the disagreement seen in this chapter as case of interviewees relating to cycling and roading infrastructure from perspectives that are multiple and divergent due to their varying sense of what is commonsensical and morally justifiable. Following this logic, allows us to appreciate among these multiple perspectives some people speak about them justifiably diverging from those defined solely by the legal rules. Doing so emphasises how the relevant rules, commons and patterns of appropriate use cannot be assumed. This is because the understandings individuals reach for can shift and become contradictory, which reflects how they are always 'in the making' whether in an interviews or when practically responding and thereby altering their infrastructural circumstances (Latham, 2003:2005). To put it another way, what is

meant by reaching for the commonsensical is open to multiple interpretations that can shift in far-reaching ways, with the consequential effect that sees each perspective alter people's sense of the rule-based form and morally appropriate function of a commons.

6.6 Conclusion

In this chapter interviewees found it relatively easy to talk about the practical ethics of using streets for cycling in a low-cycling environment – regardless of whether they themselves cycled or not. The main focus of their attention was discursively working out the rules those cycling (as well as other road users) must follow or can bend, ignore or break. The common way all interviewees responded to these questions was to: a) talk about the situated negotiations shown in the interview video and the impact those cycling have on others; b) make some reference to their general sense of the legal rules regulating the space being used; and c) only then make claims to appropriate action based on a varying mix of formal and informal rules.

Interviewees differed in their understanding of the formal rules and laws – particularly around cycling on footpaths. Indeed, most sought some form of clarification from the interviewer about the specific legal rules on footpaths. As should now be clear, interviewees differed markedly in their understanding of the form, function and reach of the formal rules and laws as well as the informal rules and norms. The key conclusion drawn from this chapter was that the explanations and justifications interviewees were providing about cycling on footways and footpaths saw them lean towards one of two viewpoints: *legal-centralists*; or *consequentialists*. Each of these viewpoints, and the resources drawn upon to justify them, appealed to different shared understandings about what is fair, just and appropriate (or not) about cycling on footways and footpaths. These claims to common sense involved moral judgements that offered a particular interpretation of the practical ethics of using streets for cycling. This, of course, matters to those interested in cycle infrastructure in a low-cycling transport environment given these rules (both formal and informal) define where those cycling belong on streets and how they should relate to other users. The original insight from this chapter is that these commonsensical interpretations appealed to shared understandings for how to use and share streets that did not follow through to form a single shared understanding held by all. In other words there was clear dissonance. And this is important when it comes to thinking about creating new cycle infrastructure not to mention how to create, change, ignore or even revoke certain formal rules and laws.

In response to the interview videos showing people cycling on footways and footpaths, cycling interviewees were keen to point out why this could and should be appropriate. They were the group most familiar with the legal rules regulating the use of footways and footpaths. They were also the strongest advocates of a general *consequentialist* principle for evaluation based on the impact those cycling were not causing those walking – no harm then no problem. It follows that cycling on footways and footpaths was by their estimation acceptable if acting more like those walking; a desirable alternative to when unable, unwilling or uncomfortable to act like those driving on the carriageway. Drawing on their own experiences, these cycling interviewees did differ in the specific situations in which they might use footways and footpaths; a difference that related to their speed, proficiency and even confidence when cycling around motorised traffic. Among those relatively new to cycling, previous certainties about the formal and informal rules were being challenged and problematised. Though still uneasy about bending or ignoring rules they once valued for their black and white certainty, this was difficult to reconcile with being obliged to remain safe when the existing infrastructural settlements is heavily defined by driving and walking.

Driving and walking interviewees were split between *legal-centralist* and *consequentialist* perspectives that appealed to a very different set of shared understandings. This dissonance is important. All talked in ways that circled back to their own experience of observing other people on bicycles who wilfully bend, ignore or break the rules.

Those appealing to a *legal-centralist* viewpoint, were keen to emphasise those cycling are creating their own problems by not following the formal rules and laws. The street by their estimation already works well as a space for sharing and coordination when people follow the formal rules and laws that clearly define the boundaries of acceptability. And so, the sorts of grey areas and ambiguities by allowing illegal cycling that relies on the situated judgements of those cycling, should be eliminated – they could not be trusted. This was a view particularly prevalent amongst those aged over 60, a group exercised most by the risk of harm than any actual harm caused by cycling shown in the interview video.

In contrast, those appealing to a *consequentialist* understanding focused more on the impact those cycling were not having on the legal users of footways and footpaths. This is not to say they were oblivious to the legal rules. Rather they felt too narrow a focus on legality was misguided since it overlooks how footways and footpaths can provide a safer route to cycle compared to being on the carriageway. For them, cycling is different to driving and for that reason it seems unfair to discount out of hand the fact those cycling can negotiate pedestrians

in ways that is little different to someone walking. Significantly, walkers aged under sixty were far more willing to take up this viewpoint. They agreed with the general principle offered by those cycling that if no harm was being caused, then cycling of footways and footpaths may be illegal but is also reasonable and appropriate in a car dominated transport environment.

If there is one thing you should take away from this chapter, it should be that the interviewee responses appealed to a need for some autonomy in interpretation of the formal and informal rules providing order to how pedestrian spaces are shared. This comes with a propensity towards trusting other users of footways and footpaths, with an inherent regard for appropriate levels of responsibility. This call for autonomy in interpreting the form, function and reach of the relevant rules was evident in both the *legal-centralist* and *consequentialist* perspectives. The consequence of this is to alter the practical and moral sense of where different road users belong on the spaces making up streets. Whether people leaned towards worries about being harmed by rule-breaking or the physical harm not being caused, went a long way to define how people made sense of the rules regulating the use of streets by those cycling. The effect is the common grammar for sharing that seems obvious to some, does not necessarily follow through to make perfect sense to others – for what each holds to be commonsensical reasons. For this reason, it has been important to explore the justificatory reasonings provided when people say they know the rules and what is commonsensical when it comes to where cycling should ideally happen.

To follow Haidt (2012), when people buy into one particular understanding, they blind themselves to the potential value offered by other people who see things differently and who might even view our own perspective as illogical or just plain wrong. What is crucial for the argument being developed here is that these kinds of variations are important to those interested in growing levels of cycling because they influence the all-important sense of who belongs where on a street and how they should behave in relation to other road users. As Chapter 5 illustrated, the form and content of these justifications play a fundamental role in the way people relate to cycling and make sense of its situated appropriateness in a low-cycling transport environment. What this chapter has been all about then, as Thévenot (2002b:8) suggests, is 'what counts or should count as good' is far from certain nor obvious. It is open to interpretation. It is also clear people do follow the rules and use the selected parts of the commons they estimate are for them to use. Though, as shown in this chapter, the rules to be followed, bent or ignored – whether formal or informal – vary as a consequence of different cultures of sensemaking that produce multiple and at times

contradictory accounts of what is appropriate cycling practice. All of which is important, when the next chapter starts to think about the civic resources like trust, responsibility and fairness that makes the everyday performance of a street possible.

IN SUMMARY

- Interpretations of rules in the context of using streets for cycling exists alongside a propensity to trust other road users who are understood to follow these formal and informal rules.
- With rules being fundamental to the form and function of an infrastructure, knowing the rules has a profound impact on the grammar around who belongs where and what is appropriate behaviour.
- Commonsensical intelligence varies with people's past experiences as well as their culturally mediated relationships to their social and infrastructural worlds.
- Rules, commons and the commonsensical are only partially held in common among users, these interpretations impacts how the public relate to cycling and make sense of its situated appropriateness.
- Different logics and lines of reasoning give rise to a common grammar for sharing the road that might seem commonsensical to some road users but does not necessarily follow through to make sense to others.
- The *legal-centralist*s were concerned with upholding order and stability by detecting threats that subvert the laws doing a good job of protecting pedestrians, to whom footways and footpaths belong.
- The *consequentialists* were equally convinced about the effectiveness of the "no harm, no problem" principle, which meant it seemed fair to accept certain cycling practices on footways and footpaths when they harmlessly outrun the commonising boundaries set by the legal rules of the road.

7 Trust, Risk and Road Safety: Doing a Right-Turn

Using the road network often involves turning into junctions on the right. These manoeuvres for motorised vehicles in the UK typically involves looking in the mirror, indicating, moving towards the centre of the road and making the turn once there is a safe gap in the oncoming traffic. But what are those cycling on the carriageway supposed to do? *The Highway Code* provides some advisory recommendations[25]. Rule 74, under section 'Rules for Cyclists', outlines similar advice to that given to those driving. People cycling should 'check the traffic to ensure it is safe, then signal and move to the centre of the road, before completing the turn' (DfT, 2015:25). Rule 74 goes further. It adds 'it may be safer to wait on the left for a safe gap' in the traffic or 'dismount and push your cycle across the road' (DfT, 2015:25). In one respect, it might seem entirely reasonable to expect those cycling to use the carriageway like those driving as this works well in enabling the speedy and efficient flow of motorised traffic. Conversely, it seems appropriate that they should remove themselves from the traffic flow and become a bicycle wheeling pedestrian in order to ensure road safety. So, why – and to whom – do these different ways of cycling into a junction on the right become more appropriate? And how does this relate to people's commonsensical understandings of risk, trust and who gets cared for on the roading infrastructure of a street?

Depending upon the practices being performed and their situated relationships to others, some people feel far safer and more trusting than other people, even when they are using the same street and negotiating the same traffic conditions (Adams, 1995; Aldred, 2016). Seen this way, it might seem commonsensical that more vulnerable road users – like those cycling or walking – should proactively remove themselves from situations where motorised traffic pose excessive risk to them (see Adams and Hillman, 1992). As John Adams (1995; 2015) rightly puts it, championing such compensatory actions reflects a particular understanding of whose movement and safety has priority on a street. Indeed, this has profound effects on what is understood by road safety, whom it benefits, along with how it plays out through the ways people should appropriately share a roading infrastructure. This is important as who gets prioritised, is trusted and cared for by others are all moral questions. The answers to which may convey a strong sense of obduracy and yet the situatedness of these understandings mean that their fitness is not necessarily inevitable nor enduring.

[25] The recommendations provided in *The Highway Code* are not 'legal requirements punishable as a criminal offence', like with its formal legal rules, but they can still be used in a court of law to establish reasonable conduct and liability of the different road users (DfT, 2015:4).

To consider these points in more detail, the first section of this chapter begins by exploring two examples of cycling into a junction on the right in two very different traffic situations. Attention in the second section turns to what is trust and its relationships to perceptions of risk. Here cultural theory and psychological work on risk help to tease out the situatedness of what trust means to different people based on their sense of the practical and moral relationships found amongst different modalities. This leads to the third and fourth sections that consider how a wider public of road users make sense of doing a right-turn in a safe and appropriate manner when someone is cycling. Here two different perspectives were evident. Each offering a different sense of who belongs where and how sharing a street should happen. This chapter carries a simple message: trust is a civic and public resource. It is something that enables different people to share and cooperate with others using a commons resource like the street. And it matters given its effect on the ways people feel willing, able and comfortable sharing a street along with what seems the right and proper way to do so.

7.1 Cycling into a Junction on the Right

Ellen, a business manager in her forties, is on her mid-afternoon commute home between two villages to the east of Carlisle. She has just turned left onto the A689, the main trunk road heading towards Carlisle. She is cycling just to the right of the solid edge line as she passes a warning sign indicating there is a junction on the right up ahead. Approaching this junction, Ellen glances back, freewheels across the edge line, stops and then dismounts directly opposite the junction. At this point, a van already waiting to exit this side-road turns right onto the A689 going towards Carlisle. Instead of crossing, Ellen waits out the way of the motorised traffic flow for a further 24 seconds until the carriageway is clear of traffic, at which point she jogs across the entire carriageway whilst wheeling her bicycle into this side-road. Once off the A689 and into the side-road, Ellen remounts her bicycle and continues her journey home (figure 7.1).

With the A689 having a speed limit of 60mph, perhaps it is not too surprising that Ellen pulled into the side and crossed the road. Latham and Wood (2015:308) describe this kind of action as falling back onto the 'reliable repertoire of walking practice' for those cycling. In this sense, Ellen seemed to have a different set of relationships to the roading infrastructure of this street compared to those driving. Of course, this partially stems from her being on a bicycle and wanting to turn into a junction on the right, but it also relates to other things like the traffic and weather conditions faced when doing this particular kind of cycling manoeuvre. Compensating for the conditions in this way (see Adams, 1995; 2013;

2015), reflects how using a bicycle is never entirely like those in motorised vehicles nor those on foot. In this sense, the settlement seen on the A689 is constantly being negotiated afresh. However, this streetscape takes on a particular kind of infrastructural form and affordance depending upon the practice being performed given this is clearly a carriageway dominated by high-speed patterns of motorised use. Starting with when and how an infrastructure affords or inhibits certain uses (Star, 1999), brings to light how the legitimate and reasonable availability of this streetscape, is a commons resource that varies even amongst road users with the same *de jure* rights of access. As the following extract outlines, Ellen talks us through the very different ways she sees turning into this junction needing to happen when she is cycling alone, in the cycle club peloton, or driving her own car:

Ellen That is a fairly normal way for me to cross the A689, the only thing that would be different... is occasionally if the road is totally clear I might cycle across like a car, you know, the standard mirror, signal, manoeuvre, but I can think that you could count on one hand the times that has happened. Ahh… unless I am in a group, may be 5 or 6 of us on a club ride in a peloton, it is far safer, as you've got a bigger 'body' of people like the size of a car that is protecting you. Otherwise, I just don't like or feel comfortable crossing the road doing that right turn on my own... As let's face it, you know that you wouldn't stand in the firing line of the traffic if you are walking, so why accept that if you are on a bike… there is no difference there really in my book.

MN mmm... You mentioned there about being in a group, what does that bring to you?

Ellen I think that maybe a group gives you that bit more confidence... I think that you are part of a bigger body than on your own, that is my perception here anyway. By the way, elsewhere I feel I can continue cycling into the middle of the road by myself, so elsewhere there is no problem. It is just this road is too fast and has too much traffic coming along here all the time, you know.

MN So, if you were driving along there, what would expect someone cycling to do there?

Ellen I drive here a lot as well and I have seen some cyclists do that right-turn like a car and I happily wait for them… but I don't want to be putting myself at the mercy of drivers like that. At the end of the day, it is a busy road and the junction isn't great, even when you are in a car, when it's dark you can easy miss it which is why I only cycle in the lighter months and use the car when it's dark.

Ellen's interview talk shows an ambiguity around how those cycling should fit onto the car dominated roading infrastructure of this street. One implication that can be drawn from this extract is that a right-turn should ideally involve the standard 'mirror, signal and manoeuvre' performed by motorised traffic. Another is that the A689 clearly operates as an infrastructure in different ways depending upon the mode of transport being used and their resulting set of situated relations to other road users. Both of which have consequential effects on what Ellen sensed as the moral form and practical function a street and road safety here. When compared to the ease of driving into this junction on the right, compensating her actions by becoming a bicycle wheeling pedestrian can be easily read as an indictment on its infrastructural provision for those cycling. While that is certainly true, it is only part of the story that Ellen tells about how to control for the risk of cycling here. This is because she felt able to cycle into this junction, in what she understands as the correct way of 'mirror, signal, manoeuvre', when there is either no motorised traffic or when she is part of a larger group of people cycling. In this respect, the speed, mass and physical presence of other road users has an unquestionable physics and relationality that matters to how she feels able to safely interact with them. Seen this way, waiting in the middle of the carriageway to turn into a junction on the right by herself, leaves Ellen with a presence on the carriageway more akin to a pedestrian than vehicular road user. A line of reasoning focused more on road safety and a lack of trust in others to give her the time and space, which in turn, lead to questions as to why those cycling are should be expected to do things on the carriageway that would be commonly accepted as too dangerous for an equally exposed and vulnerable pedestrian. So, regardless of the formal rules, being in an exposed position on a carriageway like A689 seemed an excessively dangerous and morally unreasonable place for any individual who does not enjoy the protection afforded by being in a motorised vehicle.

Figure 7.1

Ellen is cycling along the A689 before she pulls into the side, dismounts and then, after waiting, crosses on foot into a junction on the right as she wheels her bicycle. Once across the A689, Ellen remounts her bicycle and continues her cycling trip (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/Edina Supplied Service)

The extract also illustrates how Ellen has an understanding of cycling that outruns any neat nor definitive prescriptions about how a right-turn ought to be performed. Becoming a bicycle wheeling pedestrian was not always something deemed necessary on the A689. The fact that being in a group of cyclists enables her to do a cycling form of 'mirror, signal, manoeuvre', reflects its particular kind of presence on the carriageway and how that alters her relationship to the motorised traffic along with the infrastructural availability of this

space. Ellen had real concerns about doing this kind of manoeuvre on the A689 by herself since she does not trust those driving to adequately respond and respect her legitimate presence. Taken in isolation, this would give the impression that *The Highway Code* is right to recommend those cycling get off and walk into junctions on the right. More accurately, Ellen outlines a landscape of risk and trust that varies with the cycling performed, its physical presence on the public highway and its emergent relations with the situated actions of motorised road users. These influence the kinds of situated expectations and moral requirements for appropriate conduct that shape how cycling on this roading infrastructure should play out.

With this in mind, George, a retired teacher in his early-seventies who regularly cycles and drives in Carlisle, is turning right off Victoria Viaduct – a congested street with lots of slow-moving traffic in Carlisle city centre (figure 7.2). George moves away from a set of traffic lights and stays momentarily a metre from the near-side kerb. He follows the road around to the left onto Victoria Viaduct before progressively moving towards the centre of the carriageway with his right arm outstretched. Cycling past the junction with Blackfriars Street to his right, George stays close to the central markings with his right arm still outstretched at which point he is undertaken by a car. George slows towards the junction with West Walls on his right, waits for a gap in the oncoming traffic, before completing his turn into this junction. So, why did George then go onto describe the practical and moral reasonableness of his cycling here, as 'textbook'?

George I think that is how it should be done in that kind of slowish moving traffic, and it is important that the car drivers should be ready and willing to share and respect other road users on the road. It is the kind of position where I should be safe, you know, cars should drive with due consideration, you cannot stand on the edge of the kerb and wait to cross, you are a vehicle and have a right to use the road at the end of the day. I also think that cycling is one of those things, if you give an inch by allowing yourself to be bullied, then they'll take a mile at your expense…

MN So from the view of the drivers, could that be viewed as excessively holding up the traffic?

George Well, yeah, but that is what it's intending to do... They might not like it for a moment or two, but then again if they are reasonable, they will realise what the cyclist is doing. The cyclist doesn't have a wide vehicle to dominate and take

ownership of the road and has not got blinkers to indicate. So, I just think that any sensible driver would be recognising quite quickly what the cyclist is doing.

MN I suppose you are compensating for not being a car, while trying to use the road like a car?

George Yeah... that is precisely what I am doing I wouldn't say I was aggressive, but I take ownership when appropriate to do so. It's what a car would do, the only difference is a cars has the width and I am not as wide as a car, but that should not make any difference at the end of the day, should it, now.

Paying careful attention to the justificatory claims George is making here, provides a sense of the practical ethics for using streets when doing a right-turn. In response to questions about why his cycling was 'textbook', George basically implies it would only be a problem to inconsiderate drivers who have an unreasonable problem with people cycling on the carriageway. George develops this narrative throughout the extract, which gives the impression his doings are perfectly safe, predictable and are obviously, an acceptable way to share the road. He combines this with talk about his legal rights as a road user, which gives a concreteness to his claim that his cycling should be respected and anticipated. What George is also suggesting is that any sensible driver with reasonable judgement would be in total agreement with these understandings since they represent the right way to cycle in this traffic situation. If not, then such differences in understanding are caused by these other road users being unreasonable, lacking basic common sense, or worst, just plain wrong. Adding further structure to this justificatory position, George summarises how he 'wouldn't say I was aggressive, but I take ownership when appropriate'. Doing so draws on his critical capacity to articulate and justify the practical ethics that he sees underpinning the right and wrong patterns of behaviour here. It is clear that condemning what his cycling is not, was fundamental to the way George justified the reasonableness of his doings. This lays claim to a commonsensical account of who belongs where and how sharing the spaces on a street ought to happen, which should be just as obvious to other reasonable road users as it is for him (see also Chapter 5).

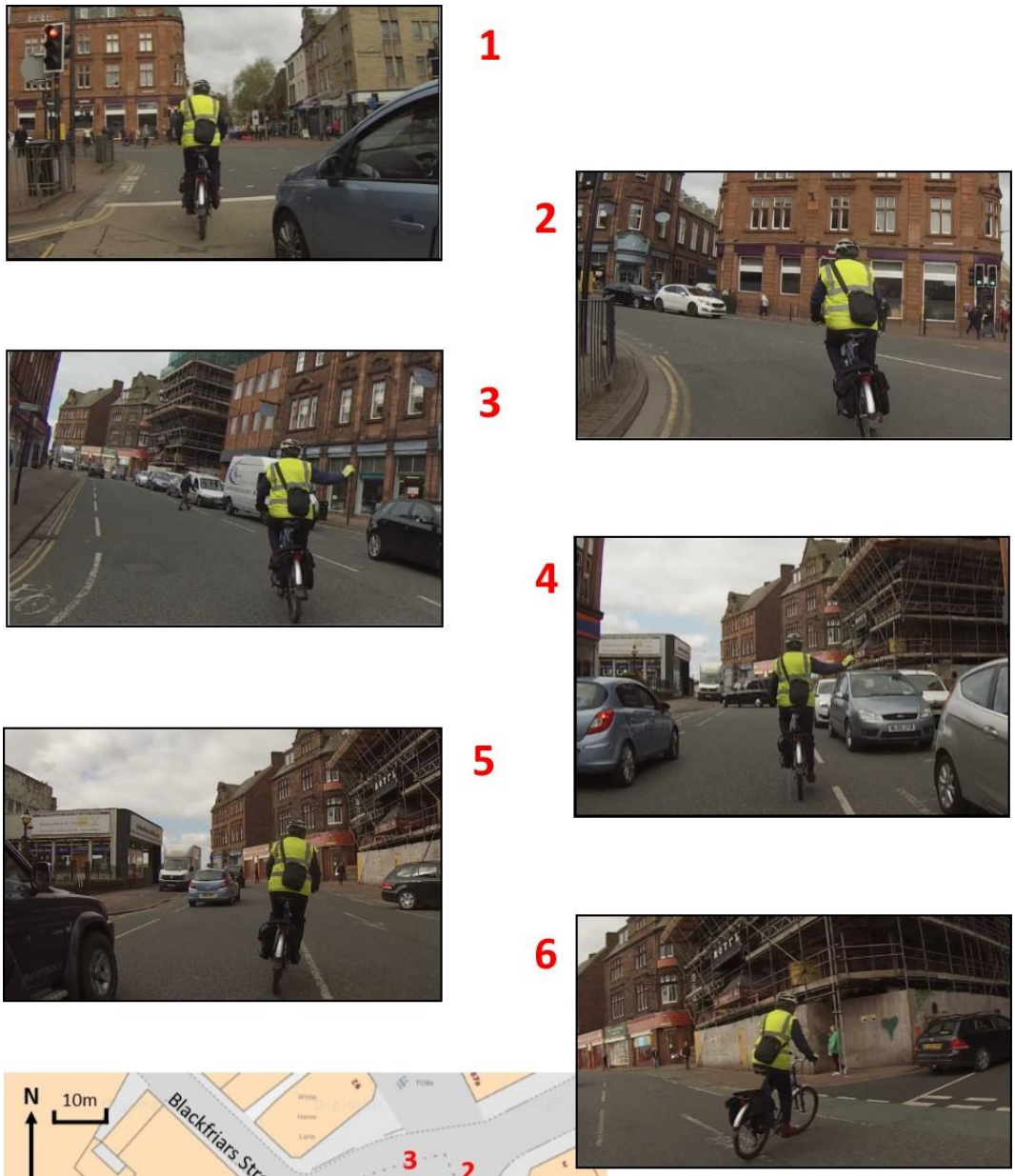

Figure 7.2

George is cycling along Victoria Viaduct, which as usual has slow moving traffic on a weekday morning. George is seen here doing his cycling version of 'mirror, signal, manoeuvre'. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/ Edina Supplied Service)

For Ellen and George, the ideal way to complete a right-turn when cycling was to follow what those driving are doing. This kind of manoeuvre was assumed to be predictable and easy for anyone to anticipate. For that reason they assumed it would more easily attract the respect of other road users since it conforms to the very rules that enable the efficient and

regulated flow of motorised traffic. However, Ellen and George were also all too aware that such a manoeuvre is not something they or others cycling necessarily feel able, comfortable nor safe doing in every situation. This brings us back to the arguments about sharing, ownership and rules heard in Chapters 5 and 6. With Ostrom and Walker (2003) reminding us that the rules and norms governing appropriate action are only ever learnt through everyday experience, the problem space around how best to turn into a junction on the right goes to the very heart of how the spaces making up a street should operate as a commons available (or not) to those cycling. This is because trust in other road users to act in what are deemed the expected ways, plays a crucial role in shaping the kinds of cycling actions that are practically and morally reasonable in that infrastructural context. And these were understandings that connect in various ways to notions of traffic flow efficiency and road safety. The next section will discuss what is meant by trust with conversation to cultural theory and psychological work on risk perceptions alongside institutional economics accounts of sharing.

7.2 Extending Trust: Implications for Sharing with Others

All interviewees talked about cycling being dangerous. They were all too willing to discuss the risks to avoid, or at the very least mitigate, through using streets in particular sorts of ways. A somewhat unsurprising finding since many studies of low-cycling transport environments have shown cycling, for most people, is commonly sensed as unreasonably dangerous (see Adams, 1995; Aldred, 2016). As outlined in Chapter 3, risk, and who is then perceived to be at risk, are open to multiple interpretations. They arise from past experiences, moral values and situated perspectives that shape what people believe the future is likely to bring (Douglas and Wildavsky, 1982; Slovic, 2000a). In this respect, risk is an 'extraordinarily constructed idea' that gives rise to certain future outcomes receiving heightened attention whilst others are of attenuated significance (Douglas and Wildavsky, 1982:73).

To start a section on trust by returning to what is a risk and why, to some, might seem counterintuitive. Paul Slovic (1999:699) suggests, defining 'risk one way' gives arise to, and leads from, a particular set of moral judgements about who to trust and what to trust them with doing (see Kramer, 1999; Tyler, 2011); understandings that would not remain so commonsensical were risk and trust being 'defined in other reasonable ways' (Slovic, 1999:699). This suggests some people will perceive a task to involve a level of risk that allows trust in others to be extended. Just as another group of people deem there to be an excessive amount of risk here, which makes extending trust difficult if not impossible to justify. It

follows that much may be learnt from the overlaps and differences in these interpretations. Insights that have been most keenly developed by those interested in how firms create new norms for cooperation both within and between organisations[26] (Kramer, 1999; Dirks and Ferrin, 2001; see Tyler, 2011; Cook, 2003).

Trust, like risk, is a highly contextual and multi-dimensional concept that plays an active role in shaping everyday forms of cooperation and coordination (Tyler, 2011; Möllering, 2006; Williams, 2007). While there is no single definition of trust, there is general agreement that trust is a civic and public resource that plays a significant role in the functioning of societies and the sharing of common resources (Tyler, 2011; Cook et al. 2009; Walker and Ostrom, 2003). Two dimensions to trust can be discerned. First, there is the positive expectations being made about trustworthiness that reflects whether the 'perceptions, beliefs, or expectations made about the trustee's intentions' align with the priorities of the trustor (Fulmer and Gelfand, 2012:1171; Cook et al. 2009). Second, there is the 'willingness to accept vulnerability' by becoming depend on the actions of the trustee (Fulmer and Gelfand, 2012:1171; Möllering, 2006). Together, this illustrates how the trustor is 'accepting some vulnerability based upon a positive expectation' that the trustee will keep the trustor's interests at heart (Rousseau et al. 1998:395; Baier, 1986; Kramer, 1999) – understandings that are shaped by the experiences, emotions, values and in-group biases of individuals and groups (Cook et al. 2009; Slovic, 1999; Walker and Ostrom, 2003). This relates to the basic observation that extending trust in other people is founded on some practical and moral sense of both the rules and whether individuals will act, share and care for others as they should do (Kramer, 1999; Pidgeon et al. 2003; Nickel, 2007). As the philosopher Annette Baier (1986:24) concludes, being responsible for something a trustor cares about involves the trustee reasonably and 'competently exercising these discretionary powers' in a manner consistent with the expectations that initially allowed the trustor to 'suspend uncertainty and extend trust'. A point with added significance since the trustee assumes a position with the

[26] Since the 1990s, management and organisation theorists have provided much of the thought leadership around the role and benefits of trust. In doing so, they have sought to examine how trust amongst and between organisations can produce direct as well as secondary effects on the other determinants of desired outcomes. This endeavour has drawn into their conversation work from social psychology, economic sociology, law and economics and philosophy (see Kramer, 1999; Tyler, 2011; Fulmer and Gelfand, 2012). What is more, some have gone as to suggest that cooperation and the benefits they can bring to organisations are possible without the need for trust. But the key point is that cooperation is made possible by the creation, diffusion, interpretation and negotiation of rules and institutions (Cook et al. 2009; see Walker and Ostrom, 2003).

discretionary power to harm or care about something of value to the trustor (Williams, 2007; Brown, 2009; Nickel and Vaesen, 2011).

It is in this respect that trust can be seen as a process through which a trustor (this could be an individual or an organisation) side-lines any worries about uncertainty and vulnerability since they are convinced, they know how the trustee will respond. Put another way, trust is a belief in the fitness of the trustors own 'constructed image of the trustee' as a worthy and reasonable individual (Möllering, 2006:114). Thus, a trustee is someone who the trustor expects will share the same understandings of the rules regulating what constitutes reasonable and appropriate behaviour (see Walker and Ostrom, 2003). It follows that whom is trusted and what they are trusted with doing, reflects the workings of a particular form of reasoning that follows how the commonsensical itself emerges 'from a [particular] "here" in the world' (Schütz, 1953:30; Brown, 2009; see Slovic, 2000a). Though cooperation and sharing is often aided by the fact that people are more trusting of others who are like themselves, the landscape of trust here reflects and reaffirms a particular understanding of how sharing should appropriately happen. When there are differences in the perceived distribution of trust, these can have profound effects on the particular ways people expect to share a commons resource as well as whom is allowed to share it (Ostrom and Walker, 2003; Haidt, 2012). That is, trust is only extended as many other possible forms of future conduct and negative consequences are disregarded, often almost entirely, since they seem highly unlikely outcomes (Baier, 1986; Brown, 2009; Möllering et al. 2004).

This brings us to a key feature of trust when it comes to how sharing and cooperation happens and keeps on happening in ordinary life. To trust someone is also to make a particular set of moral claims about the relevant rules to be followed, who has priority and where different users belong (see Kramer, 1999; Tyler, 1990; 2011). In many ways its importance is only truly revealed by its absence. Though, of course, institutional arrangements also play a significant role in creating, sustaining and even enforcing cooperation and coordination, which includes situations where there is an absence of trust (Cook et al. 2009; Walker and Ostrom, 2003). As Jonathan Haidt (2012) explains, early human civilisation and the most advanced modern economies are made possible due to trust-based forms of sharing and cooperation. Something that is far more likely to emerge when people have frequent contact, shared values and are actively involved in synchronic practices (see Haidt, 2012; Ostrom and Walker, 2003). Seen this way, it is possible to explore how extending trust in assumes they can be relied upon to act in what is commonly understood as reasonable and appropriate.

As should now be clear, there is no correct level of trust to be shown to others nor definitive set of risks people must take. What risk is and what trust is as well as who is perceived as trustworthy, are all culturally mediated understandings that help individuals deal with the uncertainties of everyday life in ways that might well make perfect sense to them but not others (Slovic, 1999; 2000b; Brown, 2009). To be preoccupied with risk when making sense of how the roading infrastructure of a street practically happens, makes trust in others far less likely at the same time as altering what should ideally happen when it comes to ensuring a reasonable form of road safety. This is because heightened attention to risk makes it far more difficult and testing to justify acting in ways that rely on extending trust in the very things and people causing such anxiety (Baier, 1986; Nickel and Vaesen, 2011). The significance of this becomes clearer when returning to Ostrom and Walker (2003:16), who point to the evolved capacity of humans to 'learn the cultural norms and institutional rules' that shape appropriate forms of cooperation and whether users can be trusted to act correctly. In other words, how people understand the boundaries and functions of a commons alongside going about sharing it; is not necessarily fair nor inevitable since neither are the answers to the moral dilemmas about who has priority, gets deemed a risk and is trusted by others. It follows that trust and risk provide useful insight into the social infrastructures of rules that provide a particular grammatical structure around what is deemed fair, just and appropriate.

7.3 Trust based on Following Formal Rules and Laws

For some interviewees, the formal rules and laws regulating the actions of motorised traffic provide all the answers to how those cycling should turn into a junction on the right. The claim being that if those cycling can be trusted to follow the rules that work for those driving then they will seamlessly fit into the patterns of use expected – and mostly followed – by motorised traffic. This was articulated by a minority of driving and cycling interviewees. According to them, whilst George was seen to do a right-turn properly, Ellen's cycling was wrong since her actions dangerously depart from how those driving go about using the carriageway when doing a right-turn. Such reasonings centre on the idea that a carriageway only works well as an infrastructure because it is used by different people driving, who can all be trusted to follow the same set of formal and informal rules. Having a standardised understanding of the rules provides a consistency and predictability to how this space should be shared. All told, these expectations are conducive for the speedy and safe use of the carriageway. Clearly, there is a certain reasonableness to such lines of reasoning. And yet, as Chapter 6 demonstrated, most formal and informal rules involve significant degrees of

interpretation around what is practically and morally reasonable, which may not be held in common across the entire public.

Take those who challenge the appropriateness of Ellen's cycling compared to that of George. They were not oblivious to the greater risk she faced compared to cycling in the city centre or driving on the A689. Rather the unreasonableness of what she was doing, was articulated through words like 'unpredictable', 'unexpected', difficult to 'anticipate' and as a result, being much more 'dangerous'. In this respect, some interviewees were convinced that those cycling should always turn into a junction on the right like those driving because that means they are correctly following the rules and as such, proactively controlling for some of the risk and uncertainty of cycling on a carriageway. It follows that these understandings are all about what is morally reasonable that are grounded into a particular understanding of the relevant rules and how sharing the carriageway should happen. Both of which underpin calls for those cycling to trust those driving when their actions conform to the latter's regulated and highly predictable actions.

Brian, the HGV driver from Chapter 5 who has not cycled in decades, was clear that those cycling just need to have the 'confidence' and 'awareness' to 'follow road user regulations just like drivers' regardless of the traffic. His view was that the 'law of the land' allows cars to do certain things when turning right and those cycling should do exactly the same if 'they want to be a legitimate road user on the carriageway' and not get injured or worse. On this basis, it 'defies all comprehension' that Ellen would 'purposefully *choose* not to position herself' in the middle of the road when the 'law of the land clearly states that is what you are supposed to do'. Brian and others like him, assumed being in the right place, as permitted by the formal rules followed by the motorised traffic, was the surest way for anyone cycling to safely do a right-turn regardless of the traffic conditions. When it was put to him that getting off and walking was also legally permitted by *The Highway Code*, this was received with disdain. Brian felt it reflects how those cycling generally wish to be 'a road user when it suits them'. A line of reasoning that set up a conditional understanding of what it means to become a legitimate road user based on whether their actions fit with patterns of use commonly expected of motorised traffic. And so, even though those cycling are legally allowed to do a right-turn differently, the form and function of the relevant formal rules and laws, as Brian saw them, reflect the ways those driving are expected to use this streetscape. For interviewees like Brian, such formal rules and laws not only keep people safe, they do so whilst – and through – keeping traffic moving as smoothly and efficiently as possible.

Allan also felt cycling into a junction on the right like the motorised traffic was how 'the carriageway is designed and expected to be used' by traffic. A traffic engineer who regularly cycles to work, he was convinced this sort of cycling conveys a predictability and competency that other road users can genuinely trust and respect. In contrast to most cycling interviewees, when shown the video of Ellen cycling, Allan suggested this is 'clearly not a very confident cyclist' as they have 'stopped cycling and started walking, which ironically places them at far greater risk'. He went further to suggest the very thing that 'likely makes getting off seem a reasonable thing for her to do, is in fact, the risk being exacerbated by diverging from the proper way to do a right-turn'. It just seemed obvious to Allan that the surest way for those cycling to stay safe would be to use 'the carriageway how it is designed to be used by those driving' like that performed by George. In doing so, Allan understood the carriageway as a space regulated by clear set of physical and social infrastructures that are purposefully configured and settled upon facilitating the efficient and speedy flow of motorised traffic. With this sense of predictability around who should be where and how they should be acting, Allan talks about a sense of 'control' and 'certainty' that those cycling would gain by complying with these standardised patterns of motorised use. While this is known to require 'cycling with real confidence and assertiveness', making 'your intentions very clear by cycling like a car' is the only way Allan felt those cycling can gain the trust and respect of their fellow their fellow road users who drive. In other words, those cycling into a junction on the right must capitalise upon the sense of predictability that makes the efficient and speedy flow of traffic possible and safe for those driving.

Part of the appeal of wanting those cycling to do what is expected of those driving when turning into a junction on the right, is that it lives up to the welcomed sense of predictability that fosters trust and road safety. This could be thought about as becoming like infrastructure; seeking to be taken-for-granted, to the point they fade into the background of things people expect to happen, in the spaces making up streets. This is worth reiterating. Interviewees, like Brian and Allan, were concerned about how to negotiate the greater vulnerability and risk faced when cycling compared to driving, especially when turning into junctions on the right. Risk caused in part by the reduced size, presence and expectedness on car dominated carriageways. Melissa, a hairdresser in her twenties who drivers daily, remained adamant that in spite of not being in a car, following the 'same formal rules as us drivers allows you to trust them'. Joshua, a team leader in his twenties who also drives daily, felt when he is driving 'predictability solves much of the safety concerns' and it can do the same for those cycling. Again, this sense of trust and risk reflects a particular understanding

of who has priority and how sharing the carriageway should happen. Namely, this is a space used mostly by motorised traffic and for the most part they do so in a safe manner. It was for this reason that interviewees like Brian and Allan felt anything other than a cycling version of 'mirror, signal, manoeuvre' creates the sort of uncertainty that undermines the trust those cycling and driving could respectively extent to each other.

Following this logic, those cycling have little cause for concern if they simply complete a right turn like those driving. It follows that those cycling can be trusted so long as they can be 'confidently counted on' to both 'know and apply appropriate' cycling practices by competently 'abiding by the relevant laws' (Nickel and Vaesen, 2011:860; Baier, 1986). Failure to do so is seen here to be both dangerous and a severe dereliction of responsibility towards their own road safety. A situation that heightens risk and erodes trust since those cycling in this way are seen to run contrary to the formal rules and laws assumed here to keep people safe. Rules that reflect and give rise to a particular car-centric notion of road safety and how roading infrastructure should be shared. The primary concern of people like Brian and Allan is that those cycling must act in accordance to the material and regulatory arrangements that propagate a situated sense of predictability that supports the efficient and speedy flow of motorised traffic. The difficulty is that previous research has shown that these kinds of car dominated traffic conditions are not conducive for mass cycling across the entire public.

7.4 'I couldn't Trust the Cars': Compensating for Risk

The majority of interviewees were amenable to the kind of right-turn performed by Ellen, whilst remaining open to George's approach depending upon the traffic conditions. The reasons why both could be appropriate were not, however, due to them both being permitted by the formal rules. Rather, it was far more to do with cycling being understood as dangerous – particularly when in close proximity to a significant amount of fast-moving traffic – and how to responsibly work around such risk. While many had never seen someone cycling pull into the side, dismount and walk across to a junction on the right, this did seem a commonsensical way to avoid what amounted to an excessive risky situation. Several responses followed Anne, the driving interviewee from Chapter 6, in concluding that 'getting out the way is obviously far safer' than being 'vulnerably exposed to fast-moving traffic'. Others claimed, like Robert a retired police officer who drives daily, they would 'do the same' as both Ellen and George since they were 'correctly responding to the traffic conditions'. These statements reflect deeper concerns about the speed and amount of traffic, whether

those driving can be 'trusted' to 'anticipate' and 'respond' to someone cycling, not to mention the significant threat of harm posed to anyone cycling.

Zoe, a finance director in her early thirties, drives everywhere. She had never given much thought to how those cycling might turn into a junction on the right beyond assuming they would do the same as anyone driving. Like many non-cycling interviewees, Zoe initially settled on evaluating the appropriateness of what those cycling were doing against what she would expect to do herself when driving. This initially left her accounting for George's right-turn as 'right and proper in theory', though in certain traffic situations that 'just seems crazy if the cyclist really cares about their own road safety'. Asked about Ellen doing the same as George on the A689, what 'in theory' Zoe expected of all road users to do, just seemed dangerous and irresponsible compared to what 'in practice' would be safer for someone cycling. In one respect, Zoe wanted those cycling to be willing and able to perform the right-turn like those driving, as the sense of predictability associated with this makes it easier for others to anticipate and negotiate them. In another respect, she was all too aware that what seems commonsensical for those driving does not necessarily follow through to make perfect sense to those cycling. A point well illustrated by the case of Ellen getting off and walking being seen as entirely suitable. In this respect, Zoe spoke for many interviewees in being convinced that 'cycling into, never mind waiting, in the middle of road with fast-moving traffic is clearly very dangerous'. Risks that were attenuated when asked about how this compared with turning into the same junction when driving, for reasons of greater trust, protection and control over their relations to other drivers. Irrespective of the formal rules then, differences in the material, regulatory and normative relationships between those cycling and other motorised road users, compared to say someone driving, gave rise to a different sense of how to correctly do a right-turn. This reflects important differences in the priority given to different road users and the consequential effect this has on how a carriageway is then expected to happen as a space for sharing. Such interpretative play also reflects how those making these claims were relying far more on commonsensical notions of keeping safe than the formal rules and laws. Blindly following the formal rules and laws regulating the actions of those driving, in certain traffic situations, seemed to inevitably leave those cycling in danger of a near-miss, injury or even death:

MN What did you think of those two right-turns? Should they have done anything differently?

Zoe It really is difficult… I know as a driver, in some ways you could just say, well the cyclists must turn right like a car and that would minimise the sorts of uncertainties that I do think are a danger for drivers, as the cars from behind them are not expecting what (Ellen) is doing, you know. The one in the town, (with George), is in some ways what you expect a car to do and that is fine, you can trust them… Then again in the town the cyclists are in and around slower moving traffic and that is much safer for them and the other thing is the traffic will allow them to do their thing, mind you, it still needs to be reasonable and clear for you to genuinely trust a cyclist like you do a driver.

MN So, can I ask does that extend to the A689, is there something different between driving and cycling in that situation compared to being in the town?

Zoe Clearly, it's very different. For the cyclist, I think it is fair to say you would feel a lot more vulnerable on a bicycle on the A689, than in the town. Mind you, you are a lot more vulnerable on bicycle anyway aren't you. That's because the cars are going really fast and probably would be looking to squeeze past and not wait, but they wouldn't be able to do that if I were in my car as you are much bigger. On that road, you could have cars potentially coming towards you at 60mph and then you have cars coming from behind you at 60mph, and you simply do not have the size nor protection that comes with… well, you know, sitting in a car, brake lights on and indicating. People can be trusted to respond to that can't they, but a cyclist waiting there, they should be okay, but in some ways, I am not entirely sure you could trust that they would respond.

There are times where doing something different to those driving was deemed necessary and appropriate, especially when it does not compromise the efficient and speedy flow of traffic. The way Zoe accounts for what should happen when turning into a junction on the right, begins to contextualise the reasons why commonsensical understandings of road safety took on greater precedence when deciding what those cycling should be doing. What is more, careful attention to this interview talk offers insights into the overlaps and differences between the things that seem obvious and commonsensical when driving compared to when cycling.

Answering my initial question, Zoe starts by offering her estimation of what her fellow drivers would expect those cycling to do in that kind of situation. Like interviewees in the previous section, she reached for a cycling version of 'mirror, signal, manoeuvre'. This seems reasonable given its accompanying sense of regulated predictability does much to avert the obvious sense of risk that comes with sharing a carriageway with others driving and cycling. What Zoe says differently however, is that such understandings were being articulated in relation to the phrase 'in some ways'. A rhetorical device that reduced the saliency and reasonableness of an otherwise overt form of driver common sense. This phrase helped her and me to understand the unreasonableness of expecting those cycling to always perform a right-turn using the same basic principles 'mirror, signal, manoeuvre' as those driving. While there are traffic conditions where doing this kind of right-turn seems a safe and reasonable thing to do, in situations with a lot of motorised traffic, especially ones travelling fast, it becomes excessively dangerous. Here a follow-up question was asked that sought to probe these differences. Replying to this, Zoe starts to talk about what seems reasonable and appropriate according to what turns out to be a cycling common sense ultimately focused on avoiding risk. She explains those cycling are far more vulnerable, pointing to the fact they have a physical smaller presence, are a rare sight in car dominated transport environments and ultimately more exposed than those driving. So, there are some crucial differences between those driving and cycling in terms of how they negotiate one another and that impacts what is deemed safe and appropriate. In substantiating these claims, Zoe refers to the much greater speed she expects from the motorised traffic. This makes keeping out of harm's way of this traffic an obvious way to ensure road safety rather than expect fast-moving traffic to compromise their actions for a person cycling. An outcome indicative of her talk shifting from a driver common sense to what she understands as a cycling common sense that ought to be far more concerned with avoiding risk when fast-moving traffic have clear and obvious priority over other modalities.

So, people were concerned about road safety and this extended to include those on bicycles. For most interviewees how best to realise road safety was often conflicted by their sense of whose movement and safety ought to be prioritised. This is because what seems commonsensical when driving in a car dominated transport environments did not necessarily follow through to make sense when thinking about how those cycling should use the same street. The more interviewees like Zoe talked about cycling, the greater their sensitivity to risk and the importance they then placed on avoiding harm. Both of which became fundamental points of worth to what they understood as commonsensical when cycling. On

this basis, it seemed obvious that those cycling should try to keep out of harm's way when faced with traffic conditions seen to pose excessive risk. This kind of response, however, reflects a particular sense of how carriageways should be shared, what people are expected to do and who is deemed worthy of care and consideration from their fellow road users. The effects of which run deep since trust in others is most likely to endure when individuals lay claim and respond to what is deemed morally appropriate in that situation (Nickel, 2009; Nickel and Vaesen, 2011).

When getting off and walking into a junction on the right becomes the most appropriate way for those cycling to ensure their own road safety, then certain 'risks, affective experiences and reactions' are seen to carry heightened saliency (Slovic, 1999:697; see Douglas, 1992). Remember the very things leading certain people and things to be defined as a risk, shape what is also understood as the most appropriate set of safety responses to them (Slovic, 1999:699; see Adams, 1995). It follows that these perspectives stem from a particular practical and moral sense of how individuals ought to act, share and care for each other (Pidgeon et al. 2003; Nickel, 2007). The reasons why those cycling were being encouraged to use carriageways in some ways more than others, is a strong indication of motorised traffic having priority and this is defining the distribution of responsibility amongst road users.

One thing that is clear then, is that interviewees like Zoe did not want to make this kind of moral judgements. Rather they were content with flagging up the importance of those cycling compensating their actions to ensure they avoid being harmed by the efficient and speedy flows of motorised traffic, which they accepted had become a settled part of how this roading infrastructure operates. All of which meant most were content with relying upon those cycling compensating their actions as common sense suggests they benefit from road safety without compromising the flow of motorised traffic. And therefore, they did not wish to challenge what these actions suggest about who has priority over other modalities. Something that on carriageways dominated by fast-moving motorised traffic sees the risk posed by motorised traffic require those cycling to extend trust at the same time as this is far more difficult to justify on the grounds of road safety (Nickel and Vaesen, 2011). It follows that such talk about how to safely and appropriately share a commons never strays too far from the rules, norms and common understandings defining what counts for morally reasonable conduct and cooperation.

7.5 Conclusion

People trust and expect other people to act in particular kinds of ways. They extend trust based on the expectation that these other people can be relied upon to correctly follow the formal rules and laws as well as the informal rules and norms that provide grammatical structure to how people ought to act and cooperate. In much the same way as the backgrounded and taken-for-granted qualities of infrastructural systems, appeals to what is appropriate infrastructural uses were also being subject to parameters that fit what is already taken-for-granted and expected. These situated understandings are moral in character since they are about evaluating and justifying certain patterns of use as being more reasonable and appropriate compared to others. Here, such qualities of predictability and certainty is what aids the swift movement of motorised traffic in car dominated transport environments while simultaneously presenting challenges for those wanting to use the same street spaces for cycling. Moreover, they reflect a particular understanding of who to trust and what to trust them with doing, which in turn leaves many legal cycling practices outside the realm of what is the expected and taken-for-granted part of how streets function as an infrastructure. That is to say, they require more active and demanding thought due in large part to the fact that negotiating someone cycling in a car dominated transport environment is a rather extra-ordinary event.

This chapter has suggested that variations in whom people trust is key to the way different people go about sharing streets – like any form of commons resource. And this matters to what they and others deem to be the right and proper ways in which the roading infrastructure of a street should happen. Of course, a lack of trust was also part of their judgement of what is wrong. It is important to stress that whilst there are many practical ways sharing and cooperation could happen, the situated nature of these commonsensical perspectives ensures not all uses are commonly sensed as valid, safe or appropriate. So, people have to learn what others can be trusted with doing and how that compares with their commonsensical expectations around what people must do. What is more, this chapter found the ways people expect and trust others to share the roading infrastructure of a street reflects a particular car-centric sense of who has priority and what therefore best ensures road safety in a car dominated transport environment. It follows that who individuals go onto trust and what they are being trusted and expected with doing, are not necessarily held in common among a public.

It is now clear that trusting others require a justifiable sense of the morally reasonable ways people ought to act along with making a judgement about the reliability of those being trusted to act in this proper way. Using a street sees individuals trusting their lives – and the many other things they value – to the skill, competence and rule-following knowledge of their fellow road users whether they are on foot, a bicycle or in a motorised vehicle. Clearly, the predictability and certainty offered by the backgrounded engineered design and formal regulation of streets matters. But it is also clear that the desirability of such backgrounded-ness and to become a taken-for-granted part of sharing street spaces, also extends to the actions of road users. And this creates issues of compatibility for fitting in those who are cycling. The example of turning into a junction on the right in a low-cycling environment has shown how cycling involves negotiating a tension between being too out of the ordinary that not anticipated and being an accepted part of the flow of people moving along a street whilst their greater vulnerability is taken into account. This leads to parameters for reasonable conduct that are an appeal to the commonsensical ways certain rules should be followed and certain risks ought to be avoided when using street spaces for cycling. And it is these situated interpretations that reaffirm how there can be 'multiple constellations of trust' (Möllering et al. 2004:562), which are refracted through the multiple reasonable claims people make about what appropriately using a commons should entail in a practical and moral sense. Both groups settled on a particular sense of how the carriageway should be shared that importantly, was shaped by how they thought those cycling could proactively take steps to avoid death, injury or near-miss incidents. In this situation there is no right or wrong in any definitive sense. Rather, each are situated interpretations that make sense according to their particular sense of worth and moral order around how – and who gets – to cooperate (see Thévenot, 2002b; Stark, 2009).

As discussed earlier, *The Highway Code* provides guidance as to how this manoeuvre should be completed. Legally, those cycling are like any other vehicle. They are allowed to look, signal and move towards the centre of the carriageway before turning right. But *The Highway Code* provides additional guidance for situations the person cycling deems of excessive risk, where it may be best to pull-over to the left, wait and then cross into the junction on foot. Variants on both examples were observed and discussed in this chapter. Practically, then, they show the size and speed of those who cycle puts them at variance – and indeed a disadvantage – relative to motorised traffic, even as both share the same *de jure* rights to use a street. And this is precisely the kind of situation that reflects the essence of what Star (1999:380) describes when 'one person's infrastructure is another's topic or difficulty'. The

findings presented here have shown there were two strategies for dealing with such a disadvantage in infrastructural affordance.

One strategy reflects calls for those cycling to simply mimic the actions of motorised traffic as much as possible. This was a view articulated by a minority of driving interviewees and one cycling interviewee. Their line of reasoning was twofold. First, in essence, they were denying that there is any disadvantage when it comes to doing a right-turn. Second, and to explain the first, streets were already being shared effectively with other people who are driving so why not those cycling. Their point was this all depends on whether those cycling can be trusted to follow the rules and be predictable in their use of street spaces. Doing so set up the problem space around sharing street spaces as the responsibility of those cycling – it was their obligation to fit into a space that already performs well as an infrastructure for motorised traffic. In this respect, it is understandable that the sole cycling interviewee to develop this line of reasonings has a professional background in traffic engineering. Where using streets as they are designed to be used by motorised traffic, means that those who do cycle can be trusted other road users to the same extent as someone driving when turning into a junction on the right.

Another strategy was the demand that those cycling seek an accommodation with traffic, deferring to it in the interests of their own road safety[27]. In this chapter, it was a view articulated by the majority of interviewees. Most driving interviewees drew upon their experience of driving into junction on the right to speak about the need to place a trust in other people to react to your actions. When asked to think about doing the same on a bicycle, this gave rise to an uncomfortable and largely unanswered question. How can those cycling trust drivers – particularly when driving at speed – to show awareness to them signalling into a junction on the right? Responses touched on concerns about those cycling lacking the size, presence, bulk and protection. They also touched on a right-turn involving positions in the middle of the carriageway that are not taken-for-granted as somewhere to expect someone on a bicycle.

Walking interviewees leaned most heavily towards concerns about safety. They were most keenly aware of the risks posed to road users placed at odds with the speedy and linear flows of motorised traffic. Asked about cycling into a junction on the right, this made extending

[27] Chapter 5 discussed how this can also be a strategy authorised by traffic engineers through the creation of cycleways on footways that – in effect – accepts those cycling are more like those walking than driving.

trust in drivers very difficult to countenance. Indeed, walking interviewees were strongest advocates of those cycling getting off and walking when there is no traffic. They could see the road safety value of this strategy and were least concerned about the additional time it involves.

Meanwhile, cycling interviewees again drew upon their cycling experience – this included having also cycled into the junction shown in the interview video. Here, experience, confidence and clarity of action around motorised traffic was important. It was seen to bring an effective way of managing the risk associated with turning into a junction on the right and building trust through actions that effectively demand a response by those driving. But there were limits too. These were defined through talk about the speed and amount of traffic approaching from the rear as well as those approaching that could lengthen the time waiting in the middle of the carriageway.

The opinions interviewees differed in the specific traffic situations in which they thought those cycling were better placed stopping, getting off and walking across into a junction on the right. Yet, the general principle being articulated here centres on those cycling being responsible and obliged to proactively use streets in ways that ensures their relations to motorised traffic does not jeopardise their own road safety or that of others. In many ways these interviewees recognised that streets in the UK are defined by speedy movement of motorised traffic whilst some space is retained for keeping those walking out of harm's way. They did so by appealing to a shared understanding that saw the priority that motorised traffic have other users being reflected in their *de facto* rights, obligations and responsibilities. And it was talk about these matters that went onto shape who can be trusted and what they are trusted with doing. In other words, it was far easier for people to talk about the lack of trust that makes it wise for those cycling keep themselves out of harm's way than it was to consider alternative ways trust-based patterns of sharing could happen.

If there is one thing you should take away from this chapter, it should be that trust can be built amongst road users, often through positive experiences. In addition, risk continues to be perceived on an individual basis and in relation to other road users. Trust and perceived risk is inherent in road safety. The gap between those who continue to turn-right on the carriageway without reverting to a walking practice and those who dismount and revert to this walking practices, highlights the lack of capacity of some people to trust the trustees driving the faster, larger motorised vehicles. The question for policymakers is how to build

capacity for trust based on these understandings of the current trust and risk dynamics among road users.

The commonsensical understandings seen in this chapter gave rise to points of overlap and difference among a public of road users about who belongs where on the roading infrastructure of a street. Everyone agreed those cycling could use and share the road. It was also clear everyone was concerned about road safety. Indeed, they did not want those cycling getting hurt or worse. These are high stakes moral dilemmas. And the responses to them, reflect a particular sense of who has priority, can be deemed trustworthy, along with what is meant by road safety on a car dominated carriageway. However, two differing perspectives did emerge. This is because these two groups were making sense of the moral stakes around what is – or should be – going on at a junction on the right in different ways. For some, including a minority who cycle, a driving common sense took precedence as the formal rules and laws to be followed were defined by the ways those driving are expected to turn into a junction on the right. Viewed this way, these rules not only keep people safe, they do so whilst – and through – keeping traffic moving as predictably and efficiently as possible. For most people, however, such a common sense when driving does not always seem safe nor appropriate for those cycling. Relying more on commonsensical notions of keeping safe, a non-driving common sense was outlined that justifies keeping out of harm's way as opposed to expecting fast-moving traffic to yield since they have obvious priority over other modalities. It follows that each group and the kinds of moral judgements they are making had far-reaching consequences on the settlement seen here to define where different modalities belong and how they should act. Situated perspectives that overlap and differ due their varying sense of 'what counts or should count' as the right, fair and acceptable (Thévenot, 2002b:8). Examining the overlaps and differences in the moral reasonings a public deems reasonable and appropriate (see Tilly, 2006; Stark, 2009), particularly when it comes to perceptions of risk, is the focus of the next and final data chapter.

IN SUMMARY

- People extend trust based on the expectation that others can be reasonably relied upon to follow a set of formal and informal rules they sense to be relevant.
- When it comes to sharing and cooperating over access to streets, there are moral claims grounded into a particular sense of who can be trusted and what they are trusted with doing.
- There is a capacity to build trust among road users, through positive experiences of negotiating with other users of streets, which reflects a varying sense of who has priority and should be cared for by others.
- People accept those cycling can share a street and they are also deeply concerned about road safety, meaning those cycling should not get hurt or worse.
- Trust and risk in road safety adds to how people make sense of the ways a street should function, which in a car dominated transport environment is defined by traffic flow efficiency. The balance between them varied as people made situated reference to what they understood as a driving or cycling common sense.

8 Different Cultures of Sensemaking: Filtering past Queuing Traffic

People experience congestion and queues on a daily basis, whether at supermarkets, in cafes, on public transport or even when using the internet. This is a basic problem of demand exceeding supply. It is caused by the cumulative demands of each individual user collectively exceeding the 'threshold for nonrivalrous consumption' (Frischmann, 2012:139; Künneke and Finger, 2009). On a street this often results in people waiting one behind another in a traffic queue. This is something all too familiar to transport planners and traffic engineers. Their efforts to mitigate congestion have often focused on capacity increases, either by widening existing carriageways or building entirely new roads. These are interventions that work within a regulatory regime for resource management that lacks the mechanisms for proactively reducing demand. More broadly, these are institutional problems requiring some form of institutional response. Asking why sharing streets in low-cycling environments happens in the ways that they do, is to ask who is afforded access to this commons by interrogating of the rules regulating access and exploring the dynamics of sharing and cooperation that take a particular precedence over others. It is in this respect that this chapter seeks to understand how people make sense of the ways those cycling should negotiate a traffic queue. Should they simply join the first-come first-served queue like those driving or does their relatively smaller size justify filtering past by exploiting the unoccupied space around the queuing motorised vehicles? This leads to another, perhaps more important question: whether all road users when making these situated interpretations and moral judgements employ the same kind of commonsensical understandings about what is fair, just and appropriate?

What follows reflects on the above questions. This chapter continues with the ideas developed so far about the roading infrastructures of streets in car dominated transport environments being spaces of sharing, where people coordinate and cooperate in particular kinds of ways. It is argued that whether those cycling can – or even should – filter past a queue of motorised traffic will depend on the interpretations made by a public of road users about the relevant rules, risks and notions of responsibility. To make this argument the next section considers how a person cycling filters down the inside of a stationary queue of traffic in the car dominated transport environment of Carlisle. The second section conceptually explores the workings of a queue. The third section considers how most driving interviewees were strongly opposed to filtering unless a cycle lane is provided. The point here was that without such provision filtering was deemed an obviously dangerous and illegal form of

queue jumping. Fourthly, attention turns to the majority of interviewees, which included those who cycle and walk as well as some who drive. They were convinced filtering is an obvious part of cycling on urban streets yet cautioned about the associated risk this entails. This leads to the final section that considers the implications raised by these cultures of sensemaking around the different ways people relate made sense of where those cycling fit into the traffic landscape of a street. Through these different lines of reasoning, filtering may not make perfect sense to everyone, but crucially, it also reaffirms that the prevailing car dominated environment found in Carlisle is not the only nor inevitable kind of infrastructural settlement for a street.

8.1 Filtering past a Queue of Motorised Traffic

Trevor, a retired HGV driver in his early-sixties, is cycling towards Carlisle city centre along Victoria Viaduct – what is a heavily congested road at 10am on a week day. Trevor is cycling just less than 10mph (c15kph) as he overtakes on the left of a stationary queue of motorised traffic (figure 8.1). While most of these vehicles are positioned in such a way that this seems a rather easy way for him to carve out a workable route, he slows to squeeze through a much narrower gap between a Suzuki Swift and the near-side kerb. Continuing to filter, Trevor then reaches a metre-wide advisory cycle lane just at the point where he passes on the left of a stationary HGV. After which, he comes to a complete stop as a young man getting out of a taxi has the car door completely open and therefore blocking the cycle lane. Once clear, Trevor continues to filter. At which point the car ahead of the taxi, has its left indicator signal flashing as it creeps towards the junction with Blackfriars Street ahead on the left. With the queue of traffic now starting to move, Trevor stays just to the rear of this car as they both travel at similar speeds towards the junction. Both then slow, hesitating, before Trevor slows still further, allowing the driver to move further ahead, before cautiously turning left across the cycle lane into the junction.

The Highway Code discourages overtaking on the left whilst also offering exceptions depending upon the transport modality doing the passing. For those driving, Rule 163 is clear that overtaking should involve passing on the right when it is 'safe and legal to do so' (DfT, 2015:54). Overtaking on the left, however, is permissible if the vehicle ahead is turning right and there is sufficient room to pass or when congested conditions on multi-lane carriageways mean 'the queue on your right is moving more slowly than you are' (DfT, 2015:54). For those cycling, there is no single rule nor specific advisory guidance concerning what they should be doing in such congested situations. However, the advice given to drivers in Rule

151 and Rule 211 allows us to infer something about the legality of filtering when cycling. These rules respectively state drivers should look out for 'cyclists who may be passing on either side' (DfT, 2015:50) and that 'filtering makes [cyclists] more difficult to see' (DfT, 2015:72). Another source of guidance in the UK is case law. In Hillman v Tomkins [1995: unreported], a case regarding an incidents where a car crashed into a motorcyclists passing a stationary queue of traffic, the speed of those involved, their knowledge of the local area and the location of the filtering in relation to a junction were all judged to be reasonable contributory factors in apportioning blame and liability. In summary, the written legal rules in the UK allow those cycling to filter on the left of stationary traffic, though other legal alternatives could still be available. These include passing on the right or joining the "first-come, first-served" traffic queue like those driving.

Trevor saw filtering past a queue of stationary traffic as a key benefit of cycling over driving. Just like all the cycling interviewees, filtering – when safe to do so – was positioned within what seemed a well-rehearsed list of reasons that sought to explain why cycling makes complete sense. In particular, he mentioned how it seems 'illogical to waste time queuing' when there is 'sufficient space for me to safely pass the cars without causing anyone any harm'. Filtering then had somehow become one of the key markers of how to cycle properly that he felt almost compelled to perform. On further reflection, it was clear that his sense of the practical reasonableness of filtering had changed over the past year since he had started cycling. When asked about the fairness of him passing the traffic queue, his view was that 'those driving won't take kindly to such queue jumping, which you have to admit it sort of is'. Then again, 'drivers cannot deny I take up a lot less space than a car, so it makes sense that I can undertake them'. The presumption at the heart of the phase it 'makes sense', was that the sort of filtering Trevor was performing should not be problematic to any other reasonable individual. The point being that only those who have a problem with people cycling in general would take issue with his filtering. On this basis, Trevor justified his actions in such a way that it set up those he expected to criticise its inappropriateness, as a group of road users who are only jealous since they themselves cannot avoid the queue. Trevor did not want to explore the validity of this implied intuition nor did he at any point wish to explicitly criticise those road users he knew would feel moved to condemn filtering as a dangerous and illegal form of queue jumping.

Figure 8.1

Trevor is passing on the left of a traffic along Victoria Viaduct, at first using the same lane as the traffic, before then moving into a cycle lane once it has been provided parallel to the near-side kerb. (Source: Author's Own, May 2017, Map Source: Crown Copyright OS 1:1,250 Colour Raster 2018. An Ordnance Survey/ Edina Supplied Service)

What also became clear from talking to Trevor was that if the carriageway can practically accommodate multiple flows of traffic, then so should drivers, who are having to wait in a queue caused in part by them choosing to drive. In this respect, those driving are always

subject to the first-come first-served queue since the physical bulk of their vehicle relative to a street prevents any other practical alternative. This line of reasoning allowed Trevor to avoid directly addressing the queue-based injustice that he anticipated would be the main criticisms of his actions from those driving. Yet, like all ride-along interviewees, he was at pains to stress filtering merely takes advantage of the available road space found on either side of the queuing cars, though unfortunately it also brings new risks for those cycling to negotiate. With those cycling enjoying a different set of infrastructural affordances, it also seemed reasonable to assume they are also removed from the moral domain of the queue followed by those driving.

Nevertheless, filtering required the upmost caution by those cycling. Several responses were along the lines that 'keeping out of harm's way' was a non-negotiable part of cycling, especially when 'might makes right' around how they should negotiate and coordinate with motorised traffic. A point summarised by Sarah, a manager in her twenties, who spoke of being 'extra cautious' whilst filtering as 'drivers are just not expecting some people to still be moving along the lane when the cars are stationary'. If these are the unavoidable consequences of filtering being at odds with the orderliness and predictability of motorised traffic flow, then it also suggests the benefits attached to this filtering serve to attenuate some of the associated risk (see Slovic, 2000a; 2000b). For this reason, what seems reasonable and appropriate to these ride-along interviewees was not expected to follow through to what quite as much sense to other road users who do not cycle.

All interviewees were concerned about where different modalities belong on the carriageway and in particular, how they should behave when the flow of motorised traffic is being held up in a queue. As the previous chapters have shown, these kinds of situated interpretations lay claim to a particular sense of worth and moral order around how different road users ought to cooperate and coordinate with each other when sharing the street. Interpretations that carry far-reaching implications in terms of ascertaining the practical ethics they understand to define how people should queue in a fair and reasonable manner. Before considering whether the carefully reasoned accounts heard from ride-along interviewees like Trevor followed those heard from a wider public of road users, a brief word on what is a queue and the institutional considerations around the act of queuing.

8.2 Queuing and How should it Happen?

According to the Oxford English Dictionary (2018), a queue is 'a line of people or vehicles awaiting their turn to be attended to or proceed'. Queues form when the demand placed on

a given resource or service exceeds the capacity for supply. Both transport and management science scholars have been interested in queues. Indeed, they have been at the forefront of developing mathematical queue modelling as a means of optimising the efficiency of the queuing systems through which people gain access to a desired service (see Worthington, 2009). Here empirical interest is focused on the flow of people from first joining the queue, right through to receiving the service and existing the queuing system. Among social psychologists, however, a theory of queuing has emerged that looks at how the mundane act of queuing – including its rules, norms and common understandings – are culturally learnt through experience and not just magically acquired as often assumed in queue modelling (Mann, 1970; Larsen, 1987). With similarities to the STS idea of teasing open a black-box (see Star, 1999; Furlong, 2011), Mann (1970) and others have sought to explain why *first-come first served* is the basic operating principle of any successful and socially just queuing discipline (Larsen, 1987). It follows that queues are an emergent social system that are defined by the kinds of social rule-following, rule-breaking and rule-making that have been discussed extensively so far in previous chapters.

The crucial empirical insight offered by this social psychology work on queues, is the importance of perceived fairness. Queuers are less frustrated when they see a "first-come, first-served" queuing system operating (Helweg-Larsen and LoMonaco, 2008). They get upset when its norms and accompanying sense of fairness and order is violated by intruders who are queue jumping (Larsen, 1987; Zhou and Soman, 2003). A sense of grievance and unfairness that is evident even when their own position in the queue has not been negatively impacted (Mann, 1970). The upshot is that 'earning your position in the line' is seen across many empirical examples as the pre-eminent and fairest form of procedural justice when it comes to queuing (Larsen, 1987; Helweg-Larsen and LoMonaco, 2008:2389). It follows that people care as much about the corrosive effects of rule violations on the sense of orderliness and fairness across the entire queue, as they do about the direct effects this has on their own individual place in the queue. This is insightful for the ways road users make sense of the practical and moral appropriateness of filtering past a stationary queue of traffic.

Queuing on a street neatly fits the 'mythology of the British as patient queuers' (Moran, 2005:303). For George Orwell (1944, cited by Moran, 2005:61), 'the orderly behaviour of English crowds, [and] their willingness to form queues' is a distinct and mundane feature of everyday life. To queue properly, is understood as a practical manifestation of 'decency, democracy and fair play' (Moran, 2005:284). Examples like queuing at a coffee shop or bus stop are understood as normatively 'organic formations, created through semi-improvised,

tacit understandings between [different] people' who are often total strangers (Moran, 2007:61). Though Moran (2005; 2007), a social historian, discusses the value of queuing to Britishness with reference to grand narratives of class struggle and the need for state intervention, his work highlights invaluable connections between the self-regulating queue and English liberalism. A strand of liberalism whose origins connect to Locke, Smith and Mill in valuing 'consensual, micro-adjustments to everyday life as a guarantor of social stability, order' and the rule of law (Moran, 2005:284). So there are rules, both formal and informal, governing how people should queue. As Chapter 6 demonstrated, enormous variations and ambiguity can be found in the ways people make sense of the form, function and reach of the relevant rules. This means the rules with relevance over how people should queue are bound up with commonsensical understandings that 'reflect, maintain and direct' what is situationally deemed fair, just and appropriate in a practical and moral sense (Boeckmann and Tyler, 1997:377). For this reason, the kinds of queuing people value and expect others to perform has much to say about whose movement and road safety is prioritised by road users. And, to this end, the next section explores the reasons why most driving interviewees were opposed to any form of filtering past a stationary queue of motorised traffic.

8.3 'There is a Queue': Filtering as Queue Jumping

Paul That was hellish until he got to his cycle lane, you know, he was undertaking all the way. Why? Why would you do that? What if there a door opens? Whose fault would that be? I know, it's the cyclist who is putting themselves in danger but he is undertaking and that is not allowed and is just causing problems for himself.

MN Right, *The Highway Code* does say those driving should be looking out for the cyclist there?

Paul Like I said, it's the cyclist who is putting themselves in danger, that is just obvious. You know, there is a queue already there. He should just stay in the queue of traffic until he gets to his cycle lane then he can continue passing the traffic as you are in a separate lane like when I am on the motorway and there is lots of traffic.

MN Okay, so if you were driving what would you expect the cyclist to do?

Paul Before the cycle lane… well I think that if he really had to get passed then he should be coming along the outside, overtaking like you would do in a car, at his own risk isn't it. But you shouldn't be undertaking that is not what the rules say, I couldn't do that in a car, even if I would squeeze past... What he is doing there… he thinks he can get away with undertaking because he's on a bike, you know, sticking two fingers up to the car driver who is a sucker for having to stop and wait in the queue. All that is doing, is trying to say that there is one rule for the cyclists and one rule for the motorists and that is just completely wrong in my book really... if you want to be on the road then follow the same rules as those driving. How hard can that be to, you know. Though like I said, when there is a cycle lane then it is a different story.

In this extract, Paul offers a clear sense of who belongs where and how different modalities should behave on the street. A heavy-plant operator in his forties who drives every day, Paul conveys the sorts of injustices and acute sense of unfairness – even exacerbation – that was heard from most driving interviewees. For those like Paul, these concerns relate to obvious discrepancies between someone filtering and what those cycling should be doing when they are using the same lane as a stationary queue of traffic. Whilst making these situated interpretations, Paul also spoke of the reasonableness of filtering once there is a cycle lane to use. Paying close attention to the carefully reasoned claims heard from Paul, it is evident that how those cycling should negotiate a queue of motorised traffic was firmly rooted in his practical experiences of driving along a congested street.

Paul summarises in his first sentence what he deems the most appropriate way for those cycling to negotiate traffic on a congested street; he articulates a commonising language defined by who belongs where and how different modalities should appropriately use each part of the street. Beginning with the word 'hellish' before caveating this with 'until he got to his cycle lane', Paul immediately offers a line of reasoning structured around filtering being wrong when using the same lane as those driving. The implication, as he suggests, is that filtering can be acceptable once those cycling are using a separate lane. So why the difference? In many respects, this stems from what is understood as the rules to be followed and the accompanying sense of moral order informing the rules around how people should queue. It is also about differences in what is situationally understood as the form and reach of the queuing etiquettes people should be following. Indeed, several responses from driving

interviewees followed those of Georgia, a care worker in her twenties who drives daily, who felt filtering is 'really annoying, as nobody likes someone queue jumping'. Following through Paul's interview talk, when it came to a single lane it also only seemed fair that those cycling should join the "first-come, first-served" queue and await their turn to proceed like the motorised traffic. This draws upon his experience of driving that there can only be one follow-the-leader flow of traffic per lane. A discrete and predictable flow of traffic that results from the physical bulk of motor vehicles taking up most of the lane. Such talk about where those cycling belong and how they ought to act, offers a particular sense of the form, function and reach of the rules governing this infrastructural settlement. A settlement understood here to be defined by motorised vehicles having obvious priority over other modalities.

The relations between road users changes when there is a cycle lane. A space understood by Paul and others like him as being dedicated to cycling and crucially, separate from the lane used by motorised traffic. In this sense, the cycle lane creates the sort of multi-lane conditions familiar to Paul from driving on motorways, which also closely follow the guidance in Rule 163 of *The Highway Code*. With the addition of a second lane, a legitimate sense of separateness emerges that for Paul justifies overtaking on the left when the motorised traffic in the lane on the right is moving slower. What is more, this helps to us to understand that when there is no cycle lane provided it makes perfect sense for sharing and cooperation to be defined by a single queue. It follows that in congested traffic conditions, all users are in the queue together, meaning there can be no justifiable reasons why those cycling should be granted any exemption. And so, even though filtering is legally permissible when using the same lane as traffic, the formal rules and laws here are understood by Paul others like him through the ways those driving are expected and physically able to use the street. So, there may be space within the lane for those cycling to filter past the traffic queue, but Paul and Georgia were unambiguous in their response, which was based on three interrelated points. First, exploiting this space would gain an unfair advantage over those driving. Second, this is incompatible with being a legitimate road user as defined by the actions of motorised traffic. And third, doing so is the surest way for those cycling to get injured or even worse. Or, put another way, those driving can only do certain things when a carriageway is congested with motorised traffic and therefore, those cycling should do the same if they are wanting to legitimately, fairly and safely use the same lane.

It comes as no surprise that driving interviewees like Paul were concerned with road safety, including of those cycling. After all, their opposition to filtering when using the same lane

as the traffic did not subtract from the fact they stressed those cycling can use the street. It was just that they had a particular sense of how that sharing should happen. Indeed, a lot of them were convinced that filtering when there is no cycle lane places those cycling at unnecessary risk not to mention allows them to gain an unfair advantage over those driving. This made it all the more obvious that waiting in the traffic queue was safer and fairer. To do otherwise was irresponsible, both as a form of rule-breaking and the way it showed a total disregard for road safety. A point Paul emphasises with his rhetorical questions about: 'whose fault is it when a cyclist is putting themselves in danger?' The examples that Paul tabled as evidence of this potential for self-inflicted harm are all legally defined by *The Highway Code* as the ultimate responsibility of the driver. When this was put to him, Paul reaffirmed his sense that these kinds of situations would not arise if those cycling just followed rules correctly and joined the queue like everyone else. Again, reaffirming the point seen in previous chapters where most driving interviewees were all too willing to lay the cause of this kind of road safety problem at the door of those cycling. On this basis, Paul suspended concern for those cycling when it is their own irresponsible rule-breaking actions that are causing these harmful problems and unfairness. Something that holds a certain logic as 'fairness as a proportional form of karma-based justice' that ensures 'cheaters "get what's coming to them"' (Haidt, 2012:209). Viewed this way, filtering sees those cycling being deemed responsible for exposing themselves to extra risks and worse still, illegally cheating other road users by moving in ways that are at odds to the singular and discrete queue discipline of the motorised traffic.

A major concern amongst these driving interviewees was that places in the queue are defined by whether there is more than one lane available for motorised and cycle traffic. In this case, the material configuration of a street leads to traffic flows defined by either a togetherness, when there is just one lane, or a separateness, when there are two or more lanes. Based on these understandings, those cycling do not have to queue with the motorised traffic when there is a dedicated cycle lane, which delineates a space providing the legitimate means for a second separate flow of traffic. Notwithstanding these claims it remains important to examine why someone on a bicycle – a physically smaller vehicle – cannot legitimately carve out a route using the unoccupied parts of the lane around the motorised traffic. In asking such a question, responses were unambiguous. Sharon, the hairdresser from Chapter 6, thought 'cyclist should follow the same rules as normal people', and by that she meant drivers, rather than 'looking to get away with doing something different'. Patrick, an HGV driver in his fifties, wanted those cycling 'to overtake on the right like a car if they are too

impatient to queue since there is no cycle lane'. And Georgia was convinced her fellow drivers would also 'get really annoyed when those cycling cherry pick when they want to be equals or different to those in cars'. Across these comments about filtering there is a strong and distinct sense of driver injustice. With this injustice around the same lane being used to filter past queuing traffic, there is a strong sense that those cycling are contravening the both rules of the road as well as the etiquette of the queue. All the while creating an unwelcomed source of disorder and unpredictability that inevitably pose far more harmful risks to those cycling than driving. Put simply, those filtering without a cycle lane were being positioned to us by this group of interviewees as either failing to know or simply do not wish to use the carriageway correctly.

8.4 Filtering it 'makes sense but can be rather risky'

Julie I would be expecting them to pass me if the cars are stationary, for sure, that just makes sense but can be rather risky. At the end of the day, why would you want to sit in the traffic queue when you have the space to pass the traffic, if you are going to wait why not drive! Cyclists can pass on the left when there is room and especially if there is a cycle lane up ahead on that side of the road. Really, that is also the position in the lane where people are kind of thinking there will be cyclists. If they are constantly looking to overtake traffic [on the right], they are going to get caught out when the traffic moves and you need to be getting back towards the inside kerb.

MN So they should stick to their part of the road and if it is free they can filter?

Julie Absolutely, at the end of the day, I would say you know as a pedestrian that the road really belongs to drivers just because there are more of them, they are bigger…. they have priority… Looking at that video, the cyclist can be filtering but they are also correct to yield to the car turning left in front of him, you do the same when walking. Even though the cyclist was at this point in a cycle lane, and not doing anything wrong, they must be really aware of the cars by altering their speed and responding to what the cars are doing, even stopping if needs be… you know, if they want to stay safe.

In this extended extract, Julie offers an account of filtering that was common among the walking and cycling interviewees not to mention some driving interviewees. An administration assistant in her forties, Julie walks most places, very occasionally drives and has not cycled since moving to Carlisle some two decades ago. Just like Paul's interview talk above, Julie offers a clear sense of who belongs where on the carriageway and how that should ensure different modalities keep moving and remain safe. Starting with non-congested traffic conditions, those cycling are commonly expected to be positioned over towards the left of the lane – so as to aid the flow of faster-moving traffic. This is something assumed to be self-evident and was in fact articulated by all interviewees, including those like Paul. However, when it came to discussing congested traffic conditions, Julie does not accept there can only be one discrete flow of traffic. For her, filtering past a queue of traffic makes perfect sense for anyone cycling so long as it is safe to do so. Here the smaller size of those cycling practically affords moving through the vacant space in the lane found to the left of the queuing traffic. The fact this uses parts of the carriageway where those cycling are commonly expected to belong in non-congested traffic conditions, only served to substantiate the appropriateness of these actions. It follows that filtering, as a means of minimising the time spent waiting in a traffic queue, was sensed as a logical continuation of what are the similar, yet crucially different, ways in which those cycling use the carriageway compared to the far more discrete and singular flows of motorised traffic.

Getting to a destination is an obvious and desirable aim for anyone using the carriageway – they wanted to keep moving. This was something many interviewees reached for when they sought to justify why people would wish to filter when cycling. A point many also extended to explain why people would want to cycle in congested cities. Here, common sense suggests the size and number of motorised vehicles leaves those driving with no choice but to join a first-come first-served queue of traffic. But what also seemed commonsensical to Julie and others was that it only seems fair and reasonable when there is space for those cycling to filter that they are not subjugated to the same queuing etiquette as those driving. Most interviewees agreed with this sentiment. The interesting point for us, however, was that they did so by way of articulating different points of view on the practical and moral considerations defining what counts or should count as appropriate. These were reflecting a different sense of how to keep people and traffic moving safely on the street. And these responses were shaped in part by how these interviewees typically use Carlisle's roads.

8.4.1 Filtering as understood by Some Driving Interviewees

For some driving interviewees, filtering was not a major issue to them personally when there is a cycle lane or sufficient space for those cycling to pass stationary traffic. Several responses were along the lines that 'I don't mind cyclists passing on the left but I am nervous for them when they do'. Among these interviewees, their main concern was road safety and clarifying how the motorised traffic retains priority. Roger, a farmer in his fifties, spoke for many in that 'when the cars start to move and are going as fast as the cyclist, then the cyclist should not look to force their way past another car only to be then overtaken'. For him, 'it is just common sense, you know, why risk a fight with the traffic', a point that only served to reaffirm his more general claim 'those cycling cannot be oblivious to the traffic'. In line with this, and as a means of justifying the appropriateness of how Trevor went about the filtering shown in the video, Roger summarised 'flying down the side of a traffic queue would be a problem for their own [cycling] road safety never mind those in cars'. Others claimed even though filtering past a queue of traffic was an accepted part of cycling, their concern was it means exploiting the very things making them an inherently more vulnerable road user. In a way, this was partly about the physically smaller size of those cycling enabling narrow spaces to be used, but it was also about filtering being at odds with what the motorised traffic are doing in the same lane. Both of which were seen to impact the road safety of those cycling compared to drivers. Lindsey, a regular driver introduced in Chapter 5, spoke for this group of driving interviewees by stating, 'I feel nervous about them passing on the inside, I worry about their safety' before quickly adding 'that does not mean they are not allowed to do it'. Driving interviewees like Lindsey, however, were convinced that if they themselves were cycling, 'staying in the queue would be much safer as that is where drivers are looking' and that means 'cyclists who do filter, are putting themselves in extra danger'.

What is clear from driving interviewees like Roger and Lindsey, is the profoundly commonsensical ways they sought to make sense of filtering – appeals to share an understanding that outrun the neat legal undertakings heard from other driving interviewees like Paul. This is not to say the perspectives offered by Paul and others like him lacked common sense. Rather, Roger and Lindsey were articulating a perspective that operating through a different kind of common sense. That is to say, both perspectives involved talk about where those cycling belong on streets and how they should relate to other users. In truth, these commonsensical interpretations were an appeal to a shared understanding. The important point, however, is that these shared understandings did not follow through to make sense to other road users. And so, Roger and Lindsey appealed to a shared

understanding that centred on the way a carriageway can practically afford multiple flows of traffic when the motorised traffic is stationary. Indeed, it is clear from Roger and Lindsey they were presenting an account that emphasises concerns about ensuring fairness and seeks to avoid harm. Both of which defined how those cycling are being expected to carefully choreograph their interactions with motorised traffic.

Take fairness. First and foremost, the motorised traffic was sensed as having priority over other modalities. Having a separate flow of cycle traffic, however, seemed acceptable – proportional even – given people on bicycles are physically able to exploit spaces on the left of traffic. Spaces that provide a window of opportunity to pass but only when safe to do so, which for some driving interviewees seemed a very distant prospect. Here it was much easier for this group of interviewees to talk about what those cycling should not be doing as a means of justifying what they should be doing. Filtering only seemed appropriate whilst the traffic was stationary. Once the motorised traffic is moving, words like 'force', 'fight' and being 'nervous' described how really this traffic assumes priority. This was due in part to them being what most people are doing on a street and them being expected to go faster than those cycling. The interesting point about these commonsensical limits to filtering was they were being justified on the grounds of helping those cycling avoid getting into needlessly risk. To avoid harm and ensure fairness, this was understood through the taken-for-granted parameters these driving interviewees sensed defining the principle infrastructural settlement. Parameters that are not value neutral in the commonsensical ways that the movement of motorised traffic assumes greater priority.

8.4.2 Filtering as understood by Cycling Interviewees

For all cycling interviewees, being questioned about the appropriateness of filtering on congested streets seemed a strange topic of discussion. This is because filtering was something they all understood as a blatantly obvious part of urban cycling. Indeed, most responses to being asked this question followed the same basic structure. First, many sought to challenge the premise of the question. A common response here was 'of course you can filter, why wouldn't you', which was often articulated in such a way, it only reaffirmed its commonsensical obviousness. Second, and with a bit of encouragement, cycling interviewees offered reasons why filtering was an acceptable – if not fundamental – part of cycling along urban streets. Take Nicola, a community organiser in her forties who rarely drives and was very clear about her preference for cycling. For her, filtering 'should not be questioned as it is totally acceptable and legal'. Here cycling was positioned as a 'mode of

transport, that like any other, means you want to get from A to B without *needlessly* being held up'. It involves 'using a vehicle on the road', a terminology that Nicola repeatedly used to confer further legitimacy to her claims, 'that gets through gaps motor vehicles cannot'. Yet Nicola was also clear that when filtering, she must be 'very weary and cautious, as drivers do not think someone can still be moving legitimately, I must add, when the motor traffic is gridlocked'. Together these carefully reasoned accounts demonstrate part of the attractions and challenges cycling interviewees articulated around balancing the benefits and risks of filtering in car dominated transport environments.

This bring us to the main concern among cycling interviewees when filtering, that of controlling risk. Again, this is because all knew that cycling was more dangerous than driving in car dominated transport environments like Carlisle. But they also wanted to explain the sorts of skills, approaches and strategies they employ to reasonably control for this risk. Jason was typical of many. A surveyor in his forties who cycles most days to work, he explained carriageways are 'a jungle for cyclists, as drivers are often doing stupid yet strangely predictable things since they do not think bike'. Just like Trevor earlier, filtering was understood to place those cycling at odds to the predictabilities and certainties attached to a single flow of motorised traffic. If the traffic is stationary, it seems understandable that other road users, particularly in a low-cycling environment, just assume that everyone in the lane is stationary. Filtering was positioned here by Jason as a 'prime example of where cyclists need to be on the ball and by having your wits about you… there is method in your madness of filtering'. No further elaboration was provided on these cliched and idiomatic phrases, and like Bissell (2016; 2018), they lay claim to a more bearable experience of collective transport. Yet they provided Jason with a means of articulating to me, and in terms I was expected to understand, the commonsensical ways those cycling can safely go about filtering. So, filtering involved additional risk that those like Jason knew would not happen on a street where cycling is prioritised or where those driving can be trusted to anticipate people cycling. But crucially, they still felt able to anticipate and act in ways that pre-empt any harm or worse this risk may currently cause. To follow Slovic (2000a), the benefits cycling interviewees like Jason and Nicola associated with filtering, combined with the sorts of control measures they deploy, sets up cycling in terms of risk, yet this is a landscape of risk sufficiently attenuated to allow filtering to happen.

In many interviews with those who cycle, such talk of risk and how they control for it when filtering threatened to dominate the conversation. But what was their sense of whether filtering stood the test of criticisms about it being merely an excuse for queue jumping. On

tabling this line of reasoning, responses from cycling interviewees were forthright and unambiguous. Nicola reaffirmed how 'cyclists are entitled to filter, it is in *The Highway Code,* regardless of whether there is a cycle lane or not'. Darren, who cycles daily to work at a Local Authority, laid claim to filtering being a 'harmless fringe benefit of cycling that those driving only hate as they cannot physically or legally do it'. For Phillip, a highways engineer by training, 'waiting in the traffic queue just feels all wrong when you are on the bike'. A point he felt was justifiable since 'it is just common sense to filter through a gap when one is available, and drivers surely expect that from a cyclist anyway'. Each were making sense of filtering in ways that sought to distinguish its position in the lane from that of the motorised traffic held up in the queue. Routes that are separate from stationary traffic queue were sensed as still being legal and practically available to those cycling. In other words, those filtering were being legitimately placed outside what is fair, just and appropriate when part of any "first-come first-serve" traffic queues.

Talk of those cycling being separate from the main flow of motorised traffic, was central to filtering being justified on the grounds of fairness. What is clear from the cycling interviewees is that their concern about fairness has nothing to do with absolute equality of rights and responsibilities between those cycling and driving. It was a form of fairness, as social psychologist Jonathan Haidt (2012:196) describes, focused on 'proportionality, not equality'. With similarities to the 'Protestant work ethic and Hindu law of karma', fairness of this sort is a moral foundation that operates on the principle 'people get what they deserve, based on what they have done' (Haidt, 2012:196). From this perspective, 'people get angry' about moments of perceived unfairness that arise from people 'taking more than they deserve' (Haidt, 2012:213). Clearly, parallels can be seen here to the line of reasoning offered by most driving interviewees, like Paul, about the unfairness of filtering as a form of queue jumping. However, to interviewees like Nicola, and others like Julie and Roger, people on bicycles deserve to filter past queuing traffic due to the differences in size they see between a person cycling along a congested street compared to someone driving. Such talk of fairness deflects us away from sharing based on the need for equality (everyone must do the same) and directs us towards sharing based on a need for proportionality (acknowledging the variegated effects of similarities and differences in the affordances, capabilities and riskiness of different modalities).

8.4.3 Filtering as understood by Walking Interviewees

The walking interviewees were similarly amenable to filtering. They too thought filtering past queuing traffic along urban streets was a key reason why people would wish to cycle. Yet, they were also deeply concerned about its road safety implications. Indeed, many stressed the importance of those cycling, like other vulnerable road users, carefully choreographing their interactions with motorised traffic. A typical response came from Ross, a Local Authority manager in his fifties who has never driven and not cycled since moving to Carlisle two decades ago. Shown the video of Trevor filtering was seen as proof to Ross of why he personally would not cycle in Carlisle as 'drivers are not looking for people on bikes'. He felt that to those who regularly cycle, this kind of filtering 'could not be done any better'. But, he also recognised many drivers 'would no doubt be put out by queue jumping, which they'll see as another case of cyclists doing things motorists cannot do, for whatever reason'. On reflection and making reference to the fact he does not drive nor cycle, Ross could see 'value in both sides of these argument'. But he quickly added, 'if there is space for a cyclist to safely pass on the left that just seems fair, but I doubt whether you can ever be truly safe when cycling in Carlisle never mind filtering'. Were he to cycle in similar traffic conditions as Trevor, Ross felt he lacked the practical skills, confidence, not to mention trust in those driving to leave the certainties and relative safety of waiting in the stationary traffic queue by trying to filter past the traffic.

In terms of what this suggests about whose movement and road safety is being prioritised, walking interviewees drew extensively on their own experiences of walking in car dominated transport environments. Vicki, the teacher from Chapter 6 who rarely drives and does not cycle, described how seeing someone filtering was 'a real worry as they surely cannot trust the drivers to see them'. This was particularly the case when approaching junctions, where other motorists would be expecting everyone in the lane to be stationary like the motorised traffic. What those cycling should do in these situations, had similarities to how walking interviewees talked about crossing the road at a junction. As Vicki explains, 'the onus is really on you – as a pedestrian or cyclist – to be waiting to see what the driver is doing, stopping even, and not just assuming they have seen you and will allow you to continue regardless'. An outcome caused in part by those walking and cycling lacking the material bulk of a motor vehicle, which otherwise makes it easier for others to see and respond to those driving, not to mention harder to ignore them. A line of reasoning that lead Vicki to conclude that there 'is no point putting yourself in unnecessary danger, when you can easily stop to prevent yourself getting hurt or even killed'. A sentiment also expressed by Ross as

well as Julie, in the above extract, where it seemed commonsensical to that those cycling, like other more vulnerable users, yield to the motorised traffic rather than run the risk of being harmed by them unreasonable exercising their principled right to use the road.

And so, even though filtering in principle was permissible, in practice, it was best for those cycling to either avoid it entirely – by staying in the queue – or filter with the expectation that drivers will likely not be aware nor respond to their presence. Part of the appeal of encouraging those cycling to compensate their actions around queuing traffic, is that it takes account of the existing infrastructural settlement in a car dominated transport environment and the obvious hierarchy among different modalities this entails. It follows that motorised traffic has obvious priority over all other forms of mobility, just as it remains the obvious responsibility of those cycling and walking to make sure they take reasonable steps to keep out of harm's way. Coming back to the extract from Julie, words like 'priority' and 'belong' there give a clear sense of this settlement through her talk of who owns the carriageway and the implications this raises for those cycling. What was important about filtering to the walking interviewees then, was how those cycling should practically work within this prevailing infrastructural settlement to ensure their own road safety. Undertakings that reflect how streets get shared in ways that are not fair in terms of direct equality between transport modalities. It follows that this group of interviewees had, in effect, decided not to pass critical judgement on how streets are shared. This is because their view was carriageways were first and foremost for motorised traffic and that seemed the inevitable and unavoidable way in which this space is occupied and shared amongst road users.

8.4.4 Overlaps and Differences around Appropriate Filtering

This section has considered those interviewees who accept people on bicycles can filter on the left of queuing traffic regardless of whether a cycle lane is provided. The aim was to consider how these interviewees relate to cycling and go about making sense of how those on bicycles should interact with other road users. Were their lines of reasoning any different to most driving interviewees who perceived filtering without cycle lanes as dangerous queue jumping? In a word, yes. The findings in this section have presented the multiple ways these interviewees went about articulating some carefully reasoned accounts about the practical and moral appropriateness of filtering. Throughout, they relied far more on commonsensical notions of keeping safe and infrastructural affordance – that reflected obvious differences in the size, risk and affordances of a bicycle compared to a car – than make recourse to formal rules and laws. As should now be clear, differences in these lines of reasoning were in part

a product of how these interviewees themselves typically use Carlisle's roads. But it is also clear from talking to these different road users that they relate to cycling through moral considerations that were held in common with other people who typically use other modalities.

Interviewees such as Julie, Roger and Nicola had very different experiences of using Carlisle's roads, yet their justificatory talk around the appropriateness of filtering led in various ways to the same common themes: fairness as proportionality; the need for more vulnerable road users to minimise the risk of being harmed; and about rule-following. It was these three themes that gave substance to their sense of what should count as fair, safe and appropriate when people on bicycles are using a street and wish to filter. The effect was to justify filtering at the same time as cautioning about the clear and obvious risk it entails in a low-cycling environment. Perhaps more importantly, these themes gave a clearer sense of what these interviewees understood as the prevailing infrastructural settlement – and its accompanying landscape of risk and responsibility (Latham and Woods, 2015; Stark, 2009). Both of which shaped how these interviewees defined where different modalities belong and how they ought to act in order to appropriately share the street. The net effect was motorised traffic assumes overall priority, as do the inevitable – yet strangely reasonable – obligations and responsibilities placed on those cycling and walking to make sure they remain out of harm's way to stay safe.

8.5 Different Cultures of Sensemaking

Following on from the findings discussed in the previous chapters, this chapter started with the suggestion that among a public of road users there will be different interpretations about the appropriate ways to share a street. Differences that were expected to emerge from the situated ways people typically experience using a street – whether that is by walking, cycling or driving. Using the example of filtering, where a person cycling passes on the inside of queuing traffic, the empirical aim was to consider whether people thought this was a permissible and appropriate part of using a congested street. More analytically, the aim was to explore whether all road users in making these sorts of situated interpretations and moral judgements were laying claim to a similar kind of commonsensical understandings about what is fair, just and appropriate.

Filtering was subject to multiple commonsensical interpretations that each appeal to a shared understanding about what practically and morally counts as reasonable and appropriate. There were overlaps and differences in the way people go about making these situated

interpretations and accompanying justificatory claims (Boltanski and Thévenot, 2006; Tilly, 2006; Stark, 2009). Moreover, these understandings meant the patterns of sharing some found obvious, did not follow through to make perfect sense to others. As was expected, these overlaps and differences were in part the product of the ways interviewees typically use Carlisle's roads. But it was also clear from talking to interviewees that how they relate to cycling and make sense of how those on bikes should interact and cooperate with other road users was subject to moral considerations held in common with people who typically use other modalities.

Most driving interviewees were primarily concerned with those cycling following the rules defined by what those driving are allowed to do on a congested street. Rules that keep traffic moving safely through a single, discrete and predictable flow, which was also anchored into claims about fairness as proportionality. Here fairness helped censure the idea that filtering without a cycle lane could be legitimate. It was deemed a form of queue jumping that is unfair to those driving waiting in the queue; this also meant those cycling who do filter were illegally and irresponsibly putting themselves in harm's way.

For the cycling and walking interviewees, along with some driving interviewees, there was a rather different understanding of filtering. This group relied far more on commonsensical notions of infrastructural affordance and keeping safe than making recourse to formal rules and laws. For them, fairness as proportionality was also central to their interpretations. Fairness here was about it making sense for those cycling to exploit spaces available to them by way of using a much smaller vehicle that is not directly contributing to the formation of the traffic queue. The issue here was that using a street in car dominated transport environments often places reasonable limits on filtering since more vulnerable road users were expected to proactively take steps to minimise the risk of being harmed. Taken together, each of these situated interpretation reflect just one particular – and thus partial – sense of the rules as well as landscapes of risk and responsibility that provide grammatical structure around whose movement and road safety has priority.

Each interviewee offered interpretations that appealed to a shared understanding about the sense of worth and moral order around how road users should go about sharing and cooperating. Coming back to Howard Becker (1998:25), this reflects the fact that what seems 'crazy or capacious' for some, will at the same time 'makes perfect sense' to others for a range of reasonable reasons they deem of value and worth. The fact these judgements overlap and differ from those of other people, reflects a varying sense of 'what counts or should count'

as the right, fair and acceptable ways for those cycling to form part of the traffic landscape of a street (Thévenot, 2002a:59; Stark, 2009). In this respect, these two broadly defined perspectives are neither an irreconcilable polemic nor lend themselves towards a consensus about the appropriateness of filtering. More accurately, there are nuances and ambiguities centred around some fundamental points of overlap and difference when it comes to how the spaces making up a street ought to be shared when people are cycling. And so, 'what counts is the capacity for interpretation' that is itself grounded on multiple criteria for what is valued and deemed worthy (Stark, 2009:9; see Boltanski and Thévenot, 2006). It is important to stress this is not about one group of interviewees being 'blind to truth, reason and common sense' that the other group holds to self-evident (Haidt, 2012:264). Instead, it is more about listening to the important things other people might have to say based on their own commonsensical understandings, which could lead us to 'see a controversial issue in a new light' (Haidt, 2012:364).

Such arguments about the particularness of moral judgements and intersubjective deliberations have close parallels to ideas around cultures of risk (Douglas, 1992; Adams, 1995); a connection this section briefly ends on by considering what can be termed the different cultures of sensemaking. It is now clear that the ways people make sense of how those cycling should interact with other road users, reflect a particular sense of the rules (both formal and informal) as well as the commonsensical landscape of risk and responsibility. All of which arise from a particular sense of the taken-for-granted parameters set by the prevailing infrastructural settlement; parameters that are not value neutral when it comes to whose safety and movement is prioritised. As Douglas and Wildavsky (1982) conclude, people's understanding and knowledge about risk can emerge from any number of positions in the world, each giving rise to particular culturally mediated interpretation that is partial and situated in character. It follows that the very same 'cultural processes selecting certain things as risk' that require heightened attention and control, also direct the attribution of responsibility and blame (Douglas, 1985:53; 1992). This is where scope for multiple interpretations of risk carries such profound implications for how a roading infrastructure is expected to be performed. Each interpretation connects to a particular commonsensical understanding of the infrastructural situation, notions of reasonable risk as well as the responsible and appropriate response (Slovic, 1999; 2000a; see van de Poel and Fahlquist, 2011; Hauer, 2016). It is these understandings that explain why some people draw heightened attention to the risks and responsibility associated with certain aspects of everyday life, just as these could be attenuated or simply ignored by others.

It is clear that the example of filtering is far from being a well-defined problem with a clear right answer common to all road users. Drawing on the American pragmatist John Dewey (1933[1998]:140), filtering, like the place for cycling in the traffic landscape of a street more broadly, is a 'troubled, perplexed, trying situation'. This means, people know 'what the problem *exactly* is, when simultaneously finding a way out and getting it resolved' (Dewey, 1933[1998]:140; Boltanski and Thévenot, 2006; Stark, 2009). As Chapter 3 made clear, the fact this involves an uncertainty, ambiguity and potential multiplicity matters. To know the problem spaces associated with filtering, requires an understanding of the very things being valued as part of the situated arguments and justifications put forward by the people within the space. It follows that what is understood as the problems around filtering, and thus how to resolve the ways those cycling fit into the traffic landscape of a street, is neither inevitable nor consensual. It is therefore important to stress that there are many practical ways sharing a street could happen. And yet, it is these situated interpretations of the prevailing infrastructural settlement – with its accompanying rules (formal and informal), risks and landscape of responsibility – that ensures not all uses are commonly sensed as equally valid nor appropriate. A point most evident in the lines of reasoning that expect those cycling to prioritise keeping out of harm's way even when that limits the breadth of actions they are legally allowed to perform (see Adams, 1995). All of this matters since these situated interpretations and moral judgements have far-reaching consequences on the sort of infrastructural settlement defining where different modalities belong and how they ought to appropriately use and share a street (Latham and Wood, 2015; see Stark, 2009). Ultimately, this is how any rule-bound environment works not to mention why the prevailing patterns of cooperation and coordination take on a certain direction over others in car dominated transport environments.

8.6 Conclusion

If there is one thing that you should take away from this chapter, it should be that road users were appealing to moral considerations about the orderliness and fairness of queuing. Such appeals to a shared understanding transcended the specific transport modality they typically perform. With the example of filtering, it might have been an expectation that those cycling would queue with the motorised traffic given the strong culture in the UK for queuing in an orderly fashion. The orderliness and fairness associated the informal first-come first-served etiquette of queuing on a carriageway was known to all road users. Yet people who cycle often filter past the queue of motorised traffic. For most interviewees, including all those who cycle, the size and nimbleness of a bicycle can allow those cycling to move around the

stationary queue of motorised traffic, which in turn, places them outside the provenance of this queuing etiquette. For others, when filtering takes place within the same carriageway lane as the queuing traffic, it is morally unacceptable and inappropriate to filter because those cycling are still subject to this strong queuing etiquette. Policymakers and transport geographers should not presume they know the problem space that road users set up around how to share the spaces making up a street.

To understand this, requires paying careful attention to the situated interpretations and moral judgements made by a public of road users. These findings have shown all interviewees were open to sharing a congested street with those cycling. Yet how this sharing should happen was open to situated interpretations that showed multiple points of overlap and difference. From talking to interviewees, it was clear that their intersubjective deliberations were shaped by much more than just the situated ways they typically experience using Carlisle's streets. Another important aspect to these justifications was certain moral considerations that were held in common with other people who typically use other transport modalities. In the case of filtering, these focused to varying extents on the thematic concerns of: whether people are following the rules (both formal and informal); road safety through vulnerable users keeping out of harm's way; and the notion of fairness as proportionality. While the appropriateness of filtering was discussed in these broadly defined terms, what these terms – and by implication filtering – meant to interviewees was subject to some profoundly different commonsensical understandings. The like of which carried through into giving a particular sense of the infrastructural settlements defining where people should belong, how they ought to share a street and what is fair, just and appropriate – the like of which did not make sense to everyone in the say same way. The point is that transport geographers could do a lot worse than to recognise streets get shared in ways subject to multiple interpretations about the prevailing infrastructural settlement. It follows that these patterns of appropriate use may take on particular shape and form that in time can assume a certain fixed quality that prioritises the movement of some while making the movement of others more difficult.

IN SUMMARY

- Sharing a congested street is open to multiple forms of intersubjective deliberation and moral reasonings about what is fair, just and appropriate, with each reflecting a particular sense of worth and moral orderliness.
- The situated interpretations and intersubjective deliberations of road users were shaped by both how they typically use Carlisle's roads *and* moral considerations that were held in common with people who typically use other modalities.
- In the case of filtering, the moral concerns were: rule following (both formal and informal); road safety, as vulnerable users should keep out of harm's way; and fairness as proportionality.
- Queues are defined by rules (sometimes formal but more often informal), they support an etiquette of first-come first-served queuing which means queue jumping is unfair and unacceptable.
- Who is deemed a part of the queue, or is being positioned separate from the queue, matters since this alters the form, function and reach of moral claims about fairness as proportionality.
- So, there is no guaranteed nor inevitable way the roading infrastructure of a street can or should happen; the lines of reasoning around filtering, show there are other ways that cities and streets can function that do not place so much emphasis on prioritising motorised traffic.

9 Infrastructural Settlements and the Commons

Each of the four chapters making up the empirical core of this thesis point to spaces on a street being about certain kinds of sharing and cooperation. Above all, sharing a street with different transport modalities was something everyone expected. It was made possible by certain rules (formal and informal) as well as commonsensical forms of social intelligence. Yet, responses to what was appropriate and being expected of road users was not subject to any single nor unified shared understanding. That is, points of agreement and dissonance were common. These reflect in part the situated perspectives gained from using different transport modalities. More significantly, they also reflect different moral considerations that were to varying extents held in common with people who typically use other transport modalities. It was talking about these considerations that gave a sense of the commonsensical and moral intelligence people articulated as they made sense of how those cycling should interact with others on the street. In this penultimate chapter, attention turns to the four overarching conclusions. First, it discusses the multiple forms of commonsensical intelligence being articulated by those on the street. Second, it reflects on the successful operation of an ethnography of infrastructure along with its wider implications for those using interviews as a method of data collection. Third, it examines the five themes that to varying extents shape the ways road users went about explaining how sharing a street should happen and why not all forms of sharing were deemed equally valid or appropriate. Fourth and more importantly, how these lines of reasonings reflect a particular sense of the prevailing infrastructural settlements on the street. All of which matters since an infrastructural settlement defines where different modalities belong and how they ought to act to appropriately share a street (Latham and Woods, 2015; Latour, 2005; Stark, 2009). It is here where the commons is reintroduced as an analytical tool for understanding the prevailing infrastructural settlement and its prioritises, along with considering the ways to go about incrementally changing it.

9.1 Multiple forms of Commonsensical Intelligence

Asking how people relate to cycling and make sense of how those cycling should interact with other road users, meant paying close attention to their commonsensical understandings about what is reasonable and appropriate. It is now clear that people can appeal to and draw upon an intuitive sense of how the roading infrastructure of a street should work in car dominated transport environments and, on that basis, who can legitimately access street spaces. There was no sense of this being adversarial but there is a strong willingness to find

ways to share streets. When asked about the reasons why an infrastructure should be done in one way rather than another, interviewees sought to 'articulate the performance criteria' upon which they were making these kinds of situated evaluations (Stark, 2009:103; see Boltanski and Thévenot, 2006). They could not silence talk about evaluative principles nor could they pragmatically claim their account simply works. This is because their reasonings here, lay claim to a particular sense of what is worth and why (Stark, 2009; Tilly, 2006). On streets, the result was that the same traffic situation was not being interpreted from a single perspective nor principle of evaluation. Instead, there were multiple and at times contested orders of worth; each giving a different sense of what is fair, just and appropriate. This meant some people leaned towards one particular set of situated interpretations that each have their own validity, just as other people (with differing principles of evaluation) sought to challenge it and point to the veracity of their own alternative interpretations.

It is in this respect that these principles of evaluation sit alongside what each interviewee held to be commonsensical. A practical form of knowledge invoked as they sought to make sense and justify what seems suitably appropriate for a given situation (Schütz, 1953; 1972[1932]; Garfinkel, 1968). For each interviewee, the things they understand as "common sense" were either explicitly or (more often) implicitly set up as being "obvious" to everyone else. In spite of the unifying tone of these claims, there was no single nor coherent common sense everyone on a street must know and follow. Rather, there were multiple forms of common sense; the criteria for which were sometimes shared by everyone, just as others were shared with only a few people. This is because one person's commonsensical idea of what seems appropriate, did not always follow through to align with the commonsensical understandings of others. Following Becker (1998), it was therefore useful to retain a certain degree of scepticism about the form, function and reach of what people hold up to be commonsensical. The implications of which stem from the sense of 'rationality' equated with these moral judgements being bound up 'within particular orders of worth' that were obvious to some, yet baffling or plain wrong to others (Stark, 2009:13; see Becker, 1998). So, it was through their commonsensical responses to questions about what is worth and why, that interviewees individually laid claim to a unified consensus about the general principles for evaluating worth. And yet, their cumulative responses pointed to the existence of multiple orders of worth that together gave rise to a more dissonant and variegated picture about how road users expect the roading infrastructure of a street to be done – in a practical and a moral sense.

Questions of worth and common sense were central to the justificatory claims heard as all interviewees sought to validate certain uses of a street and discredit others. Above all, how those cycling were expected to use a street was subject to multiple lines of reasoning that each laid claim to a particular sense of what morally counts as reasonable and appropriate. And, as discussed earlier, these are the sorts of understandings that meant the patterns of use some found obvious, did not follow through to make perfect sense to others. So, where did the overlaps and differences amongst these situated interpretations come from? Well, unsurprisingly, they were in part the product of the transport modalities people typically use on Carlisle's streets. Drivers interpreted the cycling presented in the interview video through their own situated sense of how people drive on these streets. Evaluating this same cycling, interviewees who regularly cycled drew directly on their own practical experiences, often recounting how they themselves cycle along the very same streets. Meanwhile, interviewees who walked leaned most heavily towards road safety. In doing so, they emphasised pedestrians, like other vulnerable road users, need to carefully choreograph how they interact with motorised traffic since it was ultimately their responsibility to keep safely out the way of that same flow of traffic. However, such modality-based interpretations were only part of the story. What is also clear from talking to these different road users, was that how they relate to cycling and make sense of how those cycling ought to interact with other road users was subject to moral considerations found in common with people who typically use other transport modalities.

Proponents of certain moral considerations were adamant and unambiguous about the obvious reasonableness of their own interpretations along with the principles of evaluation giving them justifiable form and direction. Principles that articulate a particular sense of value and worth (Stark, 2009; Thévenot, 2002a). The findings presented reflect 'what counts, or should count, as a "good road" and the [practical] reality of such a road' (Thévenot, 2002b:8), was open to multiple interpretations that to varying extents overlap and differ from each other. This explains why in coming to particular moral judgements, people downplayed the validity of the other intersubjective deliberations that other people were expected to use when they allocate worth and goodness. It is important to stress that because people and things were being situationally qualified with distinct grammars of worth, 'no [single] viewpoint can be taken-for-granted as the natural order of things' (Stark, 2009:18; Sayer, 2006; Boltanski and Thévenot, 2006). The point, therefore, was not that some held views morally or practically deficient compared to others. Rather, these kinds of situated

interpretations, makes sense according to a particular sense of worth and the moral order shaping the ways a roading infrastructure is expected to be work.

So, misunderstandings were common. Yet, they were not the sort of misunderstandings that meant some people were giving the right answer, while others were wrong since their views lacked the right information and/or reasonable common sense. The misunderstandings here were often the result of some people articulating lines of reasoning that made complete sense to them, but it turns out, were not necessarily held by everyone on the street. Again, this was all about each viewpoint reflecting a particular sense of what are the right, fair and acceptable ways for the traffic landscape of a street to happen. Having said that, there were also points of common understanding[28] – something as basic as everyone accepting a street is a space to share with other modalities – without which cooperation of any sort would have been almost impossible. This all matters since the lines of reasoning that structure these moral judgements have far-reaching consequences on where different modalities belong and how they ought to appropriately share the spaces of a street.

From a wider perspective, people have commonsensical intelligence, in the Schutzian sense of the term (Schütz, 1953; 1972; Brown, 2009). They have a sense of there being an implicit order to how people get along and how things should just work. The form, function and reach of such an implicit order is moral in nature. And this is something people can reflect upon. Though a form of intelligence in its own right, this moral intelligence was being framed and justified by interview talk that circled back to commonsensical intelligence. Following through these lines of reasoning, brings to light interrelated forms of intelligence, since they give rise to misunderstanding by propagating competing principles of worth around how the rule-bound spaces of a street should work. Unsurprisingly, each commonsensical response to this question had its own basis for validity, which helped to justify a differing sense of the moral considerations with particular relevance in that situation. With such differences of interpretation, it seems tempting to suggest that people should be educated towards a consensus about the rules for using the street. A response that seems appropriate based on the idea that the problem space around sharing a street with those cycling has a single right answer. And as such, to borrow from Stark (2009:192), reflects a 'deeply engrained sense that difference makes for conflict, whereas shared understanding

[28] Shared understandings also extend to include the taken-for-granted grammatical etiquette that shapes the way people go about doing talk through the "turn-talking-rule" (Tilly, 2006; see Garfinkel, 1968). That is, the 'generally accepted rules of conversation constrain anyone who asks a question to listen to the answer their question has solicited' from the other person (Becker, 1998:97).

makes for cooperation' (see Star and Griesemer, 1989). Perhaps. But, doing so downplays the significance of these findings. Misunderstandings can have a positive effect. It is possible for misunderstandings around differing ideas of what is fair, just and appropriate, to facilitate cooperation among heterogenous actors within a space (Stark, 2009; Star and Griesemer, 1989).

The dissonance found between these commonsensical interpretations reflects the varying extent to which people engage in a kind of "infrastructural reflexivity" about how streets could be practically held together as an infrastructure in rather different ways. These lines of commonsensical reasoning point to some of the alternative and value-laden ways sharing and cooperation could happen on streets that includes considering the needs of others. And these are viewpoints that involve altering whose infrastructural demands on a street get prioritised more than others. One illustrative example is worth briefly highlighting. People talked the cyclability of residential streets in terms of them having a limited amounts of motor traffic. These streets were being discussed in terms of them having a clearly marked footway and carriageway. However, people also made sense of the ways they become infrastructure by emphasising the importance of slower traffic speeds, reduced amounts of traffic as well as a greater unpredictability around how road users negotiate one another. Doing so points to how even the best infrastructure sometimes, and rather surprisingly, are the ones that display exactly the practical features not naturally associated with infrastructure. People called for residential streets to be less car-centric. This was all about there being greater unpredictability and uncertainty around where different users belong and how they should relate to others using this space. In other words, people were calling for infrastructural affordances for those driving, walking and cycling along residential streets that did not fade into the background nor become taken-for-granted. The infrastructural affordances of these different users was not to be prohibited but nor should it be guaranteed to happen in certain kinds of ways.

In summary, multiple commonsensical intelligence gave rise to particular forms of moral judgements and appeals to shared understanding about the practical ethics that structure how streets ought to be shared and by whom. As each appeal to a particular sense of the prevailing infrastructural settlement, these lines of reasoning demonstrate that no single infrastructural settlement can be taken-for-granted as the natural nor inevitable way in which the roading infrastructure of a street will function in a practical and moral sense. This matters since these situated interpretations and moral judgements were being made by the very people using these spaces. In this respect, the common sense understandings people draw upon as they

appeal to shared understandings of how thinks should happen in a given situation, are a kind of grammatical infrastructure. This is about particular understandings of what is common sense being assumed, by its respective proponents, to be fixed in a way that allows them to get on with what they are doing. This is about each appeal to common sense having a certain backgrounded taken-for-grantedness, where its situated obviousness and appropriateness is placed beyond reasonable doubt. The difficulty here, as illustrated with claims about sharing street spaces, is the varying sense of agreement and dissonance about what is common sense found among road users. In this respect, talk about certain objects, systems and patterns of use being accepted as part of the commonsensical way things should happen, may for other people, who are using the same space, simultaneously prohibit or make other kinds of movement more difficult for equally commonsensical reasons. And so, just like infrastructure, commonsensical understandings may become fixed to allow people to get on with what they are doing. But that does not mean people were unable to draw upon these understandings when asked to reflect upon the appropriate ways to go about doing what they are doing. Talk of people's capacities to undertake evaluations, justifications and critique brings us to the importance of undertaking ethnographies of transport infrastructure

9.2 Doing an Ethnography of the Roading Infrastructure of Streets

Finding multiple forms of situated interpretation and appeals to a share understanding – each with their own validity and notions of reasonableness – brings us back to questions of methodology. Here the work of Mary Douglas (1992) and John Adams (1995) as well as Boltanski and Thévenot (2006) and David Stark (2009) were invaluable. Using these different conceptual resources, points to the value of interrogating the different culturally mediated viewpoints that shape how situated interpretation and sensemaking happens. This is largely because the things 'we find crazy might make sense, if only we knew more about them and the obvious sense they make to other people' (Becker, 1998:25; see Tilly, 2006). Staging conversations that explore how people evaluate and justify why something is appropriate or not, provides a sense of the principles of evaluation upon which these claims are being made and why they might not be held entirely in common with everyone using the same street.

To follow Leigh Star (1999), the methodological approach developed in this thesis was all about describing *how* infrastructural worlds are made through particular kinds of practical action and situated moral judgements; and only then go about explain the reasons *why* these happen in certain ways (see Latour, 2005). Making sense of how any rule-bound

environment should work was about examining the overlaps and differences in the ways those within the space determine what is reasonable and appropriate (Boltanski and Thévenot, 2006; Stark, 2009). In this respect, video-based interviews were an essential means through which to consider what is being valued and whether different systems of valuing become aligned (or not). An empirical focus that required a 'sense of openness and possibility' even when describing 'institutions, facts and ways of acting' that carry an obduracy and reasonable logic to everyone (Latham, 2003:2005; see Latour, 2005). Yet showing an openness to how infrastructures happen does not explain how to undertake an ethnography of infrastructure. As discussed in Chapter 4, the ethnography of infrastructural use developed here focused on observing how cycling practices are being performed alongside exploring the discursive ways people can go about evaluating whether they satisfy their estimation of what is fair, just and appropriate.

Clearly, to answer this research question required much more than just speaking to those who currently cycle and accepting the validity of their claims about what is reasonable and appropriate. It required an original engagement with people who typically use other transport modalities as well as being open to their lines of reasoning about what is appropriate. Doing so showed how people and things were being situationally qualified by lines of reasoning that had distinct grammars of worth. These reasonings served to 'measure some types of worth and not others, [and] thus served to validate some accounts and discredit others' (Stark, 2009:25; Lamont and Thévenot, 2000). As should now be clear, there was no single correct way of going about making these sorts of value-based moral judgements. Rather, as has been already suggested, there are multiple lines of commonsensical reasoning through which these judgements lay claim to what seems fair, just and appropriate. Examining the reasoning that goes into making moral judgements required a degree of interviewer naivety. This involved proactively seeking clarifications about the very things interviewees held up as obvious and commonsensical. Indeed, it was these clarifications that encouraged interviewees to further articulate – through their reasonings – the sorts of grammar they sense shapes how a street works. So, the reasons why certain things seem commonsensical to some people and not others, is precisely the reason why they are of empirical interest. And again drawing on Becker (1998:37; see Haidt, 2012), this reaffirms how important it was to listen and learn from 'all the people' involved in contributing towards the roading infrastructure of streets performing in certain ways in a car dominated environment.

The crucial methodological outcome was that interviewees could talk about what others were doing, why they should (or not) be doing it and the moral stakes involved in that situation.

These commonsensical lines of reasoning led them to draw on particular intellectual resources as they constructed their interview talk around the reasons why only certain things seem fair, just and appropriate. Here, the interview video played a key role in encouraging this situated kind of moral reasoning. Interviewees were asked to comment on the appropriateness what was being shown in the interview video, whether they themselves would do the same thing, and if not, what they felt was a more justifiable approach. They were also asked to comment on the justifications provided by the ride-along participants. Setting up the interview in this manner was necessary to encourage interviewees to talk us through – and crucially in their own terms – the ways those cycling should use the different spaces of a street in that a given infrastructural setting. These are understandings of worth, and thus why some things matter more than others, that allowed careful attention to be paid to the different kinds of intellectual resources used to make these claims.

These findings show how people watching the same interview video appeal to shared understandings; even if this shared understanding might not follow through to make sense to other road users. Doing so meant people engaged in making moral judgements and intersubjective deliberations that showed varying degrees of ambiguity and dissonance. This meant how people should share a street was far from a world of endless possibility but nor was it about complete standardisation. Interviewees, in effect, knew enough about the formal and informal rules along with the accompanying patterns of normalised use to define how things should happen in a practical and moral sense. Paying careful attention to these reasoned accounts, provided a sense of the evaluative principles through which each laid claim to a particular sense of what is worth and why (see Stark, 2009; Boltanski and Thévenot, 2006). Insights made possible by a research design that involved: a) the novel use of a video that offered up the same situated examples for different people to consider; and b) the original use of interviews as means of examining the lines of reasoning through which people went about defining what is reasonable and appropriate. This research design raises three points of learning that extend recent debates about what interview talk, as well as a ride-along videos, can do methodologically for geographers (Latham, 2003; Hitchings, 2012; Hitchings and Latham, 2016). Where staging interview conversations around a particular situation, practice or event, can help to explore the ways people reflect upon, justify and critique how things happen and keep on happening in particular kinds of ways.

Firstly, interviews can be performed in a manner that explores the lines of reasoning people give as they discursively work out what is happening in a situation – understandings that lead them to make situated claims about what is fair, just and appropriate about mundane

practices. This requires interview questions that sometimes make things feel a little awkward. This was the case when asking about alternative hypothetical situations that were suggested to see if interviewee's original understandings and position held firm. Another was to speculate about the reasonableness of other viewpoints that contrast to those being articulated by the interviewee. And, of course, there was asking interviewees to evaluate what is shown in a video. Reponses to all these questions appealed to share understandings about why some things matter more than others. These were not some deep-seated opinions about cycling. Rather, as a form of situated evaluation, particular words and phrases formed lines of reasoning that define what is of worth and why (Boltanski and Thévenot, 2006; Stark, 2009). To come back to how streets are being shared, these situated claims offer a particular sense of how people, materials and regulation should come together to make a traffic situation work. Perhaps more importantly, it was careful attention to how these claims are being constructed, through particular lines of reasoning, that meant interview talk provided an effective way to probe what is deemed valid and appropriate.

Secondly, conversations can be had with people – who were not in the video – about the things going on in an interview video. Videos were used as a record of something happening. And people, drawing on various rhetorical and intellectual resources, can go about working out what is going on in the video. It explains why video-based interviews can foster the sorts of productive talk-based exchanges around what individuals – who are often in similar spaces – deem reasonable and appropriate. Of course, video-based interviews are a relatively new method of data collection, especially when it comes to cycling (Spinney, 2009; Simpson, 2017). As Chapter 4 discussed, there videos are used to access the "unspeakable experiences" of a routine practice, by talking to those doing it. What the ethnography of infrastructures developed here has shown is that video-based interviews can be redefined to explore the ways people think about the practical ethics of using streets for cycling. This involves thinking much harder about the talk these interview videos occasion. It allows people who were not present when the video was recorded to give their views and moral judgements about what is going on. Doing so also provides a sense of people go about qualifying other people and things with distinct grammars that respectively 'validate some accounts and discredit others' (Stark, 2009:25). These insights offer a sense of what matters to those using streets and why, which carries implications for building wider political support for interventions tasked with repurposing the spaces of the road network. It is the reason why paying careful attention to the evaluative claims and intersubjective deliberations they use to define what should or should not be happening, matters. And, on a more pragmatic level,

much can be learnt from simply paying close attention to how sharing happens. All of which is especially true when people, materials and rules combine to make some forms of movement much easier than others.

Thirdly, the video helps to shape the direction of the interview conversations towards evaluating and justifying what is at stake in that situation. This meant that the interview questions could use the video to have conversations with people about how they interpret and make sense of what is going on. Being road users themselves, people knew enough about streets to talk us through the commonsensical basis upon which cycling should ideally happen. Obviously, some of the many things people value are more difficult to talk about than cycling and sharing the road. Yet, the resources going into these claims speak to a broader sense of worth and appropriateness, not to mention why these claims take on certain directions over others. The answers provided by these moral reasonings are insightful. But, so too is the rhetorical and intellectual resources that go into the process of discursively working out what is going on and what should be going on. Throughout, interviewees were articulating lines of reasonings that spoke directly to the situation under consideration and to a broader sense of what matters when people are sharing the street. Reasonings that stood or fell not on the strength of their inherent validity, but on the appropriateness of the kinds of resources and commonsensical understandings that make them intelligible (see Latour, 2005; Stark, 2009). Indeed, this explains why the ethnography of infrastructure undertaken paid careful attention to the discursive and intellectual resources drawn into the conversation by interviewees. The effect of which was certain modalities, performed in particular sorts of ways, became 'settled' in the sense that they become taken-for-granted and difficult to rearrange.

It is in this respect that this thesis advances the ethnographies of infrastructural use first outlined by Star (1999) and others. The most obvious dimension of an infrastructure is its backgrounded physical there-ness – they works well when people can take them for granted. The ethnography of infrastructure was used to staged conversations with road users to ascertain their estimations about what is the fair, just and appropriate ways for streets to become infrastructure for cycling. Exploring how things becoming infrastructural and the inequity of the affordances they provide different users in this way, circles directly back to Star's (1999:380) contention that 'one person's infrastructure is another's topic or difficulty'. And so, in one respect, the ethnography of infrastructure developed here follows Star (1999) by observing the practical ways an infrastructure gets taken-up, used and integrated into ordinary life. In another respect, it extends what an ethnography of infrastructure can be set

up to explore. This is because interview talk was the medium through which to explore the interpretative understandings and logics of social justifications users draw upon when making sense of the infrastructural. What became clear was that the more road users talked about what those cycling can or cannot do on a street in low-cycling environments, the more they made the boundaries for appropriate action intelligible. In doing so, interviewees were able to engage in talk that sought to evaluate, justify and critique the particular ways in which an infrastructure is being held together. All of which was made possible by them foregrounding a particular sense of the material objects, rules, institutions and civic resources - like trust and responsibility - that validate or discredit certain modes of action and use.

The methodological success of the research design[29] developed here, rests on its ability to pay close attention to the doings taking place in a space (video-recording) and the lines of commonsensical reasonings about these doings from people often in this sort of space (video-based interview). Asking people how something should happen in a practical and moral sense, encouraged them to evaluate, justify and offer reasons why things should be done in certain ways and not others. Crucially, these reasonings and resulting moral judgements brought forth a kind of infrastructural reflexivity that reaffirms how infrastructures and their everyday uses are multivalent entities. Coming back to streets, these moral judgements and intersubjective deliberations reflect a range of different interpretations about how to keep people and traffic moving safely. These claims were not value-neutral on the street. Rather, they reflect a particular sense of whose movement and road safety has priority, which is neither the natural nor the only inevitable way streets to become infrastructural. What an ethnography of infrastructure is all about then, is a pragmatic concern with the situated understandings of the materials, regulations and normative patterns of use that people sense are settling around particular patterns of use on the street.

9.3 Sharing Streets, but not all Sharing is Appropriate

Infrastructures are central to how people go about their everyday lives. To varying extents, infrastructures are planned, designed and engineered into place. They are often obdurate and settled in the sense that once in place their physical there-ness makes them difficult or

[29] The success of undertaking these video-based interviews, as a means of evaluating the things people value, has potential implications that extends far beyond the case of cycling and sharing the street. There are a great many things that people are valuing on a daily basis. One example is a customer service environment. Here questions could be asked about: how is the service being provided (the doings); and what do those providing as well as receiving this service value and deem important (the commonsensical understandings). These insights could have important implications for evaluating whether the key performance indicators focus on the things that matter to consumers.

costly to remove or rearrange (see Hommels, 2005). These are characteristics that reflect the material form of the concrete, asphalt and steel making up many of the things commonly thought of as being infrastructure. Nevertheless, Chapter 2 made the case that how infrastructures get 'taken up, used and integrated' into the everyday practices of users also matter (Latham and Wood, 2015:303). In short, things only become infrastructure through the particular patterns of use performed by individual users (Star, 1999; Pinch, 2010; Rutherford and Coutard, 2014). So, it was important to ask how this infrastructural performance happens, along with who gets prioritised and why. Answers to which, explain why infrastructures, with their material form and regulations, have the power to script who gets access to particular kinds of affordances. Just as it also explains why the very same everyday uses help to redefine and transform the parameters governing the use of these infrastructures (Oudshoorn and Pinch, 2003; Coutard, 2008). In this sense, infrastructures can mean different things to different people since their commonsensical interpretations and forms of intelligence set up a particular sense of worth as the most valid and appropriate. When it came to making sense how streets should work, the result was that not all uses are commonly sensed as equally valid or appropriate by everyone in this space (see Gregory, 1985; Jain, 2004; Norton, 2008). Something that has been shown to far-reaching consequences for all road users on streets, but especially those walking and cycling in car dominated transport environments like Carlisle.

The situated ways in which the roading infrastructure of a street works, and its resulting effects on whose movement is more easily afforded compared to others, reaffirms the importance of paying careful attention to the things people within this space value and prioritise. Doing so, has shown that how people navigate a street is not just a question of coordination. It is also, and perhaps more importantly, about particular kinds of cooperation that arise from the ways different transport modalities are expected to interact with each other on a street. What is clear from these findings is that everyone – drivers, walkers and those who cycle included – cared about sharing. Streets were primarily thought of as spaces for sharing and can be used by different transport modalities. And yet, the moral reasonings and intersubjective deliberations around how this sharing ought to happen, showed clear points of agreement and dissonance. More conceptually, this meant the roading infrastructure of a street can be thought about as a movement space defined by particular kinds of cooperation and coordination, whose form and function was being discursively structured to varying extents by considerations that involved:

- *Sharing,* where commonising languages defines who belongs where and why sharing should happen in particular ways even on car dominated streets;
- *Fairness as proportionality,* based on the notion that people only get what they deserve;
- *Rules*, be it formal or informal, allowing some things to happen and keep happening;
- *Trust,* being extended on the expectation that others can be relied upon to act appropriately;
- *Risk and Responsibility* defined talk about cycling and they help to explain why certain road users and practices were deemed more valid, appropriate and safer compared to others.

The crucial point about each of these five themes, was the absence of any single or unified sense of what they must entail and the reasons why. By following through the ways in which road users made sense of how a roading infrastructure happens, these themes were being subject to multiple and at times contested lines of commonsensical understanding. Each viewpoint may have its own situated validity, even as other people, operating from different interpretations of worth, challenge its claim about what is reasonable and appropriate. The upshot is that a line of reasoning one group of people found obvious, did not necessarily make sense in the same way (if at all) to another group of road users.

Sharing was expected by everyone even when using streets in car dominated transport environments – drivers, walkers and those cycling included. Talk of sharing described the processes through which spaces of a street should be distributed among a specific constituency of users. Everyone was adamant that those cycling were a legitimate presence on streets in low-cycling transport environments. This is in stark contrast to the adversarial context in which this thesis emerged. And yet, they also articulated a differing sense of the relevant terms and conditions through which sharing should happen. Sharing was subject to a multitude of commonsensical intelligences and each offered a particular kind of commonising language around where people undertaking different modalities belong on the street. Such language was bound up in equally evaluative claims about how users of different modalities should behave and go about interacting with other road users. Moreover, they are understandings that explain why not all patterns of use nor ways of sharing a street were commonly sensed as equally valid nor appropriate. It is now clear these reflect a range of moral reasonings and intersubjective deliberations about how to keep people moving safely on the street. Above all, each reflect a particular interpretation of whose movement and road safety has overall priority. It explains why any taken-for-granted means by which sharing a street ought to happen, was neither inevitable nor value-neutral. In discursively working out

what was going on, interviewees gave a sense of 'what counts or should count' as the right, fair and acceptable way for those cycling to become part of the traffic landscape of a street (Thévenot, 2002a:59; Stark, 2009). People expecting to share streets talked about how this should happen with reference to the institutional form, boundaries of appropriate use and their exclusionary functions, which define how different modalities can access certain parts of this space, or not at all. And this is what was meant by people talking about *sharing* a commons.

Fairness as proportionality was a key part of the commonsensical line of reasonings through which people understood how sharing a street should happen. This was partly about ensuring a legitimate community of users are protected from the perceived dangers posed by rule-breakers and free-riders. Yet this was seldom the only reason why claims about fairness were raised. Talk about who belongs where on streets, also drew heavily on these situated claims about fairness being about proportionality. Everyone cared about fairness and despised those taking more than they deserve in proportion to their actions (see Haidt, 2012). Road users had, in effect, decided fairness on a street was not about users of different modalities being equal in their rights to this space. Instead, there were limits to where people undertaking a specific modality belong and how they should undertake this practice on any given street. Three aspects to this variation can be identified. One was *de jure* rights, particularly of those cycling, often exceeded the form, function and reach of the *de facto* rights. Two, the material bulk and speed of vehicles alters which spaces on a street are practically available and appropriate. And thirdly, the vulnerability and road safety of people varies considerably depending on their modality. Having said all that, people disagreed about what this all meant in terms of the fairest way to share a street and by implication, whose movement should have overall priority. Indeed, interviewees found it much easier to talk about fairness and sharing on a street in the negative. It was this talk that deflected attention away from sharing being about equality (everyone does the same) and directed it towards sharing based on a proportionality set up around these commonsensical differences between transport modalities. For this reason, these understandings point towards a form of fairness structured by priority being given over to keeping people and traffic moving safely on streets, which translated into the calculus that faster moving traffic have obvious priority over other modalities. Perhaps more importantly, such talk of fairness gave a sense of the settled ways in which a roading infrastructure should be used; something that was backed up by a grammar of formal and informal rules.

Rules were fundamental to the way people talked about sharing. Rules organise and structure how different spaces making up a street ought to be used. Importantly, there were enormous variations in the ways road users made sense of the form, function and reach of these rules. The significance of these findings are twofold. First, rules can mean different things to different people. It explains why any rule cannot be taken-for-granted as it may be subject – depending on circumstance – to multiple, potentially contested, interpretations. Second, just as there are formal rules and laws, there are also informal rules and norms that can also assume regulatory influence over behaviour. Indeed, informal rules and norms can supplement as much as they can diverge and supplant the behaviour prescribed by formal rules (see Ellickson, 1991; Taylor, 1995). Making sense of any rule, whether formal or informal, came with an ambiguity around what was practically and morally understood as valid and appropriate. As with sharing more broadly, rules involved a significant degree of interpretation. As described already, such interpretational play was situational since it arose from a particular – though not inevitable nor only – line of commonsensical reasoning. The effect is that the rules (and patterns of sharing) one group of people found obvious did not necessarily follow through to make sense to others, for reasons that both groups respectively found to be reasonable and appropriate. What is more, such a dissonance around the relevant rules and sharing had profound implications for how and where different modalities belong on a given street. It also explains the importance of paying careful attention to: a) the points of agreement and dissonance in what those within this space work out as being reasonable and appropriate; and b) the lines of reasoning and intellectual resources through which these evaluative claims were being articulated and justified. This was less about adjudicating rule-followers from rule-breakers against the formal rules in *The Highway Code* and more about asking what were the rules to be followed and by implication, the accompanying sense of moral order around how street spaces should be shared. This was the case even for the *legal-centralist* interviewees given they too engaged in talk that sought to justify a particular understanding of the relevant rules against which to evaluate, justify and critique different actions.

Trust was central to how people made sense of the ways in which those cycling should share the spaces of a street. Here, talk of rules, both formal and informal, captured much of the tacit understandings about trust that gave rise to multiple, often contested, claims about appropriate behaviour. Conceptually, trust involves people accepting some vulnerability based on the anticipation that trustees will act in ways that have both people's interests at heart. Questions of trust on a street centred on explaining why some road users are more

trustworthy compared to others. Findings that were consistent with the growing body of work on trust in social psychology and management science (see Kramer, 1999; Tyler, 2011; Cook et al. 2009). Yet there were ways in which the findings presented here extend them. While Cook et al. (2009:8) are right to point out cooperation can happen without trust; their choice of example to illustrate this point, people 'happily walk on sidewalks and drive on streets without trust', now seems overly simplistic. Clearly, all sorts of physical objects and material regulations provide direct guidance over appropriate conduct on the street. Sharing streets involved trust-based cooperation. All interviewees claimed they knew the likely actions of other people. Drivers were far more trusting of other drivers; they knew, within reason, how they are likely to act. Walkers trusted other pedestrians and to an extent drivers if they kept away from each other's parts of the street. Both drivers and walkers did not trust those cycling. But it was only those cycling who felt certain that they are able to predict whether other people cycling can be trusted. This explains why trust was fundamental to the way people made sense of the how and where those cycling should interact with other transport modalities. It was also the reason why trust and trustworthiness – which are all about social relationships – says much about how people ought to act, share and care for each other. And so, talk of trust and trustworthiness gave a sense of the priorities and moral reasonings that explain why sharing ought to happen in some ways and not others. It is in this respect that trust combined with perceptions of risk played a significant role in setting up certain forms of sharing and cooperation more valid and desirable, whilst simultaneously discrediting others.

Risk was the language of choice when people sought to make sense of cycling in car dominated transport environments. Such talk underpinned wider concerns about who bears the greatest *responsibility* for ensuring road safety in these sorts of traffic situations. In doing so, they help to outline where cycling belongs in relation to other transport modalities belong as well as whose movement and safety has priority. Risk was understood here in different ways and closely followed how people were working out fairness, trust and the rules. This matters since 'whoever controls the definition of risk controls the rational solution to the problem at hand – it is an exercise in power' (Slovic, 1999:699; see Douglas, 1992). So, far from one definition of risk having the appropriate responses all sewn up, people were defining risk on a street in different ways, with each giving rise to a particular orderings of the appropriate set of responses. The fact people spoke of risk in ways that overlap and differ from those of others, in part reflects a varying sense of the right, fair and acceptable ways for the traffic landscape of a street to operate. In this respect, it was not the letter of

the law that encouraged most people to suggest cycling is dangerous and should responsibly keep out of harm's way. It was the often unspoken, though not inevitable, set of values and conventions that sought to justify – or at the very least work around – road safety being set up around the calculus that streets are primarily about the fast and safe movement of motor-vehicles. More specifically, this begins to explain why some societies, like the Netherlands, think about cycling in ways far-removed from all-encompassing talk of risk and irresponsibility evident in the UK. Perhaps more importantly, it also demonstrates that road safety as understood in the UK can be seen rather differently if there were an alternative sense of whose movement and safety is to be prioritised relative to others on the street.

To summarise, paying careful attention to people's commonsensical interpretations as they appeal to shared understandings about how to appropriately and fairly use street spaces, alongside the resources used to justify them, says much about what is at stake when streets become infrastructure for cycling. Such understandings tell us a great deal about how streets practically become infrastructure for cycling, and this points to how policymakers and others should go about framing and justifying making streets more cycle friendly. Streets, even in car dominated transport environments, were understood as spaces to be shared amongst those walking, cycling and driving. This sharing was in many respects rule-bound. This sharing was subject to different interpretations about how it should happen and who it should involve. Yet, everyone discussed this through a varying sense of these five themes: sharing; fairness as proportionality; rules (formal and informal); trust; as well as risk and responsibility. These themes were invoked as part of various forms of commonsensical and moral intelligences that people drew upon when justifying a particular sense of the common good and social orderliness in a given situation. Doing so provided articulated the sorts of grammatical structures around how sharing and cooperation should happen that invokes a particular sense of moral order around questions of who is permitted access to streets, who has priority as well as where certain people belong in relation to other inhabitants of the street. There is an institutional dimension to the way certain uses and forms of cooperation become a more legitimate way to go about sharing a street with different transport modalities. It follows that whilst there are many practical ways sharing a street could happen, these institutional and moral considerations ensure not all uses are commonly sensed as equally valid or appropriate. All of which matters since these considerations have far-reaching consequences on the kinds of infrastructural settlement people understand defines where different modalities belong and how they ought to act to appropriately share a street (Latham and Woods, 2015; see Latour, 2005; Stark, 2009; Valderrama and Jørgensen, 2008).

9.4 Infrastructural Settlements: The Commons as an Analytical Tool

To talk about infrastructural settlements brings the discussion back to the question of why do streets get used and shared in particular sorts of ways. Indeed, this is precisely the situation that Star (1999:380) highlighted when she described how 'one person's infrastructure is another's topic or difficulty'. For streets to work, especially those shared with people undertaking different transport modalities, a certain kind of infrastructural settlement must be created, managed and sustained. On streets, an infrastructural settlement describes how an amalgam of materials, regulations, people and normative patterns of negotiation form around a particular set of practices and takes on a certain settled and obdurate quality (Latham and Wood, 2015; see Hommels, 2010). Such settlements can change and evolve over time. However, they tend to do so within the taken-for-granted parameters set by the prevailing settlement. These are parameters are not value neutral when it comes to discerning what is at stake and of worth when it comes to questions like whose movement and safety attract greater priority compared to others.

What examining infrastructural settlements brings, above all, is a pragmatic concern with the materials, regulations and normative patterns of use that have the power to validate and keep on validating certain uses of a street whilst discrediting others. In this respect, cycling in places like Carlisle was being performed on streets that over many decades have become spaces defined by motorised traffic. Throughout, interviewees offered differing (often competing) senses of the practical and moral considerations with effect on how those cycling should fit into such a traffic landscape. However, these considerations were placed alongside the general imperative of keeping people and traffic moving safely along the street. Indeed, there was a stickiness, even inevitability, to these car-centric expectations about how a street ought to be used. Findings that were consistent with those who have previously suggested streets in the UK are choreographed around the twin imperative of: (1) ensuring the smooth and rapid movement of motorised traffic; and (2) keeping people on foot (and often on bicycles) safely away from this traffic (Adams, 1995; Latham and Wood, 2015). This was the prevailing infrastructural settlement being enacted on the streets in low-cycling transport environments like Carlisle. It reflects a 'dominant, shared and received as commonsensical notion' about how streets should be used and by whom (Latham and Wood, 2015:308; Stark, 2009). The point is that such understandings reflect commonsensical and moral forms of intelligence that offered up a varying sense of what really matters on a street and why. These were judgements that were being justified through the intersubjective deliberations people

were making about the material objects, rules (formal and informal), obligations and responsibilities that were understood to define how sharing ought to play out.

The prevailing kind of infrastructural settlement in Carlisle is set up around ensuring the flow of motorised traffic along with keeping pedestrians out of harm's way. For drivers who benefit from this arrangement it seems the obvious and inevitable way in which streets are to be shared. This partially explains efforts to create cycle lanes that are segregated from traffic on streets with the most arterial of functions for motorised traffic. Yet not all streets have movement and place functions that warrant cycle lanes whilst on other streets, it seems impractical to provide such dedicated cycle provisions. People using streets when driving, cycling or walking cannot be entirely separated. Here streets are being shared and that involves co-existence and cooperation. To understand these dynamics involved observing how people are using streets and exploring the resources people draw upon to discursively work out what is and should be going on there. This led to responses focused on: where do different modalities belong on the street? Whose movement and road safety should be prioritised over others? Who is responsible for what in particular traffic situations and interactions? And, how far can certain (formal or informal) rules be bent or even overlooked to allow things to run smoothly? And it was responses to these questions that involved the sorts of moral judgements and intersubjective deliberations with far-reaching implications for the kind of infrastructural settlement defining how a street should be used. Conceptually, the message from the data was clear. There was, to borrow from David Stark (2009:26), 'more than one way to organise, interpret and evaluate' a street and the place for cycling in a given traffic situation. Far from simple convergence around a particular kind of infrastructural settlement, the existing settlement was being opened up (to varying extents) by various criteria for evaluation, some of which were held in common with everyone whilst others were a viewpoint held by a minority. In this sense, 'things might be settled down' at the moment to enable streets to work well for motorised traffic, 'but they are not settled once and for all' (Stark, 2009:107). Knowing these things to be true, reaffirms how any infrastructural settlement is about making certain things possible and easier, but it is this very function that ensures they are always open to reinterpretation and even reconfiguration.

With people articulating evaluative frames based on various forms of commonsensical and moral intelligence, there were points of understanding and misunderstanding. These matter for two reasons. First, the primacy and appropriateness of any single mode of evaluation cannot be assumed as a given. Second, points of misunderstanding can challenge the taken-for-granted, potentially leading to the 'creative recombining' of the prevailing settlement

(Stark, 2009:109; see Thévenot, 2002a; 2002b). Just like when something becomes an infrastructure, any infrastructural settlement will to varying extents arise, persist and fail in relation to the everyday actions of users (Star, 1999; Pinch, 2010; see Molotch and McCain, 2008). They do so in relation to the very same patterns of use that are not only being scripted by this prevailing settlement but also have the capacity to redefine and transform it. For those within this space, the process of creating and sustaining a workable street has the effect of things becoming settled. Such dynamic processes explain why infrastructural settlements involve only a temporary suspension of interpretative flexibility.

It is clear from the ways people make sense of the cycling and traffic situations shown to them, that as an overall system, Carlisle's prevailing infrastructural settlement remains remarkably obdurate. The effects, to borrow from Latham and Wood (2015:316), of it being embedded into a decades-old 'installed base of material configurations, conventions of design and use, and existing communities of practice' (see Star, 1999; Star and Bowker, 2006). Here, forms of commonsensical and moral intelligence can also be added; whose form, function and perspective influence how people made sense of the appropriate ways those cycling should interact with other modalities. And such intelligences helped to justify the existing hierarchy where motorised traffic has priority over all other modalities, meaning responsibility is placed on those walking and cycling to make sure they remain out of harm's way. In summary, there is a willingness to accommodate cycling on streets but this has to be done with reference to the terms and conditions for sharing that largely leave the structure, logic and reasonableness of the current infrastructural settlement unchallenged.

What to do? Arguments about why a streets gets used and shared in particular ways are founded on the institutional economics work on commons resources introduced in Chapter 3. Thinking about the commons offers as an analytical tool for understanding as well as maybe even changing infrastructural settlements. This raises questions about: what is being accessed and managed; by whom and by what reasonable means; and why it matters to the community of users (see Ostrom, 1990; 2005a). People have the capacity to develop, learn and alter the sorts of complex institutional arrangements that propagate a particular sense of order around how a resource should work. And this means that a commons is fundamentally about the prioritisation and exclusion of certain people, uses and forms of sharing over others. Something made possible by 'members of a relevant community of users' gaining legitimate access by acting in accordance to a prevailing set of rules, norms and conventions (Frischmann, 2012:8).

It was in this respect that road users were laying claim to where different modalities belong on a street and how they should interact with others. A commonising language is being articulated through a varying sense of the relevant moral considerations of: sharing; fairness as proportionality; rules (formal and informal); trust; along with risk and responsibility. These considerations were subject to interpretative play that was situational. They outline a grammatical structure for how sharing and cooperation should happen. A structure that invokes a particular moral order around who is permitted access, who holds priority, as well as where certain people belong in relation to others. And this is what is meant by a commonising language. More analytically, it directs attention towards the way people within a rule-bound environment make sense of how it works and the kind of infrastructural settlements against which certain uses are actively marginalised as others are prioritised. It explains why there is an institutional dimension to the ways in which only certain forms of cooperation and infrastructural settlements persist. Working with commons as a concept, directs attention towards the *institutions* whose form, function and reach serve to support and structure certain practices. The *rules*, both formal and informal, of these institutions that only allow certain practices to happen and keep happening. How such institutions and rules are about *power*; the power to define who can do what and where in a given situation. Just as they are also about *change and evolution*, which comes in response to changes that can be external and/or internal to the infrastructural system.

It is important to stress the value of this commons thinking when it comes to examining streets as spaces of sharing and how navigating streets often involves a particular kind of cooperation. Attending to the ways people within this space were making sense of the institutions, rules, power dynamics and capacity for (incremental) change, has illuminated the reasons why certain kinds of cooperation are being validated and keep on being validated. More specifically, these practical and moral judgements were being made through commonising languages that drew upon varying senses of the following themes: sharing; fairness as proportionality; rules (both formal and informal); trust; along with risk and responsibility. These insights point to three outcomes wider relevance for transport geography, with the last outcome being of particular value to geographers thinking about the commons.

In a practical sense, these insights expand transport geography's understanding of the things people are valuing as they make sense of how to appropriately share the street. In turn, this serve to expand the relevant domains where policy responses could be effective. As discussed earlier, these could include: enforcing existing rules; allowing other rules to be bent;

or even redesigning the material configurations of the street. It might also be suggested that there is a role for educating people about how to share streets. But the commonsensical and moral intelligences discussed here shows the potential futility of investing in education towards a complete consensus. This is because people were making moral judgments about what matters and why; intersubjective deliberations that involve multiple (often competing) evaluative frames of worth when it comes to infrastructural settlements.

In a discursive sense, the dissonance heard over what is at stake about cycling, streets and sharing is not about certain viewpoints being right and others wrong. To create, sustain and grow the constituency of people supportive of transitions towards a high-cycling environment, it is imperative to understand what is at stake and counts to all those currently within this space. These moral reasonings carry far reaching implications for how any changes to the prevailing kind of infrastructural settlement get understood and engender a response. So, this is about politics. But a particular kind of politics trained on overcoming practical governance dilemmas. It is a politics that emerges from the way people on a street discursively work out what is going on there. It is a politics whose form and meaning must be described in the languages used by the people within this space. In Carlisle, this primarily centred on whose movement and safety is being prioritised in the different spaces that make up the street. Something that, however it is configured and shared, will come at the exclusion of some people, whether they are in motor vehicles, on foot or bicycles.

In a theoretical sense, the commons is a useful tool for thinking about the complex and situated processes that enable sharing and cooperation to work. Elinor Ostrom (1990) provides useful lens through which to examine how those within a space make sense of what is right and appropriate ways for it work. As an analytical device, the basic function of a commons is to explore how people are using a shared resource and why not all uses are deemed equally valid or appropriate. Here, the commons has been especially useful when it comes to exploring how those within the spaces of a street make sense in their own terms the institutional grammar that has the power to legitimise certain practices whilst ruling-out others. In doing so, the commons concept directed attention onto the various politics, power dynamics and institutional arrangements that the people within the space understood to matter and crucially, the reasons why they mattered. Perhaps more importantly, it shows that geographers have much to learn from looking at how things work and the ways people make sense of the ongoing production of the infrastructural spaces they inhabit. Insights that demonstrate the naivety and impoverishing effects of geographers trying to force their existing critical theories onto the world of infrastructure.

9.5 Conclusion

To start with multiple forms of commonsensical intelligence and end on the commons as an analytical tool for examining infrastructural settlements, speaks to the various ways sharing and cooperation could potentially play out and yet can also settle down in particular kinds of ways. The spaces of a street were subject to a commonising language about how it should be shared amongst all road users. Clearly, though, not all forms of sharing are deemed valid nor appropriate. Moral judgements were being made about whose movement and safety is to be prioritised on a street and why; understandings through which reference was being made to sharing, fairness as proportionality, rules (formal and informal), trust, risk and responsibility. Road users differed in the specific understanding and use of these terms; differences that partly reflects experience of performing different transport modalities. But they were the rhetorical and intellectual resources people were using to articulate their sense of how the roading infrastructure of streets should function and where different road users belong. It is here where the idea of an infrastructural settlement was especially helpful. It frames the boundaries around the current ways streets are shared and how priority is being distributed amongst users of different modalities. This matters in two distinct ways. First, it reflects a particular set of commonsensical and moral understandings about what is fair, just and appropriate. Second, it reaffirms how the prevailing infrastructural settlement in car dominated transport environments is neither inevitable nor the only way for sharing and cooperation to happen. It explains why there is an institutional dimension to the ways certain forms of cooperation and infrastructural settlements persist. It is the reason why analytical lens of the commons, as first developed by Ostrom (1990; 2005a), is a helpful guide for understanding a street as a shared resource where different users having competing claims for access and priority. Thinking about streets as a kind of commons, directs attention to relevant institutions and rules. These are as much about the power to validate certain actions over others, as they are about the capacity for things to change and evolve due to these same everyday uses.

It is in this context that the key conclusions can be drawn. People can reflect on moral order as they talk through the ways they value certain things and discredit others. This draws on critical capacities for interpretation based on their commonsensical intelligence. In doing so, people articulated various principles of evaluation. The result was that no single interpretation can be taken-for-granted as the natural or inevitable line of commonsensical reasoning. This is important given streets even in car dominated transport environments are spaces for sharing, but people disagreed about how this sharing should play out, particularly

when there are people cycling. In car dominated transport environments like Carlisle, the prevailing infrastructural settlement prioritises the movement of motorised traffic and ensures vulnerable users are safe by keeping them out the way of the traffic. Such a sense of orderliness reflects understandings and judgements that are institutional in character since they are about the legitimate prioritisation and exclusion of certain people, uses and forms of sharing over others. It follows that such an institutional dimension validates the scepticism shown in Chapter 2 about spreading the uptake of cycling in places like Carlisle involves far more than physical infrastructure. The civic and public resources alongside the moral considerations people make intelligible when talking about the prevailing kind of infrastructural settlement also matter. What is more, they also explain why working with the commons as a conceptual device provides an analytical lens to identify the whole range of factors giving rise to a particular settlement and how they could be changed.

IN SUMMARY

- People can reflect on the moral order that helps to hold infrastructures together and this sees them valuing certain things and discrediting others based on commonsensical and moral forms of intelligence.
- Interpretation matters. There are no single nor correct set of interpretations given these different forms of commonsensical intelligence give rise to variations in the principles of worth, which means no single form of interpretation can be taken-for-granted as inevitable.
- Video-recording the performance of an infrastructure and then using this video during an interview, was a successful way to undertake an ethnography of infrastructure.
- Streets are made of spaces people should be sharing with others, people discussed these in terms of: sharing; fairness as proportionality; rules (formal and informal); trust; risk and responsibility.
- An infrastructural settlement reflects a particular sense of how materials, regulations and people should interact with each other; by implication, this involves moral judgments about who has priority and why.
- The commons encourages questions to be asked about how an infrastructural settlements is held together: what is being accessed and managed; by whom and by what reasonable means; along with why it matters to the community of users.

10 Conclusion

Cycling is a good thing for individuals, communities and cities, a point reflected in the way it gets easily drawn into policy debates around liveability, sustainability and health (see Gehl, 2010; Sadik-Khan and Solomonow, 2016). However, the wider public debate about cycling that mostly plays out online is polarised. It is driver versus cyclist, motorised vehicle versus bicycle. In this view, the roading infrastructure of streets are either for motorised vehicles or cycling, they are not for both. What this thesis has shown is that such dichotomies and the adversarial nature of such debate, is not the full picture. Undertaking an ethnography of infrastructural use has shown that there is a strong willingness amongst all road users to share the spaces making up a street. This view was held by those who cycle, walk or drive. There were points of agreement and dissonance in the ways they relate to cycling and its relations to other road users. These were commonsensical interpretations that appeal to a shared understanding; even as this shared understanding did not always follow through to make sense nor align with those of other road users. But this does not detract from the fact that there was an overarching willingness to share street spaces.

10.1 Building Support for Mass Cycling

The challenge in low-cycling transport environments, like that seen in most towns and cities in the United Kingdom, is to build support for cycle-friendly changes to how streets become infrastructure. If policymakers and others want to grow the modal share of cycling in car dominated transport environments, something has to change in the way street spaces are held together as infrastructure and shared amongst road users. This change is to some degree an engineering problem. It requires profound changes to the materials that currently make up street spaces and afford certain kinds of movement. These are changes that involve a whole host of new or remodelled physical objects, such as cycle lanes, cycle priority traffic lights, traffic calming and so on. What this research has shown is that this change is also a social problem. This is because the particular ways streets are being held together as infrastructure and shared amongst road users, reflects commonsensical understandings of the boundaries for reasonable conduct that are set by rules (formal and informal), institutional dimensions and civic resources – trust and responsibility. These social dynamics serve to prioritise certain patterns of use while simultaneously making others difficult or even prohibited. For example, in the case of a new engineering intervention where a cycle priority traffic light is installed, this change needs to be framed and justified in ways that appeal to this general willingness of road users to share street spaces. This will also demand some

recognition of the mediating effects of this intervention on this willingness to share and the wider concerns about fairness as proportionality, trust, rules (formal and informal) as well as risk and responsibility.

Paying careful attention to how road users go about making sense of the practical ethics of using streets has shown how these spaces are to be shared with others, even when they are dominated by motorised traffic. People talked about this sharing through a commonising language that sought to define the boundaries around who belongs where in the different spaces making up a street. Moreover, they spoke of sharing streets in terms of fairness as proportionality, trust, rules (formal and informal) as well as risk and responsibility. In doing so, each road user was providing commonsensical interpretations that sought to appeal to a shared understandings about the rights, obligations and responsibilities of road users and their relations to others. Policymakers and others wanting to grow cycling modal share need to take these commonsensical understandings into account. Such understandings have told us a great deal about how streets practically become infrastructure for cycling and the sorts of material objects, rules, institutions and civic resources that go into holding infrastructures together in particular sorts of ways. As these things matter to road users, albeit often in differing ways, they should also matter to policymakers, politicians and civil society groups seeking to frame and justify the various interventions that make streets more cycle friendly.

How can policymakers and others to frame and justify changes to infrastructural settlements that attract wider public support? Two examples are worth highlighting.

First, emphasise that streets are as spaces for sharing and cooperation, even in car dominated transport environments. The point here is to stress that all road users have a duty of care and responsibility towards each other and that their rights, obligations and responsibilities are differentiated to some extent. This differentiation reflects how road users performing different transport modalities have a responsibility for the safety of other road users that is proportional to their size, speed and potential to cause harm to these others. For this emphasis on sharing streets to be effective, it needs to matter to those whose behaviour must change if streets are to be truly safe for all. Doing so could have far-reaching consequences on the kinds of infrastructural settlement people understand as defining where different modalities belong and how they ought to act to appropriately share the street.

Second, carefully update and enforce *The Highway Code* to give far greater recognition to the variances in trust and risk that defines how people relate to others on streets. This should extend to fully recognising the efficacy of certain informal rules in allowing safe and smooth

negotiation on streets. People were expecting all road users to follow a system of formal and informal rules. These rules form part of regulatory frameworks that define where different modalities belong in relation to others as well as whose movement and safety has greater priority. And so, clarity of message about the rules to be followed should be framed in terms of who belongs where on the street, the kinds of sharing these rules entrain and the reasons why the resulting patterns of behaviour are useful and appropriate. This should be part of growing support for a vision of streets where the rules value and prioritise the safety of non-motorised traffic above less vulnerable road users and the demands of traffic flow efficiency. The fact that informal rules and norms carry practical and discursive significance here, emphasises how changes to the prevailing kind of infrastructure settlement will be difficult and incremental in nature.

This also about having better civic and political deliberations about cycling, streets and sharing transport infrastructure. To create the conditions for high levels of cycling, requires profound changes to the way streets are configured and shared. In a democratic society these sorts of changes require the support of the very same people who are using this public resource – many of whom value the speed, convenience and safety of driving. It explains the importance of paying careful attention to: a) the various points of agreement and dissonance found in what these people deem reasonable and appropriate; and b) the intellectual resources through which their evaluative claims are being made intelligible. Much can be learnt from what such commonsensical forms of intelligence permit people to do and say, particularly when responding to changes to the prevailing infrastructural settlement

10.2 Ethnographies of Infrastructure in Transport Planning

The ethnographic approach to infrastructural use developed and employed here has been shown to be well-placed to observe and explore how road users make sense of what goes into making certain kinds of sharing not only possible but appropriate. It has implications for transport planners and others seeking to plan, implement, monitor, evaluate and even change the infrastructural settlement in car dominated transport environments.

Thinking about how road users think about the practical ethics of using streets for cycling centred on three key questions. How should street spaces be used and shared? Who is allowed to use and share street spaces? And how should different road users interact and relate to others when using streets? These were all questions that helped to unpack how streets currently dominated by motorised traffic get practiced and incorporated into people's ordinary lives. Exploring the various intellectual resources people draw upon to justify their

estimations of reasonable and appropriate conduct, helps to better understand the claims heard about why streets should become infrastructure in particular sorts of ways. These were appeals to a shared understanding that showed points of agreement and dissonance. Empirically and conceptually, this involved learning about the discursive ways road users go about making sense of the roading infrastructure of streets. When Star (1999) talks about how an object becomes infrastructural through its use, she of course means these objects are to some degree planned, designed, engineered into place. Yet, as has been argued in the preceding chapters, this is only part of how infrastructures are configured, performed as well as change and become settled. What is significant about Star's (1999:377) gesture towards an 'ethnography of infrastructure' is that conceptual and empirical attention gets drawn towards the various ways infrastructures get 'taken-up, used, integrated, and reconfigured' by individual users (Latham and Wood, 2015:303). What this research has shown is that people can reflect upon, justify and criticise infrastructural use based on their estimations of the rules, institutional dimensions and civic resources that explain why certain forms of sharing streets are more legitimate than others.

If transport planners were to adopt such an ethnographic approach to infrastructural use, they too would be encouraged to think about the many different ways streets could become infrastructure to different road users. More importantly, it would also encourage transport planners to reflect upon the core priorities and definitions of success they are pursuing through the creation, maintenance and alteration of street spaces. This is especially the case when their engineering interventions to street spaces go a long way to ensure certain patterns of use happen and keep on happening.

What an ethnography of infrastructure is or should be all about then is a pragmatic concern with observing infrastructural use and exploring the situated understandings users make about the materials, regulations and normative patterns of use that settle down in particular sorts of ways to allow an infrastructure to work. These things matter as they provisionally shape how infrastructures get legitimately used and by whom. They are about the power to script uses as much as these everyday uses have the capacity to bring about some degree of change. In this respect, the ethnography of infrastructure developed here was trained on examining the situated ways people themselves go about valuing, reflecting and criticising the infrastructural performance of the street. As a form of situated evaluation, the judgments explored here reflect the particular words and phrases used as people discursively work out what is the reasonable and appropriate. Talking about everyday critical capacities, connects to the work of scholars, such as Boltanski and Thévenot (2006), Stark (2009:18) and Tilly

(2006), interested in 'analysing the evaluative and calculative practices of actors'. All told, and to quote sociologist Howard Becker (1998:37) once more, it reaffirms the importance of paying careful attention to 'all the people involved' when it comes to understanding the problem space set up around how something like a street functions.

10.3 Implications for Geography and Future Research

Infrastructures and infrastructural systems have geographical implications. Geographers over the past two decades have shown increased interest in the various physical objects and backgrounded systems that people are putting to use in their ordinary lives. This thesis has looked at how infrastructures function and how the people using them make sense of the infrastructural affordances that are useful and appropriate. Doing so has led to original empirical and methodological contributions being made to transport geography as well as to how the wider discipline thinks about infrastructure and infrastructural systems. It is now clear that infrastructures are being held together in particular ways due to certain rules (formal and informal), institutional dimensions and civic resources – these include the capacity to trust and assume responsibility. What goes into making certain kinds of sharing possible and appropriate, is a basic element through which geographers can think about how transport systems provide infrastructural affordances to some users more than others. And this is why talk of sharing has provided an important lens through which to evaluate the situated inequities in infrastructural affordance that Star (1999:380) has in mind describing how 'one person's infrastructure is another's topic or difficulty'.

It follows that geographers should also draw upon the institutional economics concept of a commons as a framework through which to explore infrastructural use. It has been shown in this research that such a framework helps to make sense of the four key elements that shape the geographical implications caused by infrastructures and infrastructural systems. First, there are the *institutional dimensions* whose form, function and reach structure a particular sense of appropriate behaviour. Second, the *rules* (formal and informal) of these institutions not only allow certain practices to happen but to also keep happening in ways that shows a certain obduracy. Third, such institutions and rules are all about *power*; the power to define who can do what in a given situation. And fourth, institutions and rules can also *change and evolve* in response to external and/or internal changes to the system. These four elements help to explore the kind of infrastructural settlement that supports certain everyday uses while simultaneously making others more difficult. These settlements do so within taken-for-granted parameters that people can reflect upon alongside justifying and critiquing the

way they are not value neutral when it comes to whose infrastructural demands get prioritised.

In terms of streets as a transport infrastructure, there are further research questions to be answered. The participants in this research were mostly middle aged and often middle class. They spoke about streets in terms of sharing, fairness as proportionality, trust, rules as well as risk and responsibility. Further research is needed to compare these findings with other groups, including: teenagers; newly settled migrants to the UK; as well as the relatives of victims of road traffic collisions and incidents.

It is also important to consider whether the practical ethics of using streets for walking or driving give rise to similar talk about sharing, fairness, trust, rules along with risk and responsibility as seen when these street spaces are used for cycling. The important questions here are: what are the moral considerations and civic resources people articulate when appealing to shared understandings about the use of streets for walking or driving? And how do they compare to those heard when talking about cycling practices?

One way to expand upon this thinking about the practical ethics of using streets, is to explore settings where these understandings assume a certain institutionalised quality. An example of this would be Coroner's proceedings and reports. Examining these would shed new light on the legal and moral judgements being made about what is reasonable and appropriate behaviour with regards to fatalities from road traffic collisions and incidents. An obvious further extension of this would be to also explore the commonsensical intelligences that have particular prominence among law enforcement agencies who are responsible for enforcing formal rules and analysing road traffic collisions and incidents.

Another way transport geographers could take up the conceptual and methodological tools developed in this thesis would be to explore what impact autonomous vehicles might have on the infrastructural settlements seen in car-dominated transport environments. The sorts of moral judgements and intersubjective deliberation discussed in this thesis are of real significance when it comes to the spread of autonomous vehicles, given artificial intelligence and machine learning cannot currently make these judgements (see Lanier, 2013; O'Neil, 2016). Yet, these are the sorts of questions have far reaching implications for the predominant kind of infrastructural settlement that shapes how streets in low-cycling environments function.

Streets were understood as spaces for people to share, though shared understandings about how this sharing should happen were not held entirely in common with everyone. Through attending to the commonsensical intelligences and intellectual resources used to justify these lines of reasoning, it is hoped these can bolster support for the sorts of far-reaching changes needed to ensure more streets – in what are currently car dominated transport environments – become spaces for people. Such an approach accepts streets are places of sharing through cooperation and coordination. Their form and function plays out through the moral judgements and political decisions of the people designing them and crucially, those using them. It follows that if cities and neighbourhoods want their streets to be spaces for people, then politicians, policy makers and communities will need to argue for them. To be clear, this is not to be anti-motorised vehicle nor is it anti-cycling, rather, it is to evaluate whose movement and safety gets prioritised on a street and to highlight how this is a choice and this space can function better for those cycling and walking.

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Appendix

Appendix A – Stage 2 Interview Schedule

Stage 2 Interview Schedule

Opening Section

- This interview is entirely voluntary, you are not compelled to answer any question and can leave at any time. You can decide to withdraw from this research at any time until Monday 14 August 2017, which is when any data will be anonymised/added into the report.
- **The Aim of Project** is to understand how different road users, like yourself, makes sense and talk in a collective sense about the shared resource that is the road network. This will come from asking... How does the system of roads, pavements and cyclepaths come to be used by people? And, what are the interactions and relations between different road users?
    - We are doing this, by looking at the ways road users, like yourself, think about the use of spaces and kinds of interactions taking place when another person is cycling. We are doing this with reference to how people are using this shared resource as a space for cycling, and what you as a road user, thinks are the right and proper ways to use these spaces – roads, footways and cycleways – for cycling, as well as those driving and walking.
- **This Interview** will consist of two parts:
    - First, will be a **series of short questions** to get a picture of who you are and the kinds of transport used when moving around Carlisle;
    - Second, we will go onto look at a **total of 13 video clips** selected from 21 cycling journeys recorded in Carlisle between April and May 2017. Before I play each clip, I will give you some pointers about what to look for... then I will let you talk me through what happened, either during or after the clip has finished. I will then ask you a few questions about each video.
- I **must stress** this second section is interested in how you make sense of the cycling shown and your reasonings around <u>whether you think</u> these are the right or wrong way to use the road, the cyclepath or pavement. It should not be seen as a *quiz* of *The Highway Code*... as there are <u>no right or wrong answers</u>. Answering these questions, will simply draw upon your own extensive experiences of using these spaces when walking, driving or cycling.

Section 1 – Short Questions

- Where do you live in Carlisle? What is your age? How long have you lived in Carlisle?
- Do you have any Family currently living with you at home?
- What do you do for a Living? (<u>Work</u> – Where do you Work?) (<u>Retired</u> – What was job?)
    - How do you travel to <u>work</u>? How long does it usually take? Are their occasions you take another mode of transport for this journey?
- Do you own a <u>car</u>? What type is it? How old is the car? Does your car have a nickname? How would you describe the importance of Driving to your Everyday Life?
- Do you own a <u>bicycle</u>? What kind of bicycle is it? When was the last time you used it? How often do you use it and for what purpose? How would you describe the importance of Cycling to your Everyday Life?
- If you had run out of <u>milk at home</u>, how would you travel to the shop to purchase it?
- If you were going <u>meet someone</u> in Carlisle, how would you usually travel there?

Section 2 – Videos

Remember... LISTEN, CLARIFY (What do you mean), PROBE

'in this specific situation'... 'thinking about this example'... Ask about Infra Improvements

Describe Video: Tell me what you thought of what you have seen?

How would you describe the cycling shown in the video?

Video 1 – Newtown Road *Positioning on Road* 00:00 – 00:17

- How would you describe the cycling shown along there?
- What did you think of the road positioning adopted as she was cycling along there?
    - Would you describe her as a confident way to cycle?
    - What are the characteristics that inform your response there? Speed, Position?
    - Do you think those are the characteristics of a respected road user?

- As a driver, how would you deal with a person cycling along the road like that?
- Do you think other users passing here along there have much to complain about the way that she is cycling down there?
    - Do you think the cyclist could be further out, middle of the road (discourteous) or closer to the kerb?
    - Do you think there are positions on the carriageway that you think are out-of-bounds for those cycling out of courtesy towards other road users?
- How much of an influence does the position of a person cycling have on the way motorists pass them – encourages closer or wider pass?
    - As a driver, would you expect the positioning of a person cycling on the road to alter when cycling at a lower speed, a higher speed going downhill, or as road narrows?
    - Would you describe the person riding along there as holding up the traffic, is that a legitimate thing to do when cycling?
- Do you think that is the right way for some to cycle on the road along there? How would you describe an illegitimate way to be cycling along there?
- What did you think of the car that went passed there, and the parked cars?
    - How would you describe the right way for a car to pass a person cycling in that kind of situation on Newtown Road?

Video 2 – Victoria Viaduct; James Street *Filtering* 00:17 – 01:09

- Tell me what you thought of the cycling shown here?
- What do you think they should be doing along there, first at Victoria Viaduct and then second at James Street?
    - *Would you be cycling along there?*
    - *If you were cycling along there, what would you being doing? Why the similarities or differences that you refer to?*
- As a driver, what is the right way for a person cycling to negotiate a queue of stationary traffic? Overtake or stay in traffic?
    - How would you describe the impact of the cycle lane along there? Does the cycle lane affect the sense of legitimacy and comfort with being on the carriageway here, when filtering through traffic?

- If you were driving along there, where would you be expecting a person to be cycling? Are there places on the carriageway here where think that couldn't or shouldn't cycle when going past stationary or slower moving traffic?
    - Filtering on the Inside, Overtaking on outside, Waiting in Queue – Queue Jumping?
    - Would that still be the case if CYCLING FASTER or the TRAFFIC SLOWLY MOVING?
- The car turning left... or cars turning right coming in the opposite direction, what is the expectation on the cyclist in that situation?
    - Do they need to stop, or is the cycle lane a separate space from the rest of the lane? Should they be looking for cars turning into a side-road?
        - Responsibility? – Moderating Cycling and Driving?

- Advanced Stop Line => going beyond the line is that a problem for you?
    - If you were cycling up James Street, stopping in the box on a hill there, does that make it more understandable for them to be ahead of the stop line? Does that really impact you or others?
        - The cyclist said it is about allowing her to get away from the lights as fast as possible to not hold the traffic-up behind her, which is something that she personally gets annoyed about with other users, holding others up!
    - What do you think the ASL is there for, how does that sit with your views on filtering?
    - Does the presence of these contribute towards an expectation that a person cycling moves to the front?
- As a pedestrian walking up James Street, if a person cycling felt uncomfortable being on the road there, would it be acceptable for some to use the footway to get passed the stationary traffic?
    - How ought they be riding to make it acceptable to be on the pavement along there?
    - Do you think that is still the case if there is a lot of people walking along there?

Video 3 – London Road Uphill B&Q *Adjacent Cycleway* 01:09 – 01:47

- How would you describe the cycling shown in this clip?
- Where do you think are the spaces that are available for people to be cycling along there?
- Do you think this is a situation where a person **cycling could be on the road**?
    - Are there situations where you would expect someone to ride on the road along here? How would they be riding, to make that acceptable in your view?
    - What are the implication of these on your understanding of a road user? Right to be on the Road? Who has the Right to the Road? Are some users more so than others?
- As a driver, what are you thinking when a person cycling, at the same speed in the video, is staying on the carriageway and not using the shared cycleway?
        - Does this change if they were to be riding faster?
        - Impact on right to be on the road?
        - Slower on Carriageway = Conspicuous and Obvious Obstruction? Courtesy?
- Do you think the speed of the cyclist relative to traffic, has an impact on what you see as the assumed availability of the carriageway for cycling?
    - If you were cycling along there, where would you be cycling and why do you think that is the best or indeed right place to be cycling?
    - Are there characteristics of how someone is cycling on the road, that is not consistent or legitimate for them to be seen as a road user?
        - Would you be saying that if you were in a rush to get somewhere?

- Does a shared footway change whether you are talking about a person cycling being a road user and the legitimacy of being on the carriageway here on a bicycle?
    - Are there situations where you think there is an obligation on those cycling to ride on the carriageway rather than use the cycleway? Or cycleway not road?
        - What does this say about cycling as a road user?
        - How does spaces 'dedicated' for cycling then impact the possibility of using other spaces?

- What would you be doing if driving up there and **turning left into the side-street** as the cyclist on the cycleway approached it?
    - What are expectations on a person cycling on the cycleway? Not better with them on the road, with same right of way as other road users?
    - Who is responsible for giving way in that situation?
        - Is that the same if you there was a pedestrian?
    - Do you think there is an Obligation for cycles to defer to those on the carriageway, even cyclists on the road? Different Right of Way on road compared to off Road?
    - What would you be doing if turning left into one of the side-road? Should the cycle have right of way, issue of Responsibility??

- **Cycling outside of the cycleway**, when passing pedestrians, more on the pavement than the cycleway, does that even matter?
- What did you think of the way negotiating pedestrians along there? Is that not a reason for being on the road?
- Is it acceptable to be outside the cycling area and in the part of the pavement for pedestrians?
        - Quality of the cycleway?
        - Justification being it is smoother, less glass, and not right up against the road, as well as being able to take more direct line. *Is that much of an issue, when viewed as a driver compared to viewing it as a pedestrian?*
- As a pedestrian, how far do you think that a person cycling should be from the cycleway in this situation? Varying Distance?
- As a pedestrian, what would you say about this person cycling along the adjacent cycleway, is that the wrong place to be cycling uphill along London Road?

- **Pedestrian Crossing – Red Light** => If you were driving along the road there, and the Pelican Crossing was on red, but with no people crossing, would you go through it? If you were cycling along there, would you go through the red light?
- Do you think that it is acceptable for a cyclist to go through a red light, not harming anyone?

Video 4 – Caldewgate onto Castle Way *Positioning/Adj. Cycleway* 01:48 – 02:29

- Tell me what you thought of the cycling shown here?
    - *What did you think of the way he was cycling? (Confident – is that important)*
    - *Would you describe him as a road user? Is that a legitimate thing for a person cycling to do along here – does it change as he moves from pavement to cycleway?*
- As a driver, how would you deal with a person cycling along the road like that?
- Is this not a traffic condition where should be cycling on Shared Cycleway? When should be on road or on the cycleway?
    - What would you be doing if you were cycling through Caldewgate, why the similarities and differences?

- How does keeping up with the traffic influence the right of cyclists to be on the road, especially when there is a shared cycleway on the adjacent pavement? Do you think staying on the carriageway in the traffic flow, made possible by the traffic not moving that fast?
- Would you describe riding along here as holding up the traffic? From perspective as a driver, is that an appropriate way for someone to cycle on the road?
    - Are there positions on the carriageway where you think those cycling should not be there? Out of courtesy towards other road users?
    - Like a car => Does the imperative to ride 'properly' and 'confidently' then, differ between the more trafficked routes and the residential estate? Why is that so?

- The shift from road to cycleway, what would you be thinking as a driver following the cyclist there, and also as a driver waiting at Castle Way, watching a cyclist do that manoeuvre?
    - *Is there a way this action could be done that is in your view wrong?*
- As a pedestrian, do you think that it is okay to move from the road to shared cycleway like that? Is it a problem if nobody else is using the space?
    - Cyclist says that exploiting space that is not used by others, vacant, and avoids having to be on the shared cyclepaths and crossings, as got the 'right of way' of motorised users of the road, rather than being more like a pedestrian...
        - Moving from cycling like a car, then like a <u>pedestrian on a bike</u>

- It just looks like a pavement rather than shared use... If you were walking along there, would this be an issue for you?
- As a pedestrian, how should someone be cycling on a shared pavement? Is that the right way for them to be riding along there?
    - If you were cycling along there, how would you be doing that?
        - Reduced Speed and Right of Way over Traffic
    - *Do you think that a bell is necessary for making pedestrians aware of cyclist presence?*
    - What actions would be <u>wrong/improper</u> for somebody to pass you on a bike? What would make for <u>bike-pedestrian interaction that is unacceptable</u>? Who has the responsibility?

Video 5 – St Nicholas *Footpath Cut-Through* 02:29 – 02:54

- What did you think of the cycling show here? (Proper/Improper)
- Is it not unreasonable that they <u>should get off and walk</u> or follow a route that sticks to the road network?
- *If you were cycling*, would you feel entitled to ride across the footpath, given the way that she was cycling?
- From your experience as a pedestrian, do you think the pedestrians that were passed there would have much to complain about given the way that you cycled through there?
    - What do you think would be an inappropriate way to cycle through this space?
- As a pedestrian, how does the way someone is cycling and negotiating those walking, come to influence whether they can be on the pavement?
    - What is footpath for, should it be used like this for cycling?
    - Would the use of the footpath there be more acceptable if it was a *man rather than a woman* riding across there?
    - Doing this to avoid having to turn left out of Lancaster Street and then right onto Botchergate => Avoiding Cars and the Traffic? => but prepared if there is too many people or people in the way to stop and get off, otherwise ride slowly through.
- Do you think that the availability of the pavement for cycling influenced by the number of pedestrians also using it?
        - If doing that around lunchtime?

- **One way part of the Car Park** – if you were cycling would you do the same? Relatedly, if you were driving through a car-park like, at that time of the day, which was before 8.30am, would you do the same go up the wrong way of a one-way street?
    - What does that say about the way spaces can be used by those cycling compared to drivers, is that acceptable given the fact very few people around at that moment of the day?
    - Few people, is that such a big problem?

Video 6 – Caldew Cycleway *Shared Cycleway* 03:23 – 03:53

- Tell me what you thought of the interactions with the pedestrians along this shared cycleway?
- If you were cycling along there, how would you be going about negotiating pedestrians on a shared cycleway?
    - Would you be saying that if you were in a rush to get somewhere?
- Viewing this as a pedestrian, would something like this be an issue for you, and what are the reasonings behind this?
    - Do you think that a bell is necessary for making pedestrians aware of cyclist's presence?
    - On these shared paths do you think there is pressure from the presence of cyclist on those walking?
- What in your view as a pedestrian, make for bike-pedestrian interaction that is <u>acceptable</u>?
    - 'Approaching slowly, saying excuse me and then thank you as slowly go past the pedestrian' rather than ring his bell'.
    - How much of an issue are <u>dog walkers or shared paths?</u>
        - Cyclist here, does not have a bell it is broken, but finds that slow down and say excuse me and then thank you, then it is not a problem – but she would hate to run over a dog as the people walking have ability to react/respond.
            - *What do you make of that, is that kind of justification acceptable in your view?*
- As a pedestrian, are there certain expectations on a pedestrian when using a shared cyclepath like that, is it right to be across the entire path?
    - As a pedestrian, what actions by a person cycling would be <u>wrong</u> and <u>unreasonable</u> for them to pass you? Are there situations where this bike-pedestrian interaction would be unacceptable?
- When there are no pedestrians, and the path is empty, what are the characteristics in your view of the right way to be cycling along a shared cycleway like this?
- <u>Rickerby Park</u> => Where the cycle section is <u>delineated</u> from the pedestrian section? Do you think that is necessary, in terms of a space for pedestrians and a space for cycling, or is it best being mixed like along the Dalston Cycleway?

Video 7 – A689; Victoria Viaduct *Right-Turns* 03:26 – 04:22

- What did you think of these two right-turns?
- As a driver, who would you deal with a person cycling in these two different ways, when it comes to them doing a right-turn? Do you have a preference for either of them?
- Take each example in turn, what do you think they should be doing when it comes to turning right on a bicycle along there?
    - One on Trunk Road and another in the City Centre – do you think that the way doing a right-turn in a residential area is as problematic, what contributes towards your explanation for that?
    - How would you go about doing those right-turns if you were cycling?
    - Related to that, what in your view would be the wrong way, a) for the person cycling to do the right-turn and b) for other road users negotiating them?

- *If you were cycling along there, what would you be doing?* Would you describe being in the middle of the road waiting for traffic a comfortable position? Is that the same if you were driving – with and without a chevroned area?
- What are your expectations if driving along there on the cyclist and on other drivers when they are doing a right turn?
    - Are there any differences <u>physical differences</u> between cycling and driving when turning right?
    - How about differences in terms of what you <u>experience and feel</u> like when turning right, in car or on bike?
- Is it reasonable to be expecting a person on a bike to do a right turn like a car when they have a very different presence on the road space?
- How does being in the middle of the road, reconcile with comments about the right place for people to be cycling along – is it justifiable reason to be in the middle of the road?
    - In what ways does that come to influence your sense, of the spaces that are available for people to cycle, and how they ought to be riding to use those spaces?
- As a driver, following a cyclist as they are doing a right-turn, do you think that there is much for you to complain about when it comes to them waiting in the middle of the road... Holding up the traffic?
    - Would you say that you are conscious of almost pressurising them, with your presence, kind of encouraging them to get out of the way?

Video 8 – Lund Cres; South Henry St *Footpath Cut-through* 04:23 – 05:02

- What did you think of the cycling along there?
- How would you describe the interaction in the second video between the cyclist and the pedestrian? What did you think about that, was it acceptable?
- As a pedestrian, maybe from even using these spaces, would an interaction and use of these spaces by someone cycling in these two ways, be a cause for concern for you?
- Do you think these are spaces where people can cycle? How should they be used?
- What would you do if you were cycling along there, would you even cycle along there?
    - What are the right and proper uses of a <u>footpath</u>?
- Should the **footpath** be used like that, where cycling is prohibited?
    - <u>Bike on Footpath</u> - Would you describe this as an acceptable way to cycle along here?
- Should those that cycle along there, not get off and walk along footpath?
    - What are the kinds of <u>modifications</u> that you think are necessary to make it acceptable to be riding on footpath?
- As a pedestrian, how would you be negotiating the person cycling along there?
- In your view as a pedestrian, what would the person cycling and another walking be doing to make for a <u>bike-pedestrian interaction</u> along footpath cut-throughs to be <u>unacceptable</u>?
    - *Faster, Man or Woman, Closer... Certain kinds of People?*
    - If you were cycling along there, what would your <u>expectations be on the pedestrians</u> when it comes to how you interact and negotiate with them?
    - Response – slow and careful and plenty of room, and actually if was to get off and walk with bike to my side then blocking up the path. Own experience of being forced past, says it is a negotiation, if there were people walking towards him then wait or ahead of him then slowly follow at a little distance.
- If these footpath cuts were a shared space, which they aren't currently, how would you cycle down there? What would you expect from a person cycling along there, is there a difference in the way ought to be cycling when illegal compared to a legal shared space?

Video 9 – Eden Bridges *Adjacent Cycleway* 05:02– 07:27

- How would you describe the cycling in these four clips?
- What did you think of the positioning on the road, and the shared pavement was used?
- What do you think they should be doing when going to the City Centre or to Stanwix?
    - What makes that more appropriate for that space than what the others were doing as they went along there?
- Would you cycle along there? What would you do if you were cycling along there? What would you do, when cycling from Hardwicke Circus to then go onto Brampton Road? (Why?)
    - How does being able to use this space vary according to the time of day?
    - Is this not a <u>situation where could be on the road all the time</u>?

<u>Road</u>

- As a driver, how would you deal with the two-people cycling along the road on there? Of the two, which is the easiest, and the most challenging?
    - Brampton Road right turn, how would you do that if you were cycling? How do should the person cycling get across there? If you were following behind in a car what would you do? – Same if in a rush?
    - <u>What is right way for drivers to pass you on here?</u> Does this differ if going downhill?

- What do you think as a driver would you describe riding along here as <u>holding up the traffic</u>?
    - Does holding up the traffic impact the right for someone to be cycling along there?
- Would you say that being on the road here is acceptable? What is it about the way the two people were riding that informs your view on that?
    - Are there users that you would expect to use cycleway or be on the road?
        - Speed relative to traffic, impact of cycling when impeding traffic?
        - Quality of the cycleway?
    - On Road Cyclists – downhill is a short stretch not holding anyone up and going at speed of traffic as more like a car... uphill, most said on the cycleway as too slow, but for this cyclist in video that is the worst ever been, as usually exploiting the gap in the traffic, but also on that side of bridge not continuous cycleway – more an issue of drivers not respecting her desire to move across, tight up against the kerb cyclist respecting the drivers as going slower...
- As a driver, do you think there are positions on the carriageway going North or South that you think are out-of-bounds for those cycling, out of courtesy towards other road users?
    - How do you think that is shaped by the way the person is cycling? As a driver, how must you ride on the road to be accepted road user in these situations?
- Do you think there is much to complain about the cycling in these clips, from the vantage point of those passing in cars?
    - Does those cycling staying on the carriageway here, reflect actions that are <u>courteous towards the traffic</u>? Where the road is not available for cycling?
    - Vulnerable? <u>*Not hold up the traffic*</u>... legitimacy and comfort with taking up more of the carriageway here?
- What did you think of the road positioning adopted as she was cycling along there?
    - Would you describe her as a <u>confident way to cycle</u>?
- As a person cycling, along there, do you think your positions can have a positive influence on the way traffic passes you, is this far more important than your speed relative to the traffic in terms of the comfort, safety and rightfulness of being on the road?

<u>Cycleway</u>

- If you were walking down there on the shared cycleway, what would you think of a person who is cycling on the road?

- If you were driving down there, what would your likely reactions be to someone cycling on the cycleway adjacent to the road? (Towards and Away from you)
- Viewed from being a pedestrian, would something like this be an issue for you, and what are the reasonings behind this?
- On these shared paths do you think there is pressure from the presence of cyclist on those walking?
    - Do you think that a bell is necessary for making pedestrians aware of cyclist presence?
    - What actions would be <u>wrong/improper</u> for somebody to pass you on a bike?
- When should be on road or on the cycleway? Who are Road Users? Speed relative to traffic, impact of cycling when impeding traffic?
    - Are there cycling characteristics along Eden Bridges that are necessary to be on road?

Video 11 – Warwick Road; Dunmail Drive *Footway* 07:27 – 08:37

- What did you think of the use of the pavements in these two clips?
- How would you describe the use of the pavement and the pedestrian interactions... are they appropriate and reasonable?
    - If walking along there, what would be thinking about the way that person is cycling?
    - If driving along there, what would your reaction to someone cycling on the pavement like those two people?
        - Is riding on the pavement acceptable in these two examples? Would you say that acceptability varies between these two examples?
- What do you think they should be doing along there?
- Do you think that people can cycle on the pavement?
    - Would you say in these two examples people should be on the road rather than the pavement? Who would you say is okay riding on the pavement?
- As a pedestrian, how do you deal with people who are riding on the pavement, do you think that is something people can do?
    - How should they be cycling to make it acceptable in your view being on the pavement?
    - What actions would be unreasonable for somebody to pass you on a bike? Are there situations where this bike-pedestrian interaction would be unacceptable?
- If you were cycling, are there situations where you would or indeed do, <u>resort to cycling on the footway</u>? *How would you describe an acceptable way for someone to cycle along the pavement?* Is not is it reasonable to expect someone to walk along or use the road?
        - Like a pedestrian on a bike than a cyclist? Is that okay?
    - Participant – First Clip, rule breaking like that done with upmost consideration for the pedestrians, being like pedestrian mind-set just on a bike, but rules trumped by desire to be safe and be exposed to as little traffic as possible. Second Clip spoke of darting across without looking and bad reputation.
- As a driver, how do you deal with a person cycling along and across from one pavement to another? Are there differences between the two clips of going mostly on the pavement?
- As a driver, do you think riding along the pavement as we seen, in the two clips, and across the Puffin Crossings, do you think that is part of being a road user on a bicycle? Would this erode any claims that people cycling may make about being road users?
    - Would seem unreasonable to expect the first clip to get off walk, doing no harm to the other pedestrians?

- Is it acceptable for somebody to cycle up a one-way street? Is that the same if we were talking about a car driving up a one-way street?

- Would you go up the wrong way on a one-way street if you were driving? What does that say about cycling, is it more like being a pedestrian in the way using the road?

Video 12 – Wetheral Viaduct *Shared/Footpath Cut-Through* 08:37 – 09:03

- How would you describe the cycling in this video?
  - Shared and then a Footpath... did you see any discernible difference in the way that cycling along there?
- If you were to cycle across there, would you do the same?
- As a pedestrian, would something like this be an issue for you, and what are the reasonings behind this? Pressure from the cyclist when walking?
- Is it right to use these spaces for cycling even if it is illegal?
  - Does this place for cycling change with the amount of people walking and/or cycling across the bridge?
  - Should cyclists to *get off and walk their bike*? It is not understandable that cycling is prohibited across here, given the narrowness of the path?
    - The participant said this was either A69, does most days, or Armathwaite, and has a lot of experience walking and cycling across there, so knows just be polite, slow, give-way and respectful.
  - Are there situations where you think here at Corby Viaduct footpath or with the other footpaths elsewhere in the city that it is unacceptable and wrong to cycle – regardless of how the cycling is done?
- Drawing upon experience as a pedestrian what would be an unacceptable way to cycle along the footpaths approaching and crossing the bridge?
  - Do you think that there is any difference if it was a woman cycling rather than a man?
- Overall, if you are walking along there, would you expect there to be any difference in the way cycles negotiate you on the shared path before the bridge, compared to the bridge where it is a footpath?
  - Does the fact not changing say something about rules governing the space there?

Video 13 – Harraby *Positioning (Res Street)* 09:03 – 09:18

- How would you describe cycling along there?
- As a driver, do you think there is much to complain about the cycling here, could they be further out, middle of the road (discourteous) or closer to the kerb?
- If you were a cyclist in that situation what would you be doing?
  - Are these areas where you would conceivably expect cycle provision to be provided such as cycle lanes on road or cycleways off road?
- **Residential Areas** => Would it be fair to say that on residential estates across the city these are suitable for all people to be cycling on the road?
  - What is it about them that makes them conducive for people to be cycling along?
  - Same pressure and competition?
- As a pedestrian, if you came across a person cycling along the pavement in this situation what would you think and reaction be? How would you react if you were walking along Warwick Road at 8.30 in the morning and the person is cycling on the pavement then?

Video 14 – City Centre *Ped/Shared Space* 09:18 – 09:32

- How would you describe the cycling shown in this video, before 9am on a weekday morning?
- What do you think a person cycling should do when they go through the City Centre?

    - If you were on your bike approaching English Street, what would you do?
        - Would it be influenced by the amount of people?
- What would be an unacceptable way that people use this space for cycling?
- If you were walking through there, what would be your expectation on people cycling in terms of the way that they cycle? If empty...If busy?
    - Viewed from the experience of being pedestrian, would something like this be an issue for you, and what are the reasonings behind this?
- What actions would be wrong/improper for somebody to pass you on a bike? What would make for bike-pedestrian interaction that is unacceptable? Who has the responsibility?

Section 3 – Conclusion and Thanks

- So do you see yourself as a Driver, Walker or Cyclist?
- What are their thoughts on participating?
- Are there aspects they weren't expecting?
- Could there be improvements?

Appendix B - Cycling Ride-along Participant Leaflet

Do you Cycle in Carlisle?

Would you be willing to help me with my research?

As part of my PhD Geography research at University College London I am recruiting **adults who cycle to work and/or for leisure in Carlisle.** This research is interested in looking at how different people use the road network for cycling and what other road users make of such uses.

This research contributes to a new approach to the everyday use of the road network, by focusing on how individuals come to negotiate and make sense of the rules and norms around using the road network.

It looks to explore the moral economies of legitimacy road users, like yourself, mobilise in making claims about the rights and wrongs of your cycling actions.

What would participation involve?

1. **Initial Chat** about the research and completion of Consent Form.
2. **Video-Recording of a Journey** where I follow you cycling as you undertake one of your typical cycling journeys.
3. **Interview** of about one hour, arranged at a time and location convenient to you, to discuss the video and cycling in Carlisle.

Certain video-clips of you and other cycling participants, will be used during subsequent interviews with other road users in Carlisle. These people will be similarly asked about the rights and wrongs of these cycling practices.

If this is of interest to you please do not hesitate to contact me by emailing: [redacted]

Please Note:

Participation is entirely voluntary and you can withdraw from the research at *anytime before* **1 June 2017.** This research is undertaken in accordance with the *Data Protection Act 1998* and has been approved by UCL Research Ethics Committee under Project ID Number: 10133/001

Appendix C – Stage 1 Participation Information Sheet and Consent Form

Participant Information Sheet – Adult who Cycles to Work or for Leisure

Thank you for taking the time to express an interest in being involved with this PhD Geography research. This research is interested in looking at how different people use the road network for their cycling as the basis for exploring what they and other road users think about this use.

Before you decide whether to participate, it is important that you read and fully understand: why this research is taking place; who has been asked to participant; what participation will involve for you; and how any data provided will be used in accordance with the Data Protection Act 1998.

Please take the time to read the following information and do not hesitate to contact me about any questions or further information you may require about this research. My contact details can be found at the end of this document.

You should *only* participate if you want to and your involvement is entirely *voluntary*. You can subsequently decide to *withdraw* at any time from this research until Thursday 1 June 2017. This deadline is when any anonymised data will be added into the final report.

This research has been approved by the University College London (UCL) Research Ethics Committee, under Project ID Number: 10133/001.

Why this Research is taking place?

In a world in which levels of air pollution, congestion and obesity are of growing concern, a healthier and more sustainable transport system is needed now more than ever. This requires walking and cycling to have a larger role in moving people than currently seen in the UK. The potential for growing cycling is self-evident, given two-thirds of all personal journeys are less than 5 miles in the UK, yet 56% of these journeys are currently undertaken by car, with 33% on foot and only 2% are cycled (DfT, 2015).

It is surprising, therefore, that transport researchers and professionals have devoted little attention to how an existing road network mostly used for driving, comes to be used as an infrastructure for cycling in small non-metropolitan cities.

This research hopes to address this gap in knowledge, by video-recording how people use the road network in Carlisle for cycling and then interviewing both those doing the cycling and other road users to listen to what they say about this use. In other words, the video-recordings of you cycling will be used during your interview and then used during interviews with those who mostly walk or drive in Carlisle. It is hoped this research can explore the emergent registers of legitimacy road users like yourself mobilise in making claims about the rights and wrongs such cycling actions.

Who has been asked to participant?

As you may have received, people are being invited to participant in the research through leafleting in Carlisle city centre and emailing local employers, sport clubs and community groups. This research is interested in observing how people use Carlisle's road network to cycle and what others say about it. If you are over the age of 18 and cycle any distance at least twice a week to work and/or for leisure in Carlisle, then you are eligible to volunteer your participation in this research project.

This research is also recruiting those between the age of 15-18 who cycle to school alongside using a similar strategy to recruit those who mainly walk or drive in Carlisle.

What will Participation Involve?

Participation in this research involves three stages that I will arrange at times and locations to your convenience. As mentioned above, your participation is entirely *voluntary* and if you decide not to continue in your participation you are free to withdraw at any time without reason or penalty.

1. **Initial Chat –** In response to your interest in participating, I will email you an electronic copy of this Participant Information Sheet and the Consent Form. Paper copies are available to those without access to email.
    a. You are asked to read these forms before our initial *10 minute* chat.
    b. The purpose of this meeting is to: introduce ourselves; for me to answer any of your questions; and if you are happy to participate, to sign a hard copy of the Consent Form.
    c. We will then arrange the date, time and location for the ride-along.
    d. I will provide you with an electronic copy of the signed consent form for your reference.
2. **Ride-along –** This involves you undertaking one of your typical journeys by bicycle, whilst I follow behind on my bicycle and record you using a GoPro video camera and GPS tracker.
    a. This involves you simply riding along your regular route. If you do not wish to start or finish your journey outside of your place of work or home, a more convenient location near to these destinations can be used.
    b. The type of clothing and whether you wear a helmet is entirely your choice and responsibility. The researcher does not take any responsibility for you deciding to wear or not wear a helmet, and participation is at your own risk.
    c. I will follow you on my bicycle around 10-15 metres behind, recording you cycling in front of me (see the picture).
    d. The ride will be GPS recorded on a private research project Strava activity tracking account, with this being used for presenting the data in the thesis;
    e. The length of the ride-along will be determined by the journey you are cycling!
3. **Interview –** This will take place a few days after the ride-along, with the video clips from your ride-along being used during this interview.
    a. The interview will last a maximum of *one hour,* with discussions focusing on the video recording as an insight into how you use the road network.
    b. The interview will be an opportunity for you say what you think about the how the roads should be used and how this influences the way you cycle.
    c. This two-way conversation will be tape-recorded and later transcribed into text.
    d. Both the interview data and video-clips will be anonymised before they are added into the final report, so to prevent you from being identified by others.

How will your Privacy and Confidentiality be protected?

As this research complies with the Data Protection Act 1998, the interview tape recording will be typed up using Microsoft Word and will be assigned a different name to your own (pseudonym name). The inclusion of interview data and any still images from the ride-along video in the final research report, will be anonymised with still-images being pixelated where appropriate to protect your identity.

As this research is interested in what other road users say about cycling in Carlisle, the clips from the video recorded ride-along may also be shown during the interviews with participants who mainly walk or drive in Carlisle. Showing these video clips of you cycling and those of other participants

cycling, aims to facilitate discussions with those who do not cycle about the rights and wrongs of this use of the road network in Carlisle. Though the ride-along video will be recorded from behind you, where your face is clearly visible in the video, then this will be pixelated both in the video shown to other road users and in any still-shots used in the final research report.

The GPS tracking of your ride will be done through a dedicated research project account on the Strava activity tracking website. This records where we cycled during the ride-along and to protect your security this account will have full privacy settings enabled. Once the route has been recorded and a map extracted, the ride will be deleted from the account. (Please see: https://www.strava.com/terms). Please note, only sections and not the entire route map may be used to illustrate the final report.

The video and audio recordings will *only* be used for data analysis and as evidence in my final research report, conference presentations and academic publications. No other use will be made of them without your written permission. This data will not be shown in public apart from when certain video clips of you cycling are shown in your interview and the interviews with the non-cycling participants.

The original video data will be stored securely, within an encrypted file, on a password protected device in accordance with the UCL Information Security Policy, until the completion of the degree in 2018. The audio recording of the interview will be destroyed after transcription. It is important to note that in the event of this data collection recording information about, or actual, injury to a person or persons, then I must disclose this information to the relevant authorities. If such a situation arises, then you will be informed of this prior to disclosure unless this places you at any greater risk.

As mentioned above, your participation is entirely *voluntary* and if you decide *not* to continue with your participation, you are free to withdraw at any time without reason or penalty. Withdrawal can take place up until Thursday 1 June 2017, when the interviews have been transcribed and anonymised for inclusion in the final report.

Please note the following:

- You can decide to withdraw your participation without penalty at any point during the initial chat, ride-along or interview;
- Your ride-along will be video recorded and shown to you during your interview. The ride will also be GPS tracked on a research project Strava account with full privacy settings enabled;
- These same ride-along clips may then be shown during the interviews with people who mostly walk or drive in Carlisle, with your facing being pixilated if this is clearly visible;
- You do not have to answer any questions during the interview if you do not wish to;
- There is no right or wrong answers to the interview questions, the researcher is only interested in what you think and understand as being the right or wrong way to use the road for cycling;
- Data will be used in the final report and any academic publications, with your name being replaced by a pseudonym (false name) and your face in any still-shots being pixelated;
- A very brief and general description will be included in the final report to provide the reader with some background information about who you are. This will be of insufficient detail, however, for you to be personally identified.

Are there Risks Involved in Participating?

The risks of participating are minimal and do not differ significantly from those experienced during your normal everyday life. In the case of the ride-along, the focus is on a typical journey you would have already been cycling, which should provide a familiarity with the roads used. If in the unlikely event you are subject to physical and mental distress during your participation, the data collection will be stopped and appropriate responses will be enacted.

What are the benefits for Participation?

While there are no immediate benefits for those people participating in this project, it is hoped that your contribution will contribute towards efforts to encourage more people to cycling in Carlisle. At the end of the project, I will send you an electronic version of the thesis in November 2018.

Participation

Please discuss the information above with others or ask me if there is anything that is not clear and requires further information. It is up to you to decide whether to take part or not. If you do decide to take part, I will ask you to sign a consent form when we meet for the initial chat. Please note even after signing the consent form you are still free to withdraw at any time and without giving a reason.

If you feel that you have been subject to any form of harm during your participation, you have the right to make a complaint to the following members of staff at UCL:

- *Dr Alan Latham*, Senior Lecturer, UCL Department of Geography, Pearson Building, Gower Street, UCL, LONDON, WC1E 6BT; Email: [redacted] Tel: +44 (0)20 7679 0525
- *The Chair of UCL Research Ethics Committee*, Academic Services, UCL, Gower Street, LONDON, WC1E 6BT; Email: ethics@ucl.ac.uk Tel: +44 (0)20 3108 8216

Thank you for reading this information sheet and for considering participation in this research.

Michael Nattrass

Email: [redacted]

Address: Department of Geography, UCL, Gower Street, LONDON, WC1E 6BT

Consent Form – Adult who Cycles to Work or for Leisure

Thank you for taking the time to express an interest in being involved with this PhD Geography thesis research. Before you agree to take part, the researcher must have explained the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

This research has been approved by the University College London (UCL) Research Ethics Committee, under Project ID Number: 10133/001.

I

_____

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Please tick box

- confirm that I have read the written notes above and Participant Information Sheet, alongside had the opportunity to ask any questions. ☐
- understand that if I decide that I no longer wish to take part in this project, I can notify the researcher and withdraw at any time before Thursday 1 June 2017. ☐
- consent to the processing of my personal information for the specific purpose of this research study, as outlined in the participant information sheet. ☐
- consent to having one of my typical cycling journeys video-recorded by the researcher and accept participation in the ride-along is at my own risk. ☐
- agree to the ride-along video clips being used when I am being interviewed and during interviews the researcher conducts with other participants who walk or drive in Carlisle. ☐
- consent to the interview being tape-recorded and transcribed into text. ☐
- agree and understand any data collected will be anonymised and may be quoted in the final PhD thesis and academic publications. ☐
- understand that such information will be treated as strictly confidential and handled in accordance with the Data Protection Act 1998. ☐

Signature of Participant Date

Appendix D – Stage 2 Participant Information Sheet and Consent Form

Participant Information Sheet

Thank you for taking the time to express an interest in being involved with this PhD Geography research. This research is interested in looking at how different people use the road network for their cycling as the basis for exploring what they and other road users, like yourself, think about this use.

Before you decide whether to participate, it is important that you read and fully understand: why this research is taking place; who has been asked to participant; what participation will involve for you; and how any data provided will be used in accordance with the Data Protection Act 1998.

Please take the time to read the following information and do not hesitate to contact me about any questions or further information you may require about this research. My contact details can be found at the end of this document.

You should *only* participate if you want to and your involvement is entirely *voluntary*. You can subsequently decide to *withdraw* at any time from this research until Monday 14 August 2017. This deadline is when any anonymised data will be added into the final report.

This research has been approved by the University College London (UCL) Research Ethics Committee, under Project ID Number: 10133/001.

Why this Research is taking place?

In a world in which levels of air pollution, congestion and obesity are of growing concern, a healthier and more sustainable transport system is needed now more than ever. This requires walking and cycling to have a bigger role in moving people than currently seen in the UK. The potential for growing cycling is self-evident, given two-thirds of all personal journeys are less than 5 miles in the UK, yet 56% of these journeys are currently undertaken by car, with 33% on foot and only 2% are cycled (DfT, 2015).

It is surprising then, that transport researchers have devoted little attention to how roads mostly used for driving, come to be used by people as a space for cycling. The question you may be asking, is why looking to recruit people who mostly walk or drive in Carlisle, if this research is interest in growing levels of cycling?

This research hopes to address this gap in transport knowledge, by video-recording how people use the road network in Carlisle for cycling and then interviewing those doing the cycling and other road users to listen to what they say about this use. That is, videos will be used during interviews with those doing the cycling and those who mostly walk or drive in Carlisle, as the basis for understanding how these road users make sense of the rights and wrongs of such cycling actions.

It is hoped this research can explore the kinds of languages and emergent registers of legitimacy road users like yourself mobilise in making claims about such cycling actions.

Who has been asked to participant?

As you may have already received, people are being invited to participant in this research through leafleting in Carlisle city centre and emailing local employers, sport clubs and community groups. This research is interested in listening to what people who mostly walk or drive in Carlisle have to say about how the road network is used by those cycling in the city. If walking or driving is the mode of transport you most commonly use in Carlisle, this research is interested in hearing from you.

This research is also recruiting those between the age of 15-18 who cycle to school and those over 18 who cycle to work and/or leisure, who will be video-recorded cycling in Carlisle and then interviewed based upon their respective video. This is being complemented by recruiting people such as yourself, who mostly walk or drive around the city.

What will Participation Involve?

Participation in this research involves two stages that I will arrange at times and locations to your convenience. As mentioned above, your participation is entirely *voluntary* and if you decide not to continue your participation, you are free to withdraw at any time without reason nor penalty.

1. **Initial Chat –** In response to your interest in participating, I will email you an electronic copy of this Participant Information Sheet and the Consent Form. Paper copies are available to those without access to email.
    a. The purpose of this meeting is to: introduce ourselves; for me to answer any of your questions; and if you are happy to participate, to sign a hard copy of the consent form.
    b. We will then arrange the date, time and location for the interview.
    c. I will provide you with an electronic copy of the signed consent form for your reference.

2. **Interview –** This will involve you being asked to talk about a series of video-clips of cycling recorded by the researcher, when he accompanied other participants on one of their typical journeys they cycle in Carlisle.
    a. The interview will last a maximum of *one hour,* with discussions focusing on the video recording and your general experience of sharing the roads, cycleways and pavements with different people cycling.
    b. The interview will be an opportunity for you to express your understanding of how the road network is expected to be used by those cycling and the impact this has on your own walking or driving.
    c. This two-way conversation will be tape-recorded and then transcribed into text using Microsoft Word that will then be anonymised using a different name (pseudonym).

How will your Privacy and Confidentiality be protected?

This research complies with the Data Protection Act 1998 and has been approved by UCL Research Ethics Committee, under Project ID Number: 10133/001.

After the interview, the tape recording will be typed up using Microsoft Word and will be assigned a different name to their own (pseudonym name). This is to prevent you from being identified by others when the data from these transcripts are added to the final report and future academic publications.

The original interview transcript data will be stored securely, within an encrypted file, on a password protected device in accordance with the UCL Information Security Policy, until it has been fully transcript. Once transcribed, the audio recording will be destroyed.

The transcripts from your interview will *only* be used for analysis and for illustration in the final research report, conference presentations and academic publications. No other use will be made of them without your written permission.

Any data that you provide will *only* be used for the purposes of this research and will be used with strict anonymity. It is important to note that in the event of the interview recording information or actual injury to a person or persons, then I must disclose this information to the relevant authorities. If such a situation arises, then you will be informed of this prior to disclosure, unless this places you or others at any greater risk.

As mentioned above, your participation is entirely *voluntary* and if you decide *not* to continue with your participation, you are free to withdraw at any time without reason or penalty. Withdrawal can take place up until Monday 14 August 2017, when the interviews have been transcribed and anonymised for inclusion in the final report. Withdrawal prior to this date will see any data being destroyed.

Please note the following:

- You can decide to withdraw your participation without penalty at any point during the initial chat or interview;
- During the interview, you are not obliged to answer any questions if you do not wish to;
- There is no right or wrong answers to the interview questions, the researcher is only interested in what you think and understand as being the right or wrong way to use the road for cycling;
- Data will be used in the final report and any academic publications, with your name being replaced by a pseudonym (false name);
- A very brief and general description will be included in the final report to provide the reader with some background information about who you are. This will be of insufficient detail, however, for you to be personally identified.

Are there Risks Involved in Participating?

The risks of participating are minimal and do not differ significantly from those experienced during your normal everyday life. The researcher will seek to arrange for the initial chat and interview to take place in a location open to the public or other adults, such as a place of work or community centre, for the safety of both you and the researcher. If in the unlikely event you are subject to physical and mental distress during your participation, the data collection will be stopped and appropriate responses will be enacted.

What are the benefits for Participation?

While there are no immediate benefits for those people participating in this project, it is hoped that your involvement will contribute towards efforts to make it possible for more people to cycle in Carlisle. At the end of the project, I will send you an electronic version of the thesis in November 2018.

Participation

Please discuss the information above with others or ask me if there is anything that is not clear and requires further information. It is up to you to decide whether to take part or not. If you do decide to take part, I will ask you to sign a consent form when we meet for the initial chat. Please note even after signing the consent form you are still free to withdraw at any time and without giving a reason.

If you feel that you have been subject to any form of harm during the course of your participation, you have the right to make a complaint to the following members of staff at UCL:

- Dr Alan Latham, Senior Lecturer, UCL Department of Geography, Pearson Building, Gower Street, UCL, LONDON, WC1E 6BT; Email: [redacted] Tel: +44 (0)20 7679 0525
- The Chair of UCL Research Ethics Committee, Academic Services, UCL, Gower Street, LONDON, WC1E 6BT; Email: ethics@ucl.ac.uk Tel: +44 (0)20 3108 8216

Thank you for reading this information sheet and for considering participation in this research.

Kind regards,

Michael Nattrass

Email: [redacted]

Address: Department of Geography, UCL, Gower Street, LONDON, WC1E 6BT.

Consent Form

Thank you for taking the time to express an interest in being involved with this PhD Geography thesis research. Before you agree to take part, the researcher must have explained the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

This research has been approved by the University College London (UCL) Research Ethics Committee, under Project ID Number: 10133/001.

I _____ _

Please tick box

- confirm that I have read the written notes above and Participant Information Sheet, alongside had the opportunity to ask any questions. ☐
- understand that if I decide that I no longer wish to take part in this project, I can notify the researcher and withdraw at any time before Monday 14 August 2017. ☐
- consent to the processing of my personal information for the specific purpose of this research study, as outlined in the participant information sheet. ☐
- consent to the interview being tape-recorded and transcribed into text. ☐
- agree and understand any data collected will be anonymised and may be quoted in the final PhD thesis and academic publications. ☐
- understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998. ☐

Signature of Participant Date

Appendix E – Coding Framework from NVivo

NVivo Codes	Interview Sources	References across all Interviews
Anti-Sharing	39	66
Annoy Upset Irate	57	269
Arrogant	30	55
Belligerent Aggressive	55	100
Rule Break	45	72
Rule Follow	58	100
Expectation Demand	55	167
Force - Non-Choice for Other	75	259
Holding Up; Hogging Impede	79	261
Blockage Obstruct Obstacle	48	130
I Know Best - Self-Interest Trust Me	68	240
Ignorant Unaware	65	181
Owning	61	171
Selfish Inconsiderate	77	293
Unnecessary Problems	64	245
Car or Ped	64	126
Like Car	76	196
Like Ped	76	260
Just Walk	41	114
Scooting	13	25
Neither = Difficulties	66	148
Questioning Judgement	72	186
Choice Non-Choice of Space	71	227
Alternative	62	153
Available Clear	54	125
Regular Familiar	41	74
Common Sense	74	265
Aware Others, Visibility	62	146
Get out Way Obstructing	76	271
Human Nature Short-Cut	66	127
Mistakes	7	8
Normal - Everyone doing it, Habit	54	106
Not In Way	68	211
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