Lay summary

Bikes! Camera! Action? Exploring the everyday behaviours of urban cycling to inform lessons for infrastructure planners

Alexander Nurse and **Richard Dunning** (Geography and Planning, University of Liverpool, United Kingdom)

✉ Alexander Nurse: anurse@liverpool.ac.uk

OVERVIEW

- Camera technology is a valuable tool to understand how cyclists use roads and dedicated cycling infrastructure.
- Our study reveals that cyclists will only use dedicated cycling provision where it is useful for them. They will avoid it where it is not useful.
- Cyclists of different abilities attribute different meanings to behaviour and therefore behave in different ways. Therefore, transport planners aiming to design useful infrastructure must both attempt to understand those meanings and behaviours, and provide for them.

DOI: https://doi.org/10.16997/ats.1350

Access the full article here.

Steer has supported the publication of this lay summary, which provides an overview of key findings from an academic article published in the peer-reviewed, open access journal, Active Travel Studies. Lay summaries are available in English, French, Spanish, Chinese and Arabic.

steer

www.activetravelstudies.org

UNIVERSITY OF WESTMINSTER PRESS

In our paper we wanted to understand how 'everyday' cyclists move through a city to understand how we should better deliver infrastructure for those cyclists.

We updated a method first used in London which used video-based technology to explore how cyclists deal with infrastructure as they find it. Recognising that a lot of cycling research tended to focus on high-profile places, we wanted to explore how these ideas would work in what we called a "non-exemplar" city. We described this as a place where authorities are making attempts to improve cycling provision, but which are not recognised as being at the forefront of cycling delivery. We chose Liverpool as the focus of our study – a place with a cyclist modal share that is similar to the UK average, and which lacks significant cycling infrastructure compared to other major cities.

Our Approach

To capture everyday commuting activity, we used a novel approach where participants' bicycles were equipped with front- and rear-mounted cameras and microphones. We also provided GPS-based cycling computers to record their commuting route choices. Beyond instructions on how to use the technology, we gave our participants a simple brief: to cycle their regular commuting route, ideally at the time they would normally travel to/from work, and to record both journeys.

Importantly, we gave no instructions on how to behave. Thus, we hoped cyclists would ride naturally, as they normally would. The aim, therefore, was to capture the "everyday" experience of those cyclists. This included:

- What routes they took, and why?
- Whether they did or didn't use any particular cycle-specific infrastructure, and why?
- What incidents they believed to be significant, and why?

We then followed up the recordings with an interview with each cyclist. This focused on matters that participants considered to be of importance to them and their route choice.

Our analysis considered these responses through the lens of Practice Theory which allows us to consider cyclists' behaviour through materials (e.g. bikes, physical infrastructure), competencies (i.e. the skills cyclists do/do not have), and meanings (i.e. the values individuals give to specific things). See the full paper for more on this.

We recruited six commuter cyclists for our study and recorded 12 journeys – a similar number to the London example. This drew upon cyclists of varying abilities – from self-described "novice" cyclists to those with many years' experience. Our participants rode a variety of standard bicycles including folding, touring, mountain, and racing bikes. Five were male and one was female.

Findings

Recording everyday cycling behaviours revealed several fascinating insights into how cyclists use space.

Route Choice

One core finding was that participants made route choices that were optimal for them. They used advertised routes/dedicated infrastructure when it worked for them, and avoided it when it didn't. Most participants took a direct route and used dedicated infrastructure when it overlapped with that route. Here, we found that strategic infrastructure interventions at places where routes converged were highly used.

However, we broadly found that other advertised routes (e.g. the National Cycling Network) were only used when they intersected with key desire lines. If routes were indirect, ambiguous or meandering, cyclists would tend to avoid them (see Figure 1, in which James chooses a route involving many fewer turns than the Quietway).

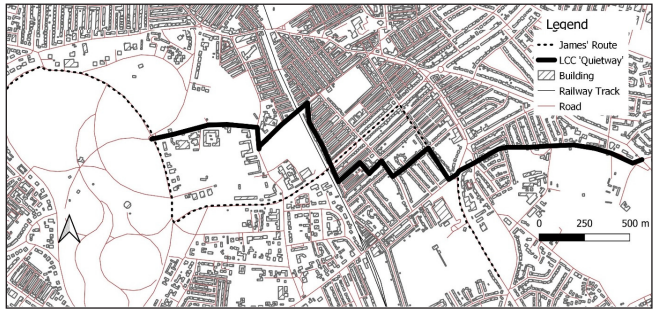

Figure 1: The direct route versus an indirect "quiet" route

The experiences of our participants suggested that they were not prepared to trade time-savings of even a few minutes to use a network they would admit was safer. In other words, infrastructure must

go where cyclists need it to go. Here, there are two findings. Firstly, a failure to facilitate cycling along desire lines can alienate potential cyclists who cite a lack of infrastructure as a key barrier. Secondly, if infrastructure is placed inappropriately, and therefore not used, this can undermine broader public confidence.

End-of-Journey Spaces

Another major issue identified through our findings was the start/end of route transition –near both the home and work.

Though we observed no pavement riding along main roads, some of our participants rode (albeit briefly) on the pavement near their homes to reach their front doors. In some cases, we also observed cyclists riding the wrong way down one-way streets to reach their home. Here, participants would point to the safety benefits from not navigating a road system made for cars.

We particularly observed cyclists struggling with the transition between the road and their place of work. Some cyclists opted to ride through pedestrian areas. Others stopped on the road, dismounted, and walked with their bike. We found there was no clear consensus on how to behave in those spaces – and therefore cyclists afforded their own meanings and "rules" on how to continue their journey.

Once Bitten, Twice Shy

Finally, we observed how, despite most journeys passing without incident, many cyclists identified key "flashpoints". They were often places which concerned them, usually related to where something had happened in the past rather than at that specific time.

Lessons for Policymakers

Whilst inevitably cycling policy places an obvious emphasis on the materials and competencies which permit cycling to take place, a significant proportion of cycling activity is heavily shaped by the meanings placed on it by individual cyclists.

We observed how, in the absence of suitable infrastructure, cyclists would navigate routes based on their own competencies and interpretations. Some cyclists would justify "immoral" behaviour (e.g. pavement riding). Conversely, less confident cyclists would stop if they found the infrastructure hard to use – potentially placing themselves in riskier positions (e.g. by dismounting on the road).

Striking the balance between meeting the needs of more and less confident cyclists is a challenge for transport planners. Our core finding is that infrastructure has to be useful and meaningful for cyclists to use it. Only by understanding – and therefore providing for – the meanings of a diversity of cyclists, can designers provide for a range of competencies and therefore the greatest possible variety of cyclists.

***Steer**, a global consultancy specialising in the critical services and infrastructure that make our world work, has supported the creation of this summary. Our aim is to empower active travel practitioners by making academic research more accessible. For more information, visit www.steergroup.com.*