

mobil.TUM 2024 – The Future of Mobility and Urban Space, April 10-12, 2024

Creating safe spaces for a just mobility transition: The case of cycling

Henrike Rau ^{a*}, Monika Popp ^a, Elisabeth Wüthrich ^a

^a Department of Geography, LMU Munich, Germany

Keywords: *Subjective safety, cycling, mobility justice, sustainability*

This work addresses the following topic(s) from the Call for Contributions:
(Please check at least one box)

- Placemaking to integrate urban spaces and mobility
- Promoting sustainable mobility choices in metropolitan regions
- Governing responsible mobility innovations
- Shaping the transition towards mobility justice
- System analysis, design, and evaluation
- other: _____

Extended Abstract

Problem statement

Efforts towards a fair allocation of public space to promote citizens' engagement in active mobility such as walking and cycling are a key element of the transition towards sustainable mobility. In this context, a safe transport infrastructure is urgently needed that caters for different groups, including vulnerable users such as children, old people and those with mobility impairments. However, much infrastructure development for active mobility to date has not really distinguished between users with different levels of competence, exposing vulnerable groups to unnecessary risks. For example, the development of cyclist fatalities in Germany from 2010 to 2019, prior to the Corona pandemic, shows an increase of 17% while the overall number of traffic fatalities decreased by 17% (Statistisches Bundesamt/Federal Statistics Office Germany 2020). Furthermore, the significance of perceptions of safety on travel mode choice has not yet been studied systematically. For example, deficiencies in both objective and subjective cycling safety appear to be a key reason for the stagnating number of non-cyclists – people who cycle less than once a month – over the past decades (e.g. Popp et al. 2024).

Research objectives

This study examines issues of subjective safety in cycling against the background of the demand for an equitable transport system.

Methodological approach

The paper draws on data from two research projects. First, it considers a multi-method investigation of subjective views of safety among different types of cyclists, ranging from frequent riders to non-cyclists (SiRa, funded by the Federal Ministry of Digital and Transport). In addition to semi-structured interviews and focus groups, SiRa used video recordings of bike rides along a specific route characterized by different types of cycling infrastructure.

* Corresponding author. Tel.: +49-89-21804179
E-mail address: henrike.rau@lmu.de

This was followed by participants' own assessments of the safety of different sections of the route using a 'traffic light' rating system (red = unsafe, yellow = neither safe nor unsafe, green = safe). The paper subsequently attends to a local project that involved interviews with refugee women who completed their first cycling training provided by volunteer organisation Bike Bridge Munich. Zooming in on refugee women's practical efforts to adapt to a new urban mobility culture, the latter study reveals these women's unique views and experiences of cycling safety issues within the German transport system.

Results

Key insights from the two studies include the identification of factors 'beyond infrastructure' that influence the subjective views of cycling safety held by different types of cyclists who vary in their level of experience and degree of routine, from frequent cyclists to refugee women with little or no prior experience of cycling. The resulting list of factors includes perceptions of one's own competence and the nature and quality of interaction with other cyclists, pedestrians and motorists, which in part reflect infrastructural conditions. Volume and speed of traffic, situational factors such as people close to the route, cycling lanes blocked by illegally parked vehicles and other obstacles as well as exposure to situations that provoke unpredictable actions (e.g., dooring) also matter. Perhaps most importantly, different users rate the safety of the same piece of infrastructure very differently, depending on these factors. This demonstrates the key role of subjective perceptions of safety, contrasting with many transport planners' more or less exclusive concerns with technical aspects of cycling infrastructure. Here, the paper critiques established transport infrastructure planning paradigms that focus solely on objective safety while ignoring cyclists' and non-cyclists' subjective safety concerns.

These insights for infrastructure policy, planning and implementation are critically discussed in the paper, with a view to highlighting opportunities for future sustainable and equitable cycling infrastructure development. Vision Zero campaigns in cities such as London, Oslo, New York, Munich, and many others have already set the goal of eliminating traffic fatalities through improvements in objective safety, among other measures. The 2019 accident statistics for Oslo and Helsinki show that this is possible: no one was killed in either of these two cities while biking or walking (ETSC 2020). However, safety issues continue to hamper these Vision Zero efforts, at least to some degree, calling for new and innovative approaches that take seriously the subjective safety concerns of different groups of experienced and learner cyclists. Efforts to address the safety needs of more vulnerable groups such as cyclists and pedestrians through the redistribution of road space (e.g. pop-up bike lanes) and the reorganization of traffic flows (e.g. priority regulations, traffic light circuits) are important prerequisites for the successful creation of an ecologically sustainable and socially just mobility system.

References

ETSC (European Transport Safety Council) (ed) (2020): Zero cyclist and pedestrian deaths in Helsinki and Oslo last year. <https://etsc.eu/zero-cyclist-and-pedestrian-deaths-in-helsinki-and-oslo-last-year/> (27 October 2023).

Popp, M., Rau, H. & Mahne-Bieder, J. (2024) Auf dem Weg zum Fahrradland – Barrieren von NichtRadfahrer*innen identifizieren und überwinden. Standort (under review).

Statistisches Bundesamt/Federal Statistics Office Germany (ed) (2020): Sonderauswertung Kraftrad- und Fahrradunfälle im Straßenverkehr 2019.

<https://nationaler-radverkehrsplan.de/de/aktuell/nachrichten/sonderauswertung-kraftrad-und-fahradunfaelle-im> (28 March 2022).