Group 7

Navigating the City

User Experiences and Interaction
with Cycling Navigation Apps in Urban Traffic

Denizhan Henning   Tom Bastian   Christopher Helios

Motivation

Target 11.2:
"By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety [...]"

[UN, 2015]

"Knowledge of [...] cycling routes may help to encourage [...] cycling [...]"
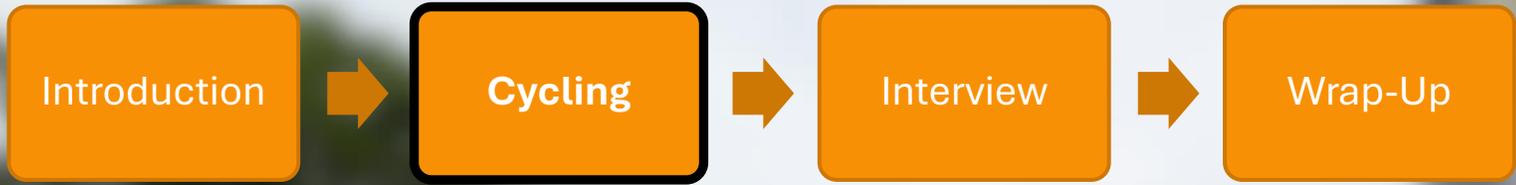
[Guell et al., 2013, BMC Public Health]

Research Questions

RQ1

- *How do cyclists navigate using a cycling navigation app during travel and in general?*
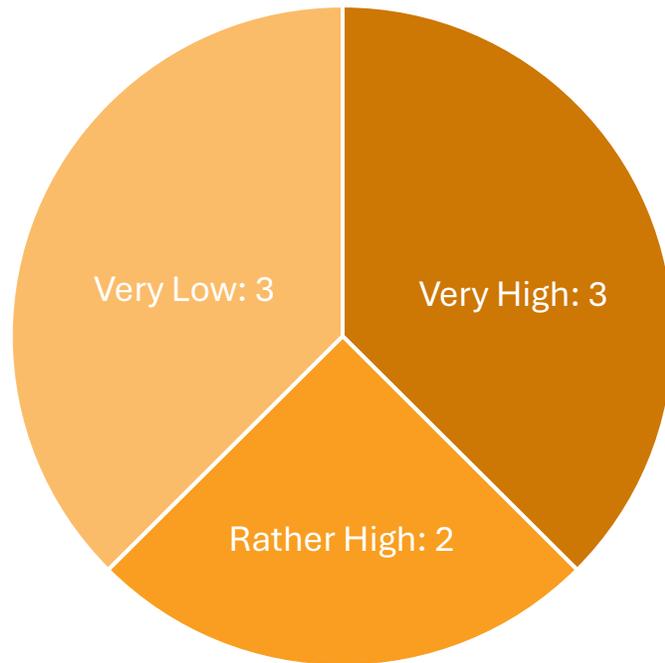
RQ2

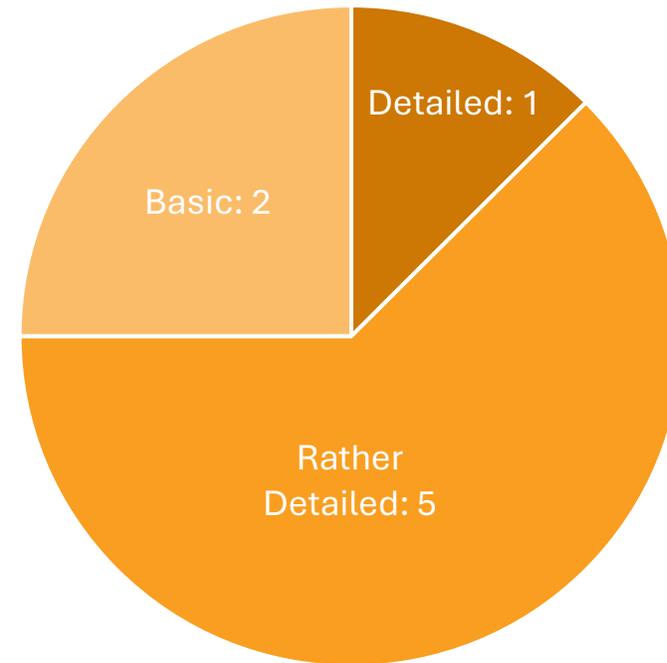- *What are user attitudes towards such cycling navigation apps and their features?*

Introduction → **Cycling** → Interview → Wrap-Up

Participant Characteristics (N=8)

Cycling Experience*

- Very High: 3
- Rather High: 2
- Very Low: 3

*4-point Likert scale

Local Knowledge*

- Detailed: 1
- Rather Detailed: 5
- Basic: 2

*5-point Likert scale

Methods

Interview — Reflexive Thematic Analysis [Braun & Clarke, 2021]

Cycling videos — Variation of Reflexive Thematic Analysis
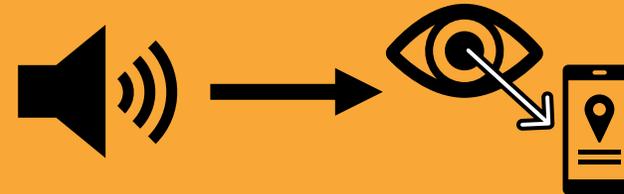

Source: Screenshot of a video coded in MAXQDA 24

Key Findings: Interaction

Repeated short glances

Glance after audio instruction

Participants recall few glances

Key Findings: User Attitudes

Customization options

P2: "Pedestrian zones could be displayed. Maybe even [a **setting**] so that you can say: '**Avoid pedestrian zones**'."

Faster or safer routes

P7: "Yes, my hope would actually be that it would lead me to **a route that doesn't have so much traffic**."

Usage intention: Missing city knowledge

P5: "I think **if I don't know the city** […] **or** I don't know exactly where **the destination** is, then I could imagine [using such an app]."

Discussion

Impact on attention?

Intention to use only in certain scenarios

Limitations

Diversity of participants

Young, fit, and with local familiarity

Analysis

Interview preceded video findings

Summary

Navigation Behavior:

- Repeated short glances
- Glance after audio instruction
- Potential safety implications

User attitudes:

- Customization options required
- Limited usage intention
- Potentially helpful for increasing accessibility of infrastructure