

Creating safe spaces for a just mobility transition

The case of cycling

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- **Motorised transport causes considerable environmental and social burdens** → unequal distribution across society Gössling 2016
- **Car dependence and gridlock** → variations in exposure due to social status, residential location etc. Lucas 2006, Wickham 2006, Klein and Smart 2020
- **Mobility-related inequalities attributable to age, gender, sexuality, ethnicity and disability** Fainstein 2010, Sheller 2012, Verlinghieri & Schwanen 2020
- **Key issues: exposure to risks and pollutants, distribution of space and valuation of travel time** Gössling 2016 → just mobility transition requires risk reduction, reallocation of space and novel approaches to (im)mobility and travel time Cattaneo et al. 2022

Social Justice in Transport

- **‘fairness in the physical distribution of goods, accessibility for people, affordability of all types of services and distribution of other gains (such as increases in land and property prices)’** Beyazit 2011: 117



The Role of Cycling in Just Mobility Transitions

- **Cycling as desirable transport mode** (climate neutral, affordable, “great mobility equalizer”, space-saving etc.)
→ pro-cycling measures (infrastructure)
- **Range extension** and increasing **acceleration** of cycling (e-bike)
→ suitable for longer trips and challenging topography
- **Increasing differentiation of cycling community**
→ emergence of different cycling practices/cultures Aldred et al. 2014, 2016; Haustein et al. 2020
- **Share of non-cyclists remains stable**
→ 50% of the German population cycles < once a month infas 2018, Popp et al. 2024
- **Increase in cycling linked to particular social groups** Aldred et al. 2015, Hudde 2022

Safety in Cycling – A Question of Justice?

Subjective Safety

55 % of regular cyclists and 66% of occasional cyclists (< 1x per month) agree with the statement that cycling is dangerous Mahne-Bieder et al. 2020

Objective Safety

Cycling: 3% of distance traveled, 11% of trips, 26% of accidents infas 2018

Cycling accidents and fatalities increased since 1990s Bundesanstalt für Straßenwesen (BASt) 2024



- **Lack of subjective safety as key barrier to cycling.**

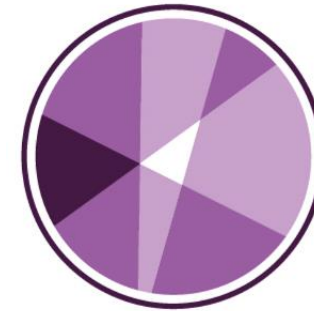
e.g. Buehler und Pucher 2017, Mahne-Bieder et al. 2020, Manaugh et al. 2017, Moudon et al. 2005

SiRa – Subjective safety in cycling

Video-recorded cycling trip along a predefined route +
map-based follow-up interviews (n=27)

Focus group discussions using selected video material (n=9)

Representative survey (n=1,503)



Modellvorhaben
NICHT-INVESTIV

Radverkehrsförderung des Bundes

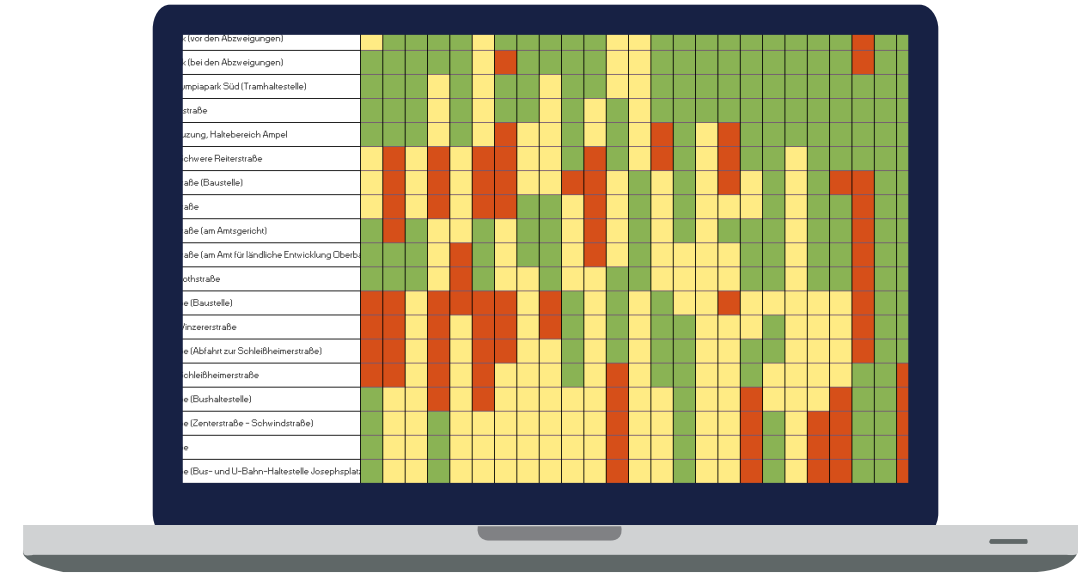
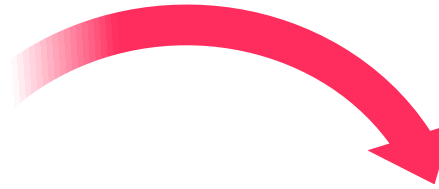
BikeBridge

Transdisciplinary project – LMU x BikeBridge

Interviews with refugee women who attended
a bike training (n=12)



SiRa – capturing subjective safety

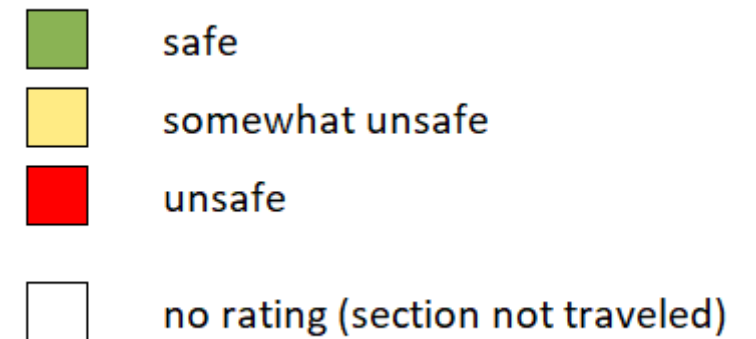
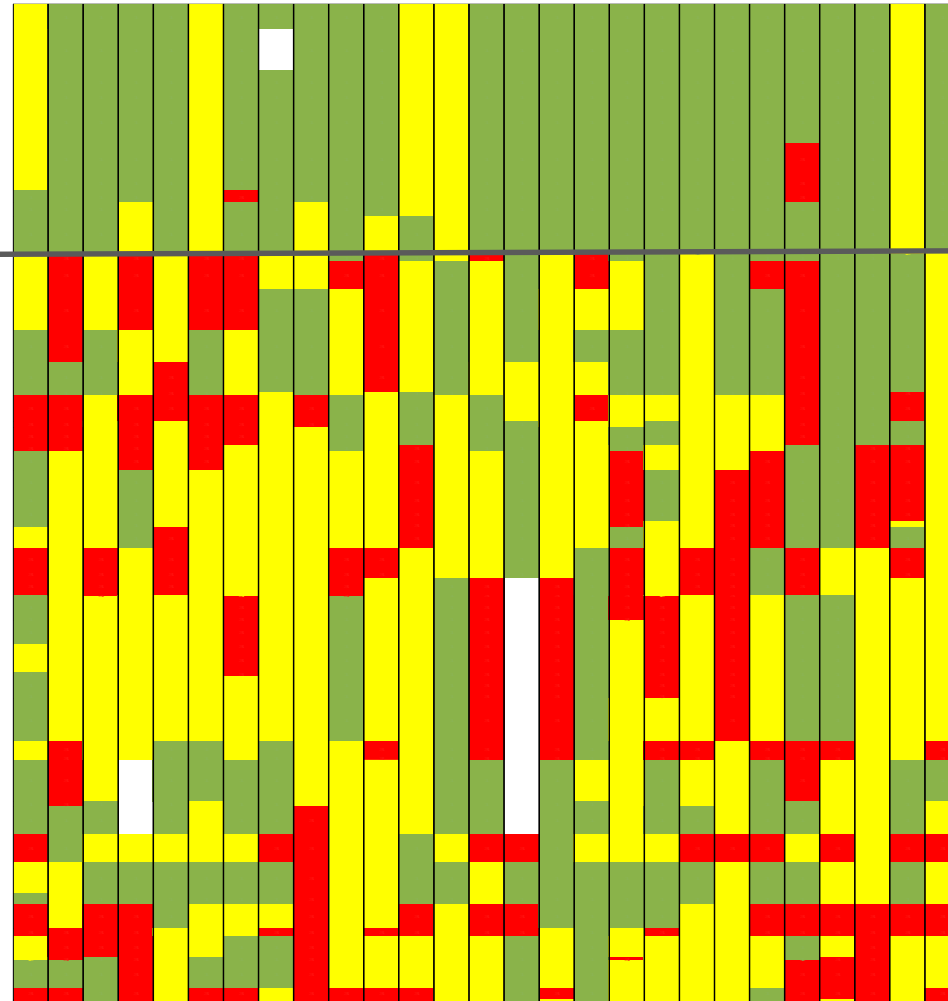


Example of a map including participant's rating of different sections of the predefined cycling route

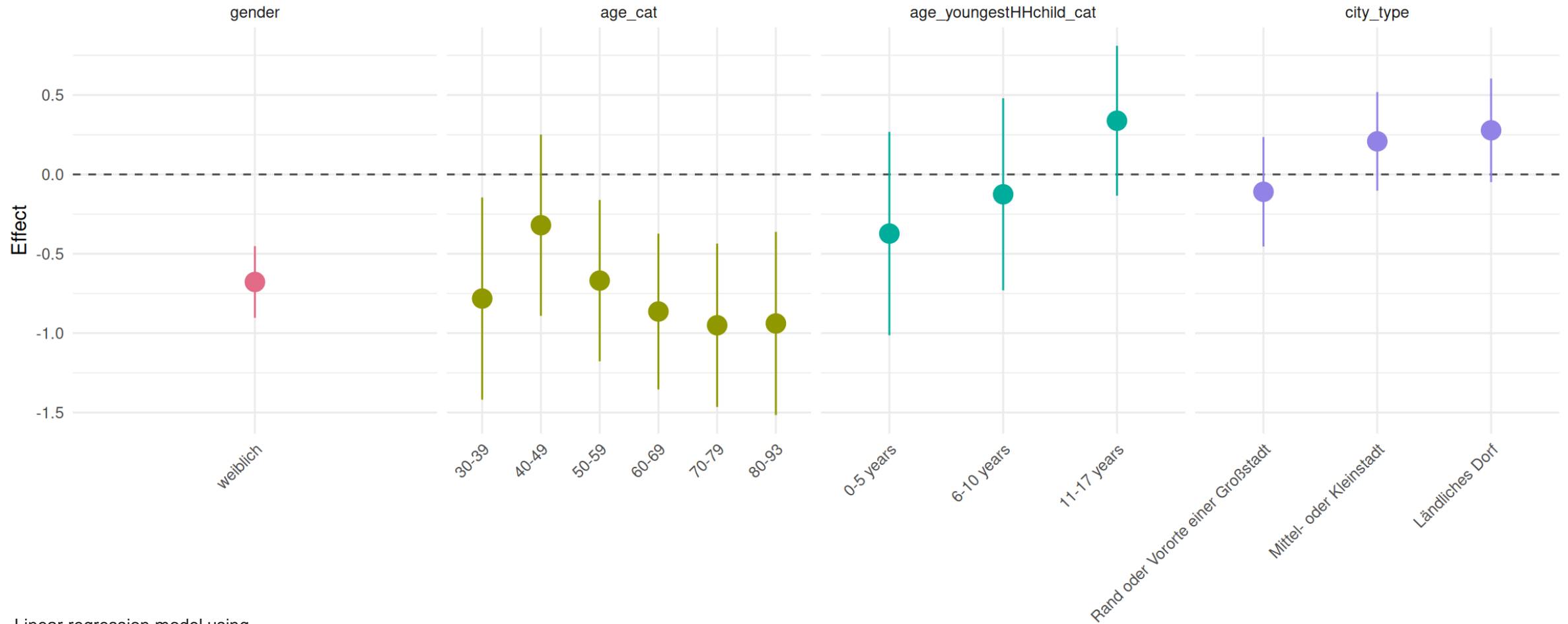
Subjective safety along the predefined cycling route

High level of subjective safety in Olympiapark
(= green space closed to motorised traffic)

Heterogeneous pattern
along sections with motorised traffic



SiRa survey results – concerns about safety



Linear regression model using
 IV: Gender, age, children under 18 in hh, residential location – urban-rural
 DV: perceptions of safety

SiRa survey results – personal strategies to enhance cycling safety

Personal safety strategies e.g. safe bike, helmet, high-vis clothing	97 %
Careful cycling	95 %
Alternatives e.g. cycling on pavement	90 %
Avoidance e.g. different mode of transport	74 %

n = 1077

⇒ Need for cycling-friendly and objectively and subjectively safe transport system

SiRa survey - cycling safety – an intergenerational issue



26% of parents restrict cycling of their children because of safety concerns



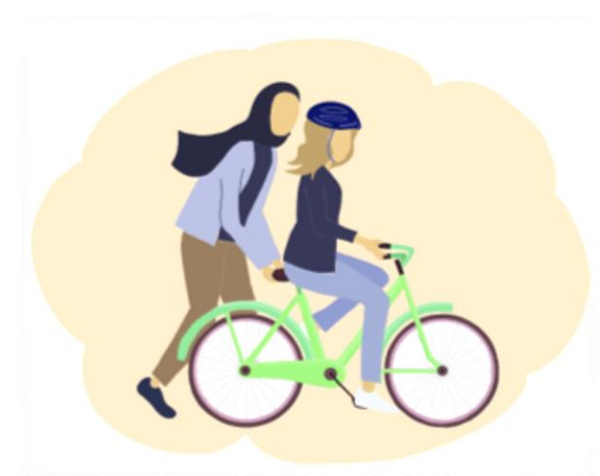
24% of parents do not allow their children to cycling independently



52% of parents worry about their children getting injured in a cycling accident

Cycling among Refugee Women

- 3.1 million refugees in Germany
- 47% women Statistisches Bundesamt 2023



Differences in mobility culture between home & host countries

- Cycling often less prevalent in home country – but exceptions
- Mode of transport for poor people
- Ban on women cycling / taboo



Bicycle as flexible, inclusive and low-cost mode of transport

BUT: lack of cycling skills as major barrier → need for cycling training

Refugee women's uptake of cycling - obstacles and solutions

- Lack of bicycles and ancillary equipment
- Transport infrastructure not conducive to cycling
- **Safety concerns**

„I'm afraid to cycle on the road because of all the cars.“ *Fayola*

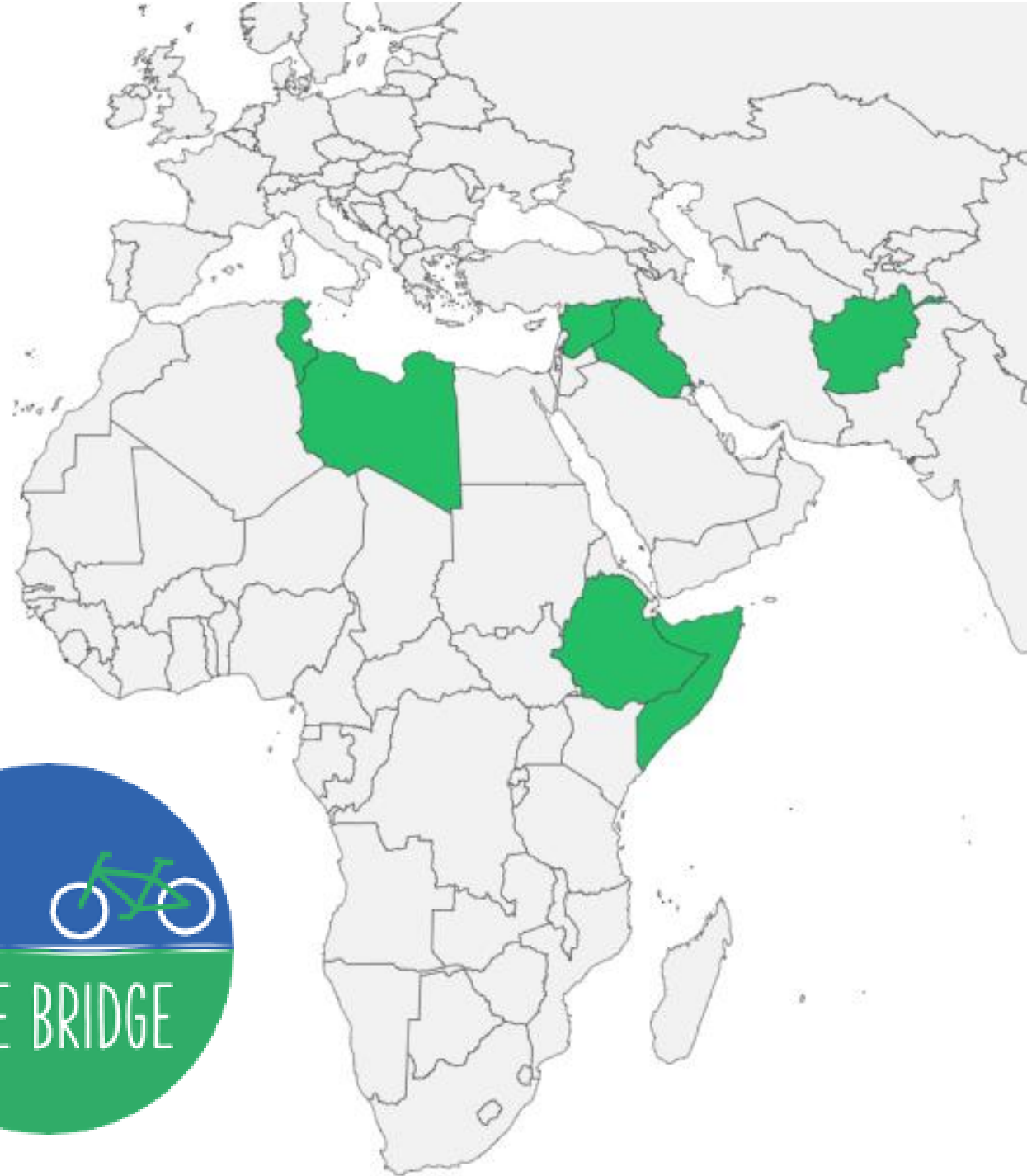


- + More cycling training and supporting services (e.g. childcare, road safety training, cycling in traffic)
- + Advanced courses and 'buddy programmes'
- + Bike-friendly, safe environments

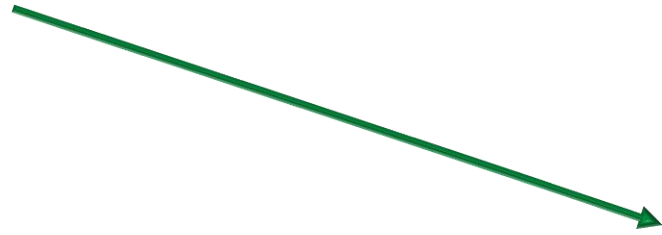
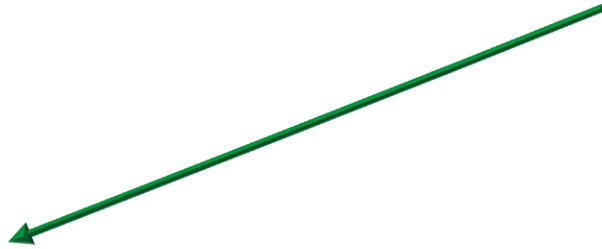
Safety & mobility cultures

„[...] in our culture it is not very common for people to cycle and my parents thus did not teach us when we were kids“

Diata



More than cycling...



Knowledge

Networking

Personal development



Integration

Family, Community, Society

Conclusions

- **Current transport system maintains inequalities** concerning e.g. safety risks
- **Cycling as low-cost and flexible alternative to the car** → facilitates **participation** in labour market, other social activities

- **Unequal distribution of subjective safety** (gender, age, presence of younger children)
- Low subjective safety leads to alternative strategies (e.g. different modes and routes)
- Safety perceptions vary due to situational factors, infrastructure is only one of these

- **Reduction in speed and volume of cars as key step towards increased objective and subjective cycling safety** (Manton et al. 2016, Olsson et al. 2023)

- Less mobility = more justice? → 15mC



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