

How to combat mobility injustices for older people?

A qualitative approach to understanding needs and perceptions in Munich, Germany.

Helena Gartmeier

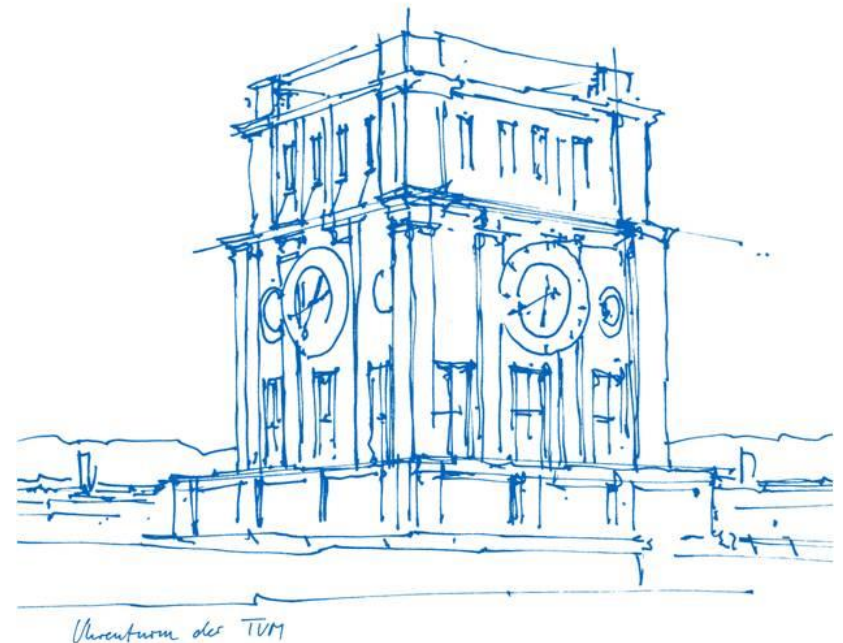
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Chair of Urban Structure and Transport Planning

Munich, 10.04.2024



Outline

1. Motivation and background knowledge
2. State of research and research questions
3. Research design, conduction and results
4. Analysis and summary
5. Conclusion and outlook

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Motivation

Global **megatrends**:



Urbanization



Climate change



Demographic change

Conventional planning approaches

- Interdependencies of motorized transport and land-use patterns
- Safety of older people as traffic participants

Changing **mobility behaviour** of older people

- Decreasing rate of mobility
- Fewer and shorter trips
- Consequences for daily routines:
„As people age, their **living space shrinks**“

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Mobility justice: State of research

- Uneven distribution of mobility resources and burdens
- **Concept of “Mobility justice”**
 - Built up on [Accessibility](#), [Availability](#) and [Exposure](#)
 - Creating a high-quality, barrier-free environment
 - Preventing [social exclusion](#)

State of research

- ✓ Concept of “Mobility justice“ theorized
- ✓ Characteristics of older people’s mobility behaviour
- ✓ Spatial analysis of injustice in Munich
- [Perceptions of older people towards injustice](#)

Research questions and methodology

Research Questions: How to combat mobility injustices for older people?

Sub-Question 1:

How do older people **perceive injustices** in their mobility routines?

Sub-Question 2:

How does the examined social group **cope with** the associated **disadvantages**?

Sub-Question 3:

Which **potential actions** can be allocated to the identified mobility deficits?

Methodology

- Qualitative **residents interviews**
- Comparison with spatial framework

- Qualitative **residents interviews**

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- Qualitative **expert interviews**

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Study area: Selection and spatial analysis

Neighbourhood: Waldtrudering

Part of the district Trudering-Riem

Mainly **residential** area

High share of **older inhabitants**

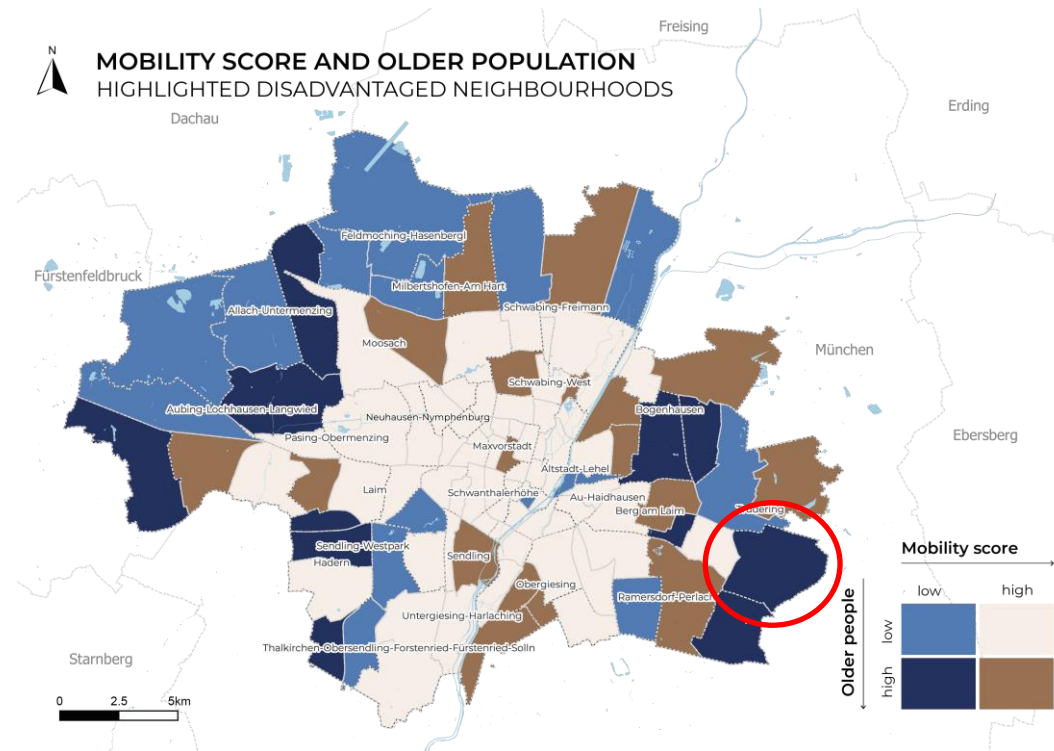
High **car ownership** rates

Low score in dimensions of **mobility justice**

➤ Accessibility

➤ Availability

Low usage of **sustainable** modes

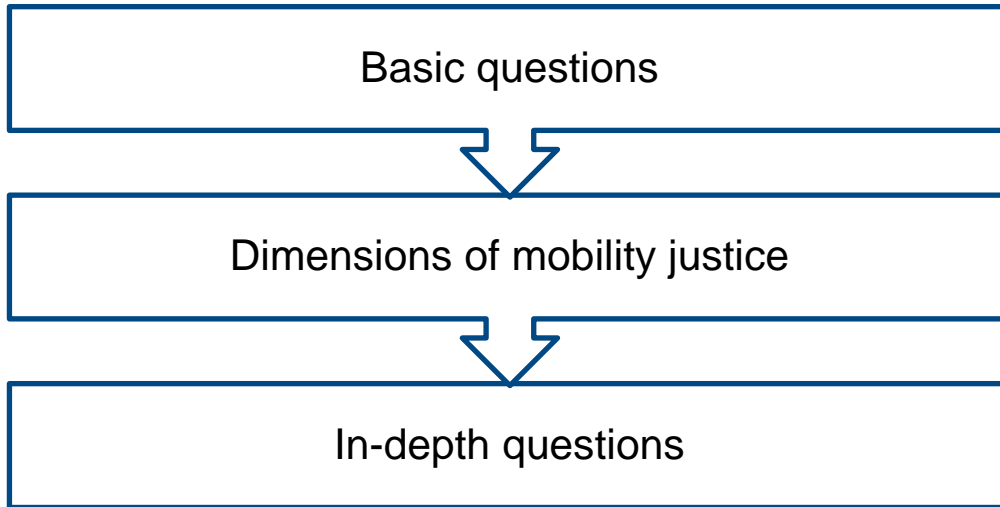


[11]

➤ **At-risk neighbourhood for older people**

Residents' interviews

Qualitative, **semi-structured** interviews



Oct. - Nov. 2023



Public places
Senior-specific community centres

Evaluation

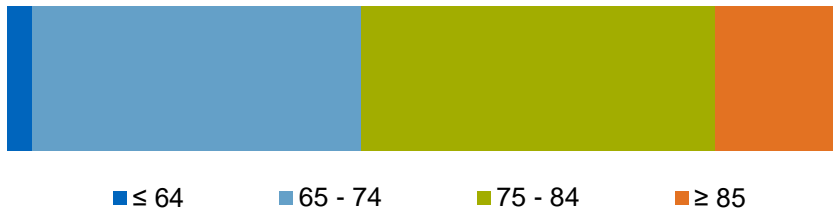
Topics		
(In-) Justice Suggested improvements	Infrastructure	Individual

Sample composition

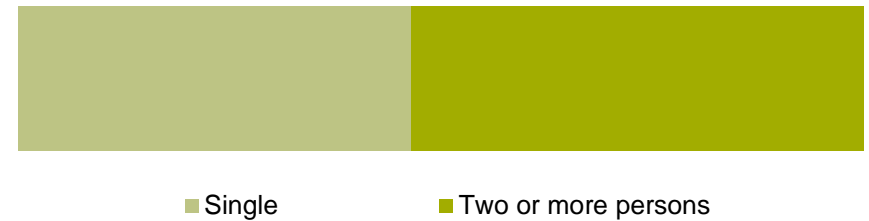
Sample size: 33

Average interview duration: 26 min

Ages [years]



Household size



Gender



Physically limited



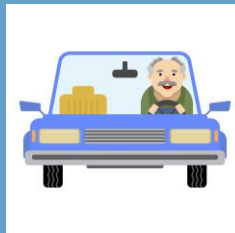
Development of “personas”

Social group of “older people”: **heterogeneous**

- Personas: “**Fictional** characters”
 - Linking preferences and needs to socio-demographic background
 - Representing sub-groups of the sample
- “**Actual personas**” derived from interviews
 - Categories based on age, gender, and health conditions



Anne

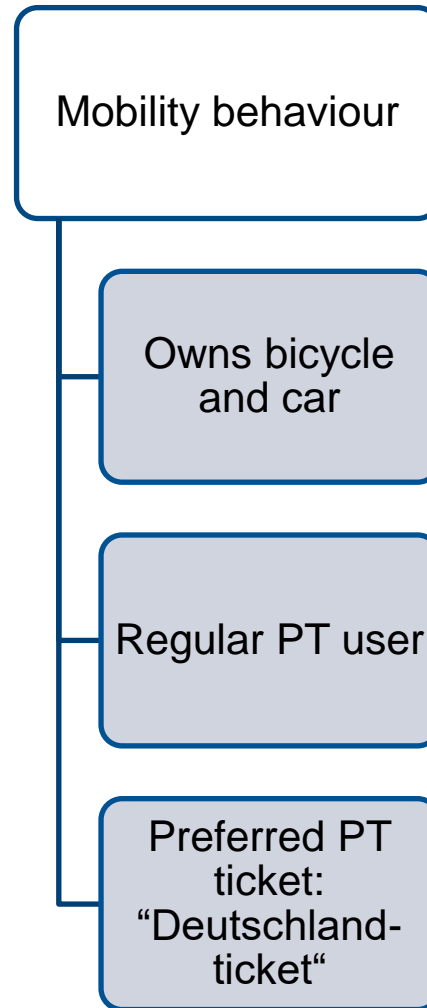
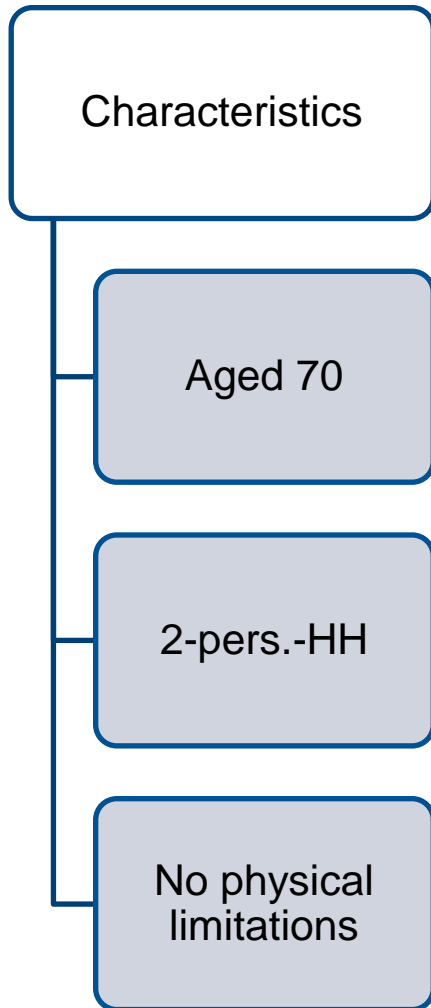


Bill



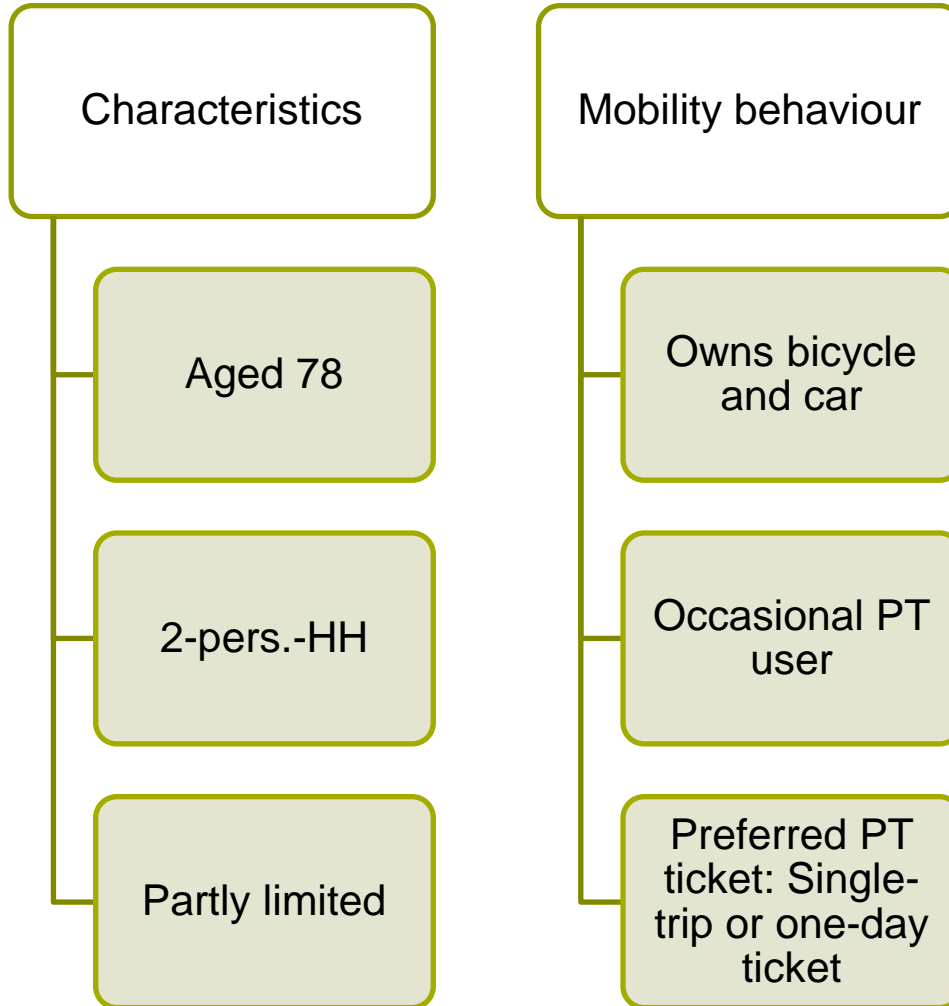
Caroline

Anne



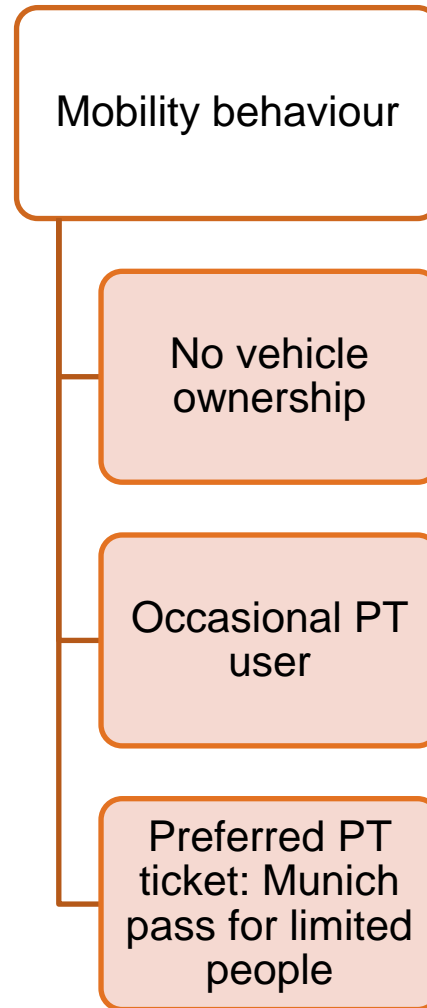
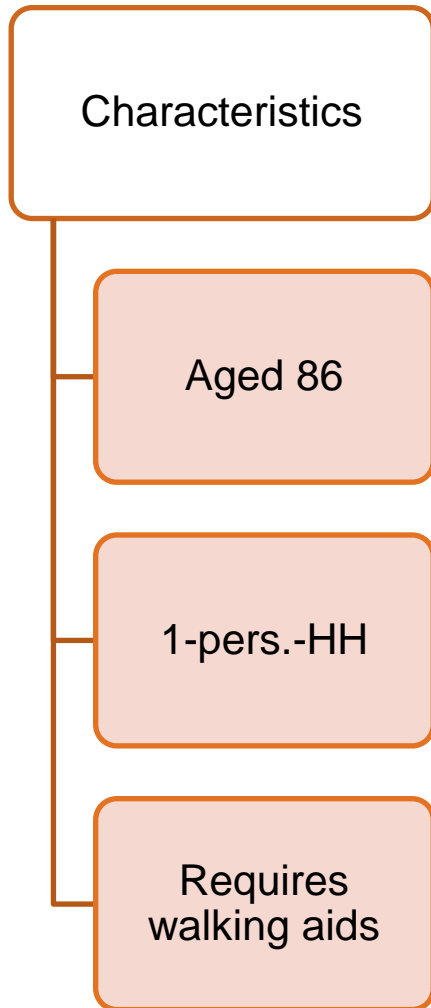
Every trip I can take walking, I walk. Every trip I can do by bicycle, I cycle. Every trip I can do by public transport, I use public transport for, and for some trips I use the car. (34)

Bill



I live so far from the nearest stores that it is not reasonable to walk there. [...] Yes, if one is still very mobile, so one has the possibility to either take the bike or the car, then it's alright. (38)

Caroline



That is all here. The way across the street and then in that direction to REWE, there is also the bakery [...]. Because [the city centre] is the [other] way, and that is often too far for me. (4)

General factors influencing mobility

POIs, trip purposes

- Groceries, stores
- Healthcare
- Leisure
- Social interactions

Benefits associated with “mobility”

- Social interactions, participation
- Independence, flexibility
- Health, fitness

External factors influencing mobility behaviour

- Feeling “insecure” or “overwhelmed”
- Safety concerns
- Weather, seasonal conditions
- Finances
- Urban design

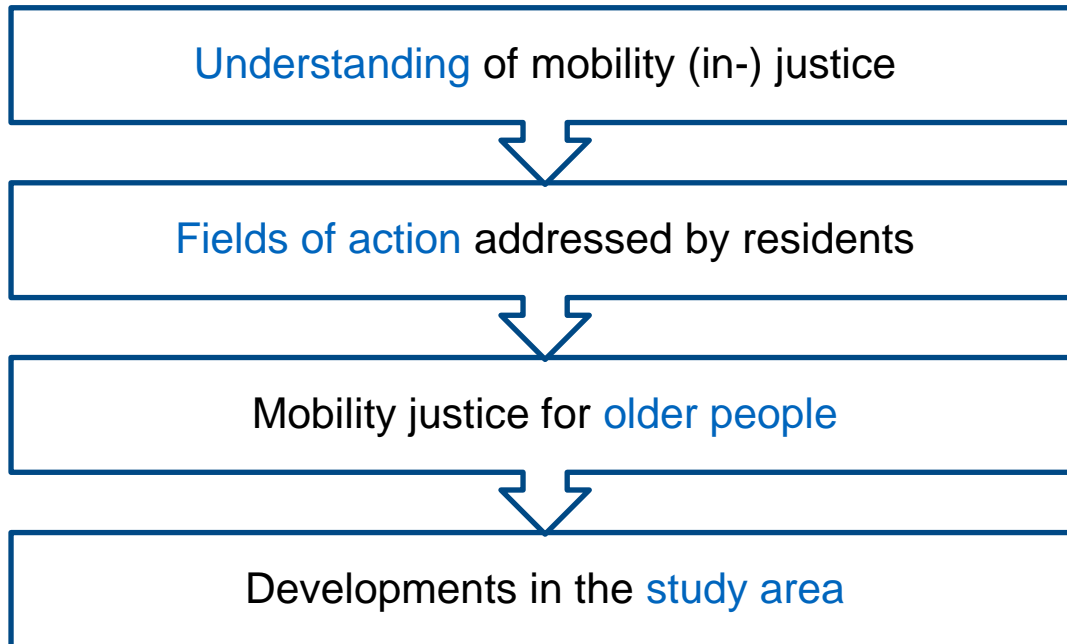
- Mode choice
- Route choice
- Times of travels
- Trip frequency

Experts – Design, conduction, evaluation

Experts' interviews

Research purpose: **extending** insights from residents' interviews

Qualitative, **guideline-based** interviews



Feb. 2024



City of Munich, Mobility
Department
Local District council

Planning for mobility justice

Understanding of mobility justice

- “Mobility“ as **public provision of daily services** ➤ Support physically limited people
- **Barrier-free** infrastructure for pedestrians and PT
- Age-friendly innovations
- **Heterogeneity** of social group of “older people”

Current barriers and challenges

- Wide range of needs of “older people“
- Lack of **financial resources** and available **public space**
- Executing transformative actions, especially in **car-centric** neighbourhoods

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Q1: Perception of mobility (in-) justice



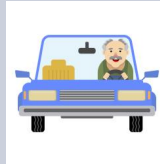
Anne

Exposure

- Main road noise
- Risk of accidents

Availability

- Cycling infrastructure



Bill

Exposure

- Costs

Accessibility

- Proximity of POIs



Caroline

Accessibility

- Proximity of POIs
- Diversity of POIs

Availability

- PT: Spatially and temporally

➤ **Holistic perception of trips**

Q2: Coping strategies

Perceiving a trip as less enjoyable

Changes in mobility behaviour

- Route adjustment
 - Times of travelling: Avoiding travels during peak hours and evenings
 - Selection of POIs based on their accessibility
-

Investing additional effort

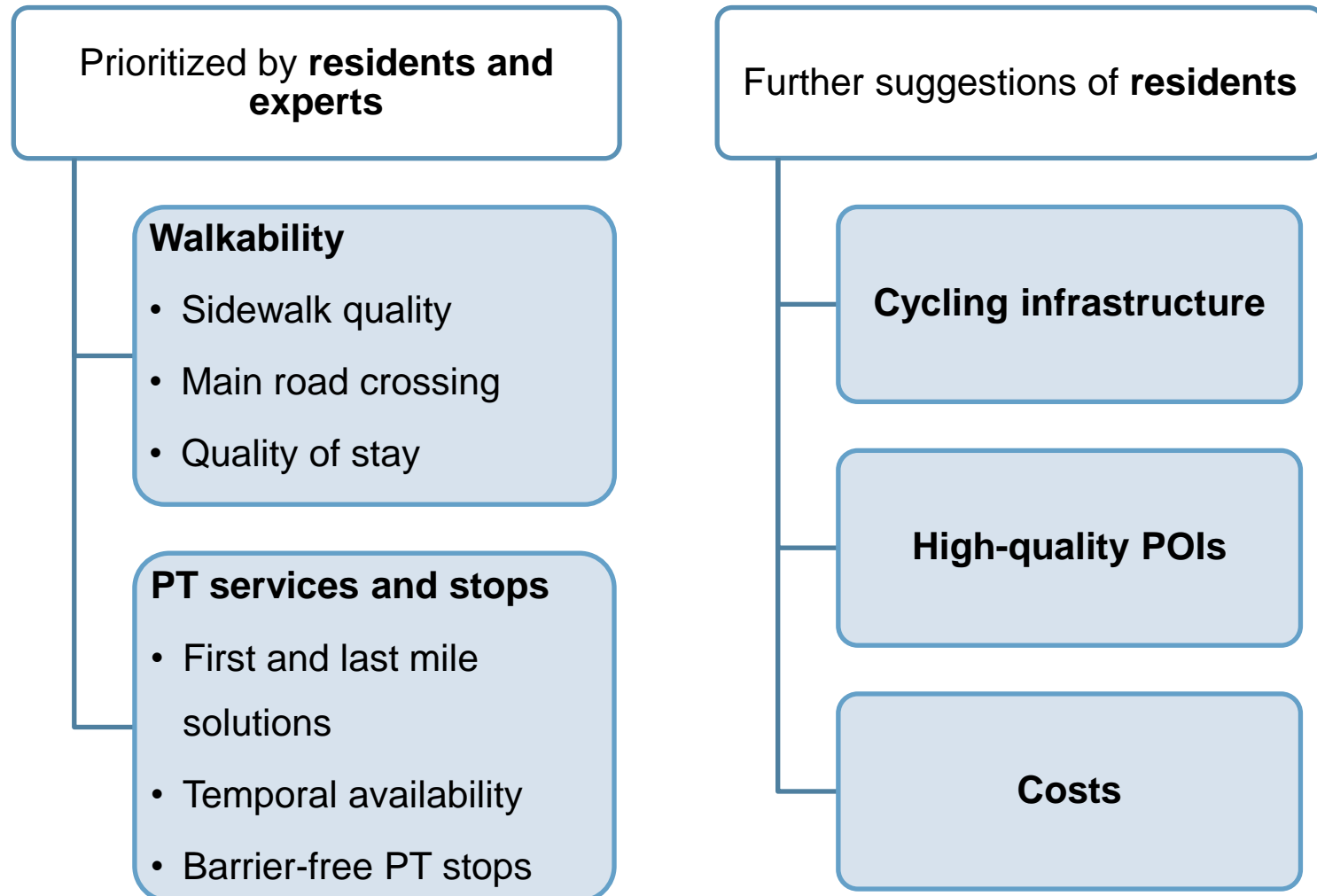
- Longer travel times
 - Additional costs
 - Walking uncomfortable distances
 - Increased attention to traffic situation
-

Receiving support

- Social network
 - Senior-specific institutions
-

Not taking a trip

Q3: Measures for mobility justice



Analysis and summary

Mobility (in-) justices for older people

Ability to fulfil mobility needs with a **suitable effort**

➤ Value of **routines**

- Perceived safety and confidence
- **Deliberate choice** of mobility behaviour

➤ **Reasons** to alter mobility behaviour

- **External** factors (e.g. costs)
- **Personal** factors (e.g. health impairments)

➤ **Alternative** options

- **Design** and **suitability** of alternatives
- Experiences in earlier stages of life
- Personal **capability to adjust** behaviour

And now, I try to do everything by foot or by PT. Then you are limited of course, if you have been used to driving a car for your whole life. (5)

Consideration for older people's needs and abilities

Strategies for mobility justice

Experts' and residents' strategies

Primarily addressing older people with [physical limitations](#)

- Residents: Older people with limitations more likely to report disadvantages and injustices
 - Smaller scope to adjust mobility behaviour
 - Experts prioritize inclusive, barrier-free infrastructure
- [Pro-active planning](#): prevent potential disadvantages and injustices

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Conclusion and outlook

Conclusion

- Qualitative research suited for understanding routines and extending spatial analyses
- **Holistic** approach to “mobility justice” for older people
- Impact of **routines** and experiences in earlier stages of life
- “Mobility justice” as an **interdisciplinary** and **trans-municipal** task

Potential for **follow-up research**

- Impact on measures for mobility justice for older people on **further social groups**
- Perceptions of **immobile** or **mentally impaired** people
- Comparative analyses between neighbourhoods
- Interactions between mobility justice and **sustainability**

Thank you for your attention!

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Thank you for your attention!

Discussion



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Literature on mobility justice

	Accessi- bility	Availability				Exposure			Other				
		PT	Walking	Cycling	Car	Safety	Health	Costs	Urban design	Comfort / Quality of stay	Inform- ation	Techn- ology	Parti- cipa- tion
Agular and Macário (2017)	✓	✓	✓	✓	✓	✓			✓	✓	✓		
Alves et al. (2020)	✓		✓			✓	✓		✓	✓			✓
Buttel et al. (2012)							✓	✓	✓	(✓)			✓
Harada et al. (2023)		✓				✓	✓			✓			
Iancu and Iancu (2020)												✓	
Martinez et al. (2022)		✓	(✓)	✓		✓					(✓)	✓	
Neon and Ayalon (2018)			✓						✓				
Nordbakke and Schwanen (2015)	✓	✓	✓				✓	✓		✓	✓		
Ryan et al. (2015)	✓	✓	✓						(✓)				
Shrestha et al. (2017)	✓	✓	✓			✓		✓	✓	✓	✓	✓	

Backup

Mobility (in-) justice in Waldtrudering

Accessibility

Types of POIs: Stores, services, healthcare and restaurants

Walking speed: 4 km/h

Catchment areas: 10 min walking

Availability

Sustainable modes

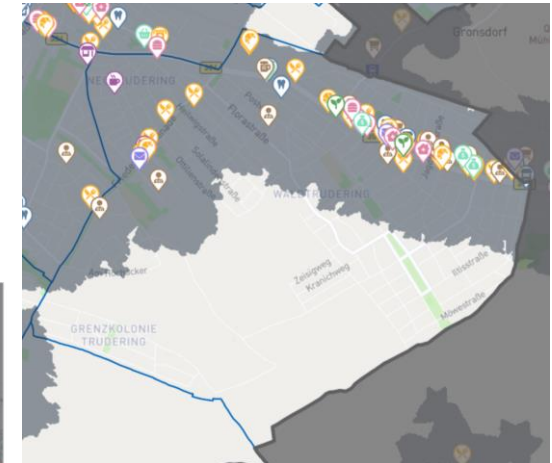
- PT
- Cycling lanes
- Shared services

Exposure

Road noise

Road accidents involving pedestrians and cyclists

Accessibility



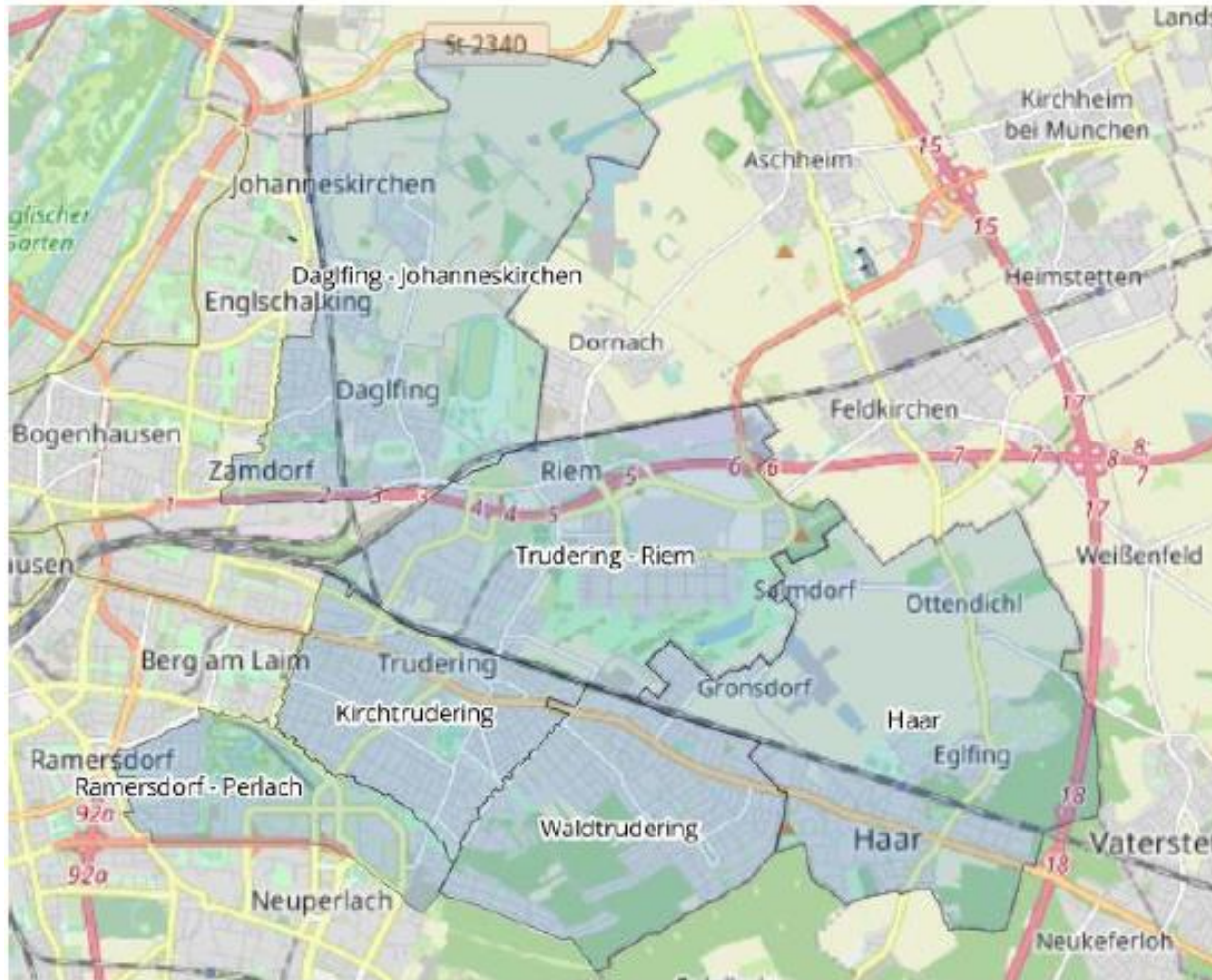
Availability



Exposure



Demographics of residents' sample



ZIP code area	Nr of interviewees
Waldtrudering	19
Kirchtrudering	8
Trudering – Riem	1
Ramersdorf – Perlach	1
Dagfing – Johanneskirchen	3
Haar	1

Backup

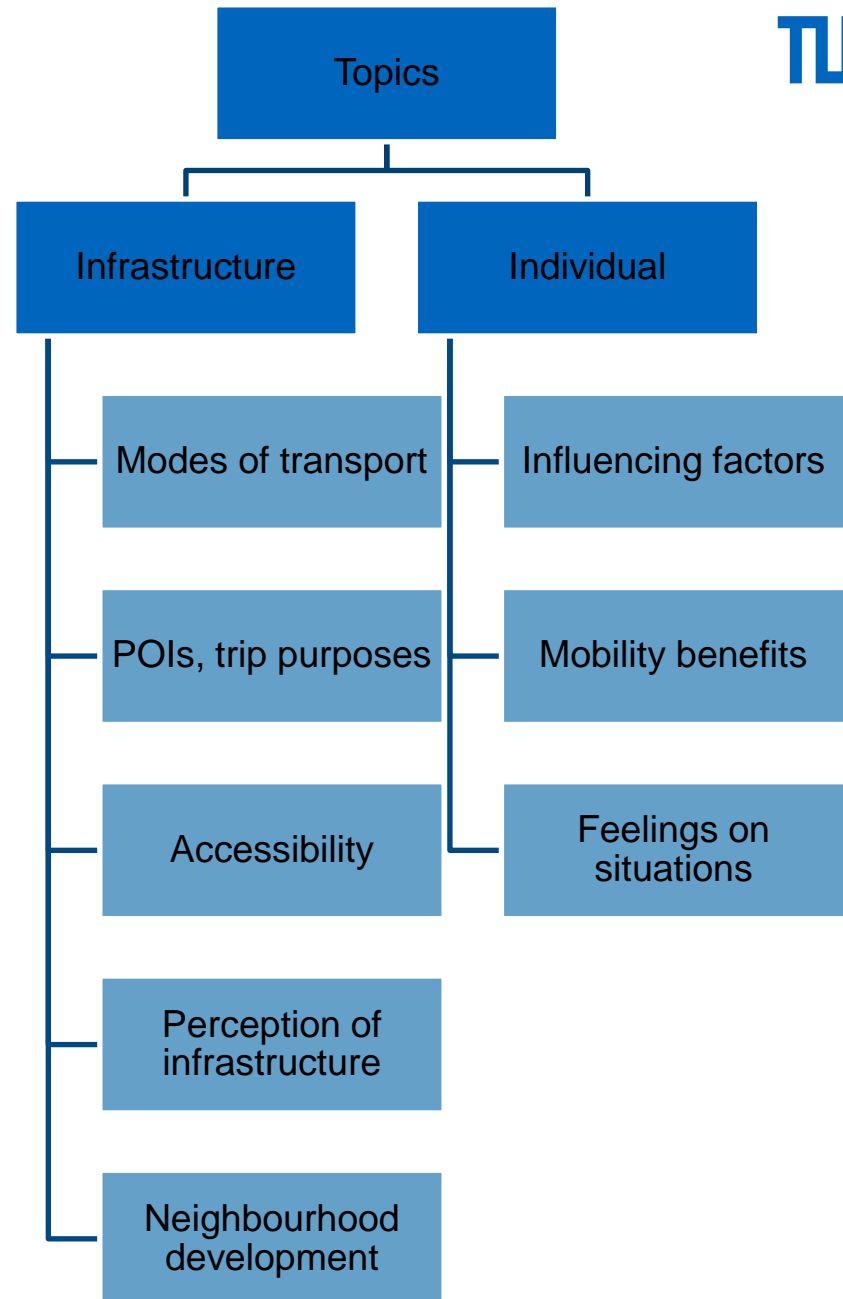
Coding and topics

Coding **strategy**

- Inductive codes based on interview structure
- Deductive codes as additional “layers of information“ addressed by interviewees

Coded information ➤ **Topics**

- (In-) Justice and suggested improvements
- Infrastructure
- Individual
- Additional, personal codes
 - Mobility routines
 - Personally affected
 - Satisfaction



Backup

Codes and topics

Codes	Topic
Infrastructure	
Modes of transport	Mode choice
Types of POIs, Trip purposes	Points of interest and trip purposes
Car Public transport Parking spots PT stops Street design Noise, air pollution	Perception of motorized transportation
Active Mobility Urban design, walkability, cyclability Street design	Perception of active mobility and public places
Are daily services accessible? Diversity, Proximity Types of POIs, Trip purposes	Accessibility of POIs
Neighbourhood	Neighbourhood developments
Individual	
Feelings Health Costs Weather Traffic situation (Walking) distances Digitalisation and information	Influencing factors on mobility behaviour
Feelings	Feelings about mobility situations
Mobility benefits	Additional benefits of mobility

Experts – Involved interview partners

Mobility Department of Munich

- **E1:** Expert on district Trudering-Riem
- **E2:** Expert on pedestrian infrastructure in Munich-East

District Council Trudering-Riem

- **E3:** Expert on local mobility and building, Member of city-wide council for disabled