

# Beliefs, governance and context of car-reduced planning –

A comparison of new housing developments  
within and between cities

**Annika Schröder**

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Fig. 1: 'Lincoln' neighborhood within the City of Darmstadt  
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Research project: sustainable mobility in Lincoln 2

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Research

# Agenda

1. From car-oriented to car-reduced planning?
2. Conceptual framework: belief-driven spatial transition governance
3. Research design: Qualitative comparative case study
4. Preliminary findings
5. Conclusions



# From car-oriented to car-reduced planning?





# From car-oriented to car-reduced planning?

- Car-oriented urban and spatial development followed the ‘**predict and provide paradigm**’ (Owens 1995)
- Path dependencies in urban and transport planning (Curtis/Low 2016)
- **Car-reduced urban developments ...**
  - i. follow a sustainable mobility concept with **push and pull measures** (Heldt et al. 2021).
  - ii. can be seen as a **transition experiments** (Späth/Ornetzeder 2017) within the ‘Automobility Regime’ (Geels 2012) or ‘System of Automobility’ (Urry 2004).
  - iii. are highly contested due to **diverging interests and beliefs** of the actors involved (Heldt et al., 2010; Selzer, 2021; Schröder/Klinger 2024).

# From car-oriented to car-reduced planning?

- Effects of built environment, regulations and mobility culture on individual **mobility practices and behavior** are well studied (e.g., Manderscheid 2004; Klinger et al. 2013; Selzer/Lanzendorf 2022)
  - Interdependencies between **socio-spatial dimensions and ‘planning actors’** involved in car-reduced planning processes are rather unexplored (except, e.g., Hrelja/Rye 2023)
  - **Car-reduced planning principles** as the ‘new standard’ [...]” (Selzer 2021): How to get there?
- Better understanding for the **governance of car-reduced planning** processes is needed (Marsden/Reardon 2017)



# Conceptual framework

Fig. 2: The 'Lincoln' neighborhood © Thorsten Friedrich, HEAG Mobilio GmbH





# A socio-spatial perspective on the planning transition

- **Socio-spatial context** =
  - i. “local assemblage” (Williams, 2017, p. 193), e.g., local actor-constellations, structures and practices
  - ii. supra-local context (Coenen et al. 2012), e.g., national laws
- **Relational understanding of space** as a basis (Levin-Keitel et al. 2018)
- Interrelating socio-spatial dimensions may create a **case-specific context** of car-reduced planning

# Interrelating socio-spatial dimensions of car-reduced planning

synthesis from transition, mobilities and transport planning literature:

Socio-spatial dimension	Description	References
<b>Material</b>	<ul style="list-style-type: none"> <li>- Tangible and visible artefacts in space</li> <li>- Place-bound objects and structures</li> <li>- Human-made, e.g., “Automobile landscapes” (Manderscheid, 2014) or settlements</li> <li>- Naturally formed landscapes, e.g., mountains or soil conditions</li> </ul>	Manderscheid, 2014; von Wirth and Levin-Keitel, 2020; Levin-Keitel et al., 2018; Bögel et al., 2022
<b>Institutional</b>	<ul style="list-style-type: none"> <li>- Societal, legal and political institutions and regulations</li> <li>- Organizational forms as the “hardware of institutions” (Curtis/Low 2016)</li> <li>- Social regulatory systems, e.g., ownership structures or power relations</li> <li>- Immaterial manifestations</li> </ul>	Low and Astle, 2009; Manderscheid, 2014; Curtis and Low, 2016; Marsden and McDonald, 2019; Raven et al., 2019; von Wirth and Levin-Keitel, 2020; Levin-Keitel et al. 2018; Bögel et al., 2022
<b>Cultural</b>	<ul style="list-style-type: none"> <li>- Discourses (of explanation)</li> <li>- Planning cultures</li> <li>- Historical imprints</li> <li>- Collective symbolism, signs and representations</li> </ul>	Hansen 2011; Manderscheid, 2014; Hrelja 2015; Legacy et al. 2017; von Wirth and Levin-Keitel, 2020; Levin-Keitel et al, 2018; Bögel et al., 2022

**Table 1: interrelating socio-spatial dimensions** © own compilation based on the quoted references



# Belief-driven patterns of transition governance

Schröder, A., Klinger, T., 2024. From car-oriented to car-reduced planning practices: The complex patterns of actors' mobility-related beliefs in developing a new neighborhood. *Environmental Innovation and Societal Transitions* 50, 100800.

# Belief-driven patterns of transition governance

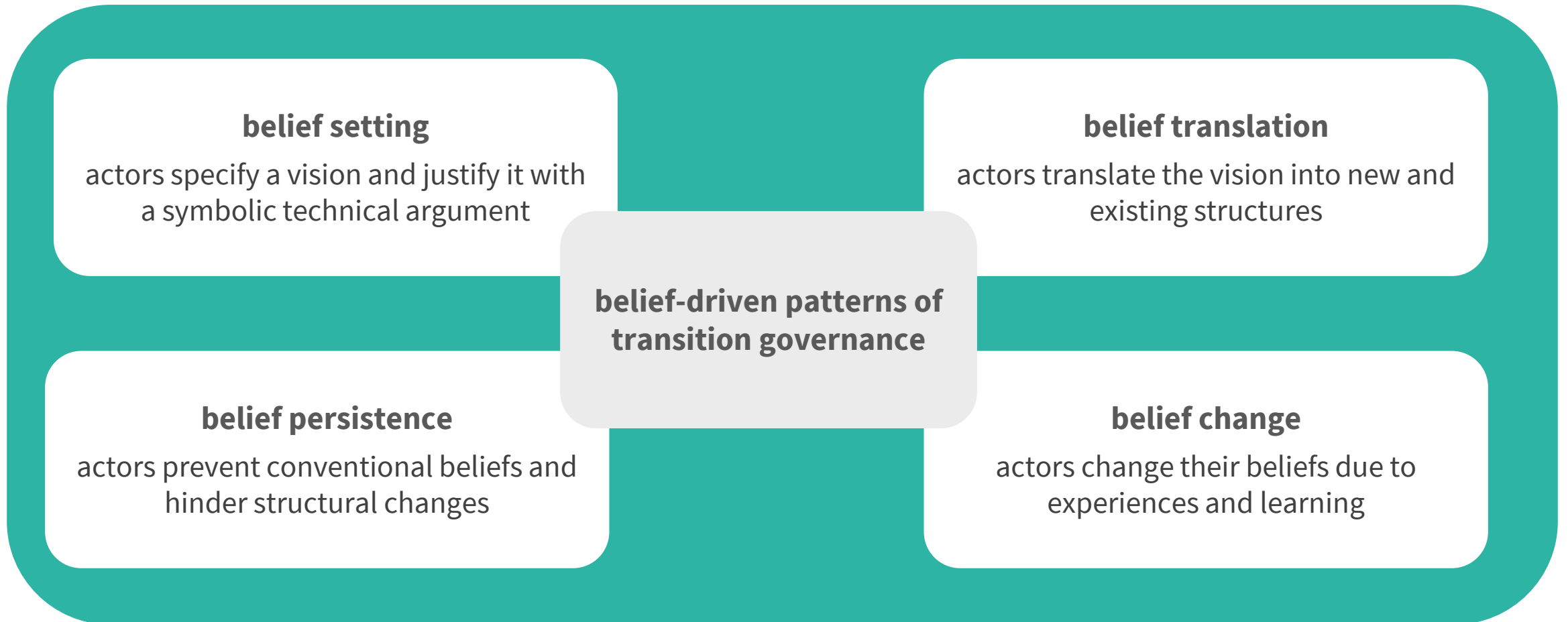


Fig. 3: belief-driven patterns of transition governance © own compilation based on Schröder/Klinger 2024



# belief-driven spatial transition governance framework

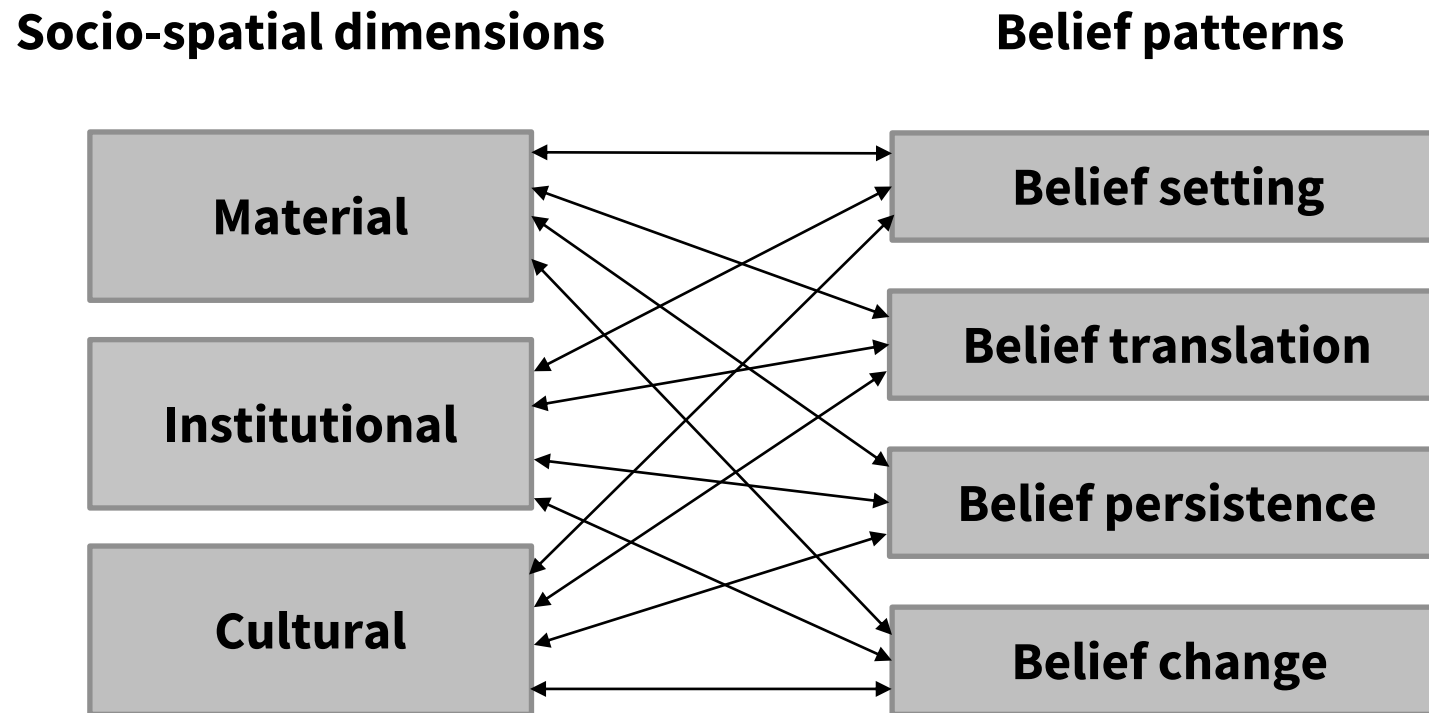


Fig. 4: Integrating a socio-spatial and a belief-related perspective © own compilation

# Research question

To what extent do the belief patterns of ‘planning actors’ interrelate with the material, institutional and cultural dimensions of car-reduced developments?

- promoting or hindering factors of the transition from car-oriented to car-reduced planning
- similarities and differences between transition pathways



# Research design

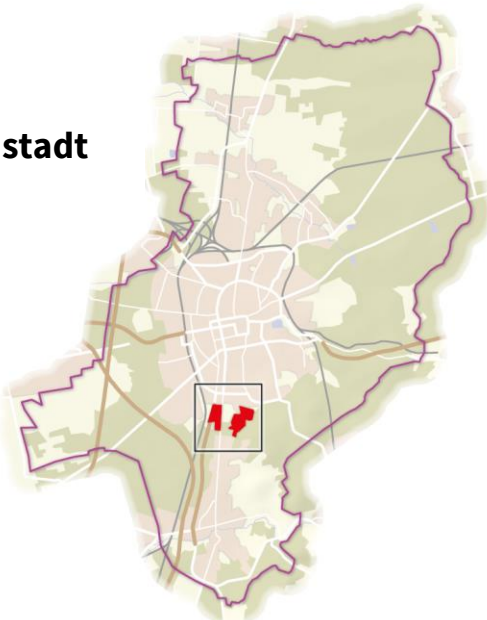
Fig. 2: The 'Lincoln' neighborhood © Thorsten Friedrich, HEAG Mobilio GmbH





# Qualitative comparative case study

Darmstadt



Bielefeld



Fig. 5: Localization of case studies  
© maps created by Jutta Rönsch, ILS

Cologne



Geodaten: GeoBasis-DE/BKG 2022

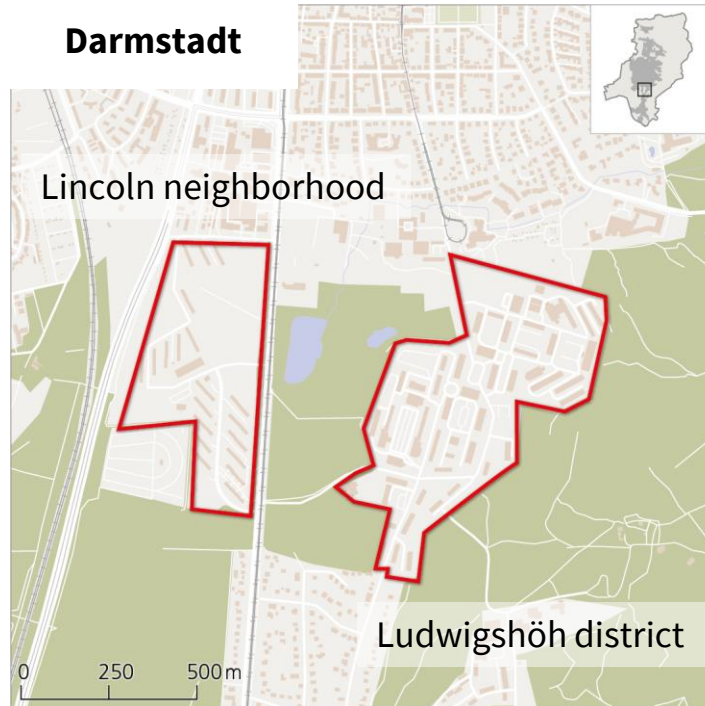
0 1 2 3km



# Qualitative comparative case study

Fig. 6: areas of studied cases

© maps created by Jutta Rönsch, ILS



25 ha  
2.000 dwellings  
residential usage  
under construction  
partly inhabited

34 ha  
1.300 dwellings  
residential usage  
construction has  
begun in 2023

11 ha  
130 dwellings  
mixed usage  
project continuation unclear

46 ha  
4.500 dwellings  
mixed usage  
under development

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© Stadt Bielefeld 2024; Neue Westfälische 12.09.2023

© Stadt Köln 2022

# Qualitative comparative case study

## Qualitative comparative case study

### 22 semi-structured expert interviews

- Officials from the municipalities and politicians
- Investors, housing industry and real estate developers
- Private consulting and mobility providers
- Civil society initiatives and education institutions

### Qualitative content analysis

Following the seven-step approach of a structured qualitative content analysis by Kuckartz/ Rädiker 2022

Fig. 7 : Research design © own compilation



# Preliminary findings

Fig. 2: The 'Lincoln' neighborhood © Thorsten Friedrich, HEAG Mobilio GmbH





# Comparison of car-reduced plannings

## Belief setting

Lincoln, Darmstadt

Mülheim South, Cologne

### Justification:

mobility concept as a necessity to avoid congestion ([material](#))

### Tool:

traffic study as a conventional institutionalized planning instrument ([institutional](#))

### Initiation:

Frontrunners' belief in car-reduced planning **vs.** investors' belief in growth ([institutional/cultural](#))

### Function:

vision and 'symbolic leadership-context' **vs.** serves not as a vision and guideline ([cultural](#))

# Comparison of car-reduced plannings

## Belief setting

*“I worked very closely [...] with [the former head of the mobility planning unit] and we were clear that what was going to happen had to be something low-car“  
(commissioned transport planner, Darmstadt).*

*“[The investors’ wish to provide a much more intensive use] was also the reason [for the mobility concept] and, of course, this also has direct [traffic] effects [...]”  
(head of mobility department, Cologne).*

# Comparison of car-reduced plannings

## Belief translation

Lincoln, Darmstadt

Schilling site, Bielefeld

### Negotiations:

Highly belief-driven and conflictive due to diverging mobility-related beliefs **vs.** due to power relations and steering culture ([institutional](#))

### Understanding of planning:

Experimental and dialogical planning process **vs.** experimental but antagonistic planning process ([cultural](#))

### Implementation:

in planning instruments and sustainable mobility measures **vs.** is hindered by actor constellations and role as a rather rural district ([institutional/material](#))



# Comparison of car-reduced plannings

## Belief persistence

Mülheim South, Cologne

Schilling site, Bielefeld

### Actor groups:

parts of the municipality and investors **vs.** parts of the municipality, politicians and state authority for building roads ([institutional](#))

### Consequences:

e.g. in form of an additional road **vs.** space allocation on an existing road remains car-oriented ([material](#))

# Comparison of car-reduced plannings

## Belief change

Lincoln, Darmstadt

Ludwigshöh, Darmstadt

### Actor groups:

real estate actors (institutional)

### Possible reasons:

persuasion and practical experiences, new procedures and modes of collaboration  
(institutional/cultural)

# Comparison of car-reduced plannings

## Belief change

*“So [concerning Ludwigshöh] we no longer bickered about the [reduced] key of parking lots. We no longer bickered about underground garages because [the municipal housing association] has also learned that maybe that was only the second-best idea” (urban planner, Darmstadt).*



# Types of car-reduced plannings

1. Mobility concept as a flagship – Lincoln, Darmstadt
2. Mobility concept as transfer – Ludwigshöh, Darmstadt
3. Mobility concept as a means to an end – Mülheim South, Cologne
4. Mobility concept under the surface – Schilling, Bielefeld-Sennestadt



# Conclusions





# Conclusions

- Planning actors' beliefs contribute to a large extent to the (future) materiality, institutional arrangements and cultures of the car-reduced planning
- In turn, the actors' beliefs are also shaped by the preexisting socio-spatial context
- Mobility-related beliefs and socio-spatial context factors can promote or hinder the transition from car-oriented to car-reduced planning
- The translation of beliefs into planning action and implementation depends on a complex interplay of material, institutional and cultural factors
- There are similar core elements of car-reduced planning but the variety of the socio-spatial contexts lead to very different car-reduced approaches, development processes and (planned) measures



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# Figures and tables

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# Thank you

ILS Research gGmbH

Brüderweg 22 – 24

44135 Dortmund

P. O. Box 10 17 64

44017 Dortmund

Phone: +49 (0)231 90 51-234

E-Mail: [annika.schroeder@ils-forschung.de](mailto:annika.schroeder@ils-forschung.de)

**[www.ils-research.de](http://www.ils-research.de)**



Back up

Fig. 1: The 'Lincoln' neighborhood © Thorsten Friedrich, HEAG Mobilio GmbH





# Expert interviews

Table 2: grouped compilation of the interview partners from Darmstadt, Köln and Bielefeld, © own compilation

	Municipality and politicians	Housing development	Private consulting and mobility service provider	Civil society initiative and educational institution
<b>Darmstadt</b>	Head of department for climate protection, planning, mobility, green spaces and environment	Head of real estate management unit, municipal housing association	Head of independent transport planning office	Spokesperson for local citizens' cycling initiative "Radentscheid"
	Head of urban planning office	Head of real estate developer	Head of integrated mobility and services, municipal mobility service provider	Spokesperson for a community housing project
	Former head of sustainable mobility and public space unit, urban planning office	Head of Darmstadt service center and head of project development, acquisition and sales, real estate investor		Headmaster of primary school
	Head of mobility planning unit			
<b>Köln</b>	Head of road planning unit, department for roads and cycle pathways <sup>1</sup>	Project management for residential, commercial and public construction projects (client tasks)	Head of transport planning unit, independent planning and engineering office	
	Head of mobility department			
	Project management Mülheimer South, urban planning office			
	Councillor (Bündnis 90/Die Grünen), Parliamentary party leader, Chairman of the transport committee, Chairman of the supervisory board of a municipal mobility service provider			
<b>Bielefeld</b>	Urban planner in the building authority	Head of the municipal company for urban development of Sennestadt	Head of the tram extension project, municipal mobility service provider	
	Former head of transport planning unit, transport office <sup>1</sup>		Head of independent urban planning office	

<sup>1</sup> dual function of the interview partner



# Qualitative content analysis

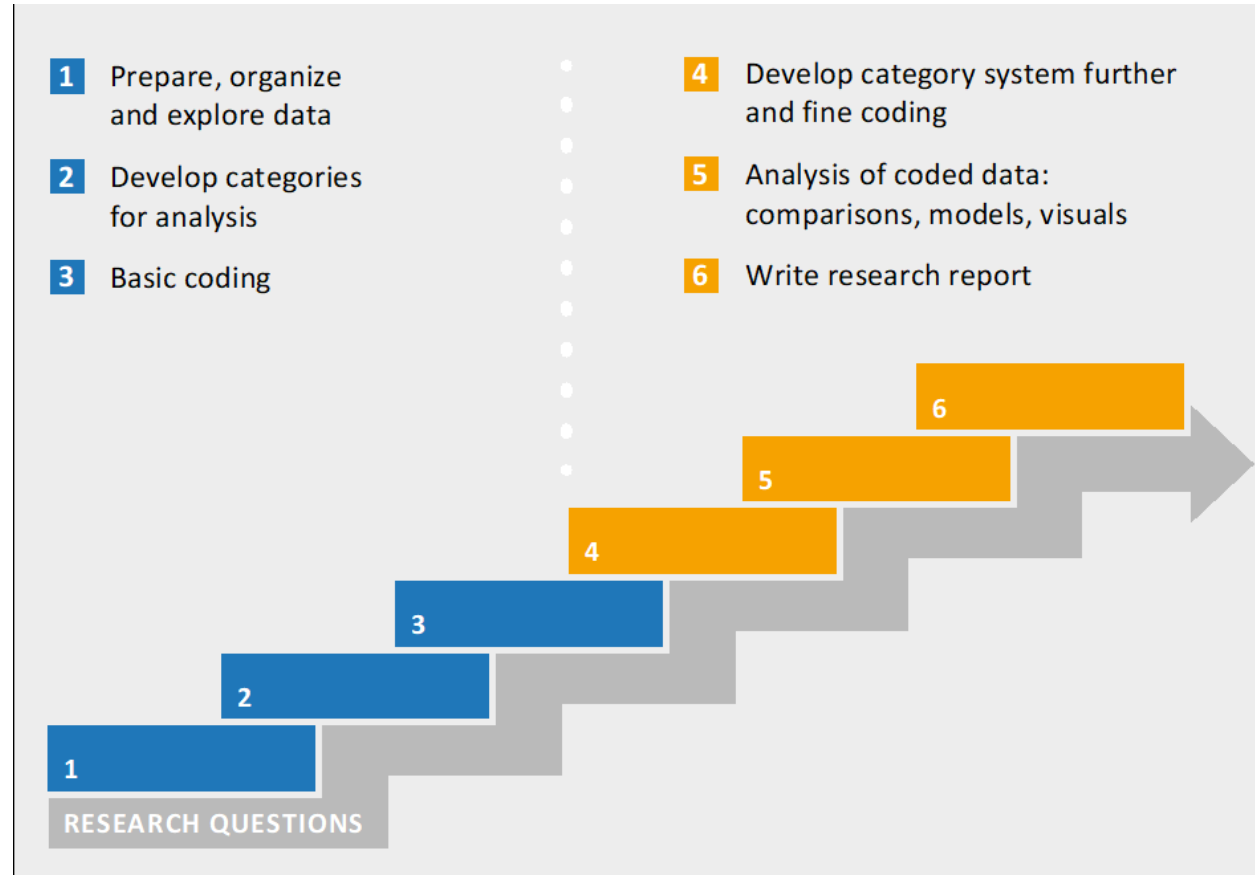


Fig. xy: Focused analysis of interviews in six steps © Rädiker/Kuckartz 2020