## Beliefs, governance and context of car-reduced planning – A comparison of new housing developments within and between cities

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To date, the planning practice in Germany and elsewhere appears fundamentally car-oriented. The "predict and provide paradigm" (Owens, 1995) has led to a self-reinforcing process of carrelated infrastructure expansion, urban sprawl, and traffic growth, described as a "vicious circle" (Levinson and Krizek, 2018). The negative outcomes, such as transport-related greenhouse gas emissions, space consumption, and congestion, become especially apparent in cities. However, path dependencies in urban transport planning as part of the "system of automobility" (Urry, 2004) seem to hinder "a paradigm shift away from car-friendly to car-reduced planning" (Selzer, 2021).

To gain deeper insights into planning practices which are questioning the car-oriented guiding principle, this study deals with current examples of new urban housing developments. Located within the same city as well as in different cities, they all follow a car-reduced approach and are therefore understood as transition experiments. We assume that car-reduced developments differ significantly not only from conventionally planned urban developments, but also between urban contexts. Following a relational space understanding the latter encompass not only material but also institutional and socio-cultural dimensions (Levin-Keitel et al., 2018). Moreover, we believe that car-reduced developments are contested due to diverging mobility-related beliefs of the various organizational actors involved (e.g., from the municipalities, real estate companies or mobility providers). We expect some actors to hold a car-reduced belief, whereas others are still pursuing a car-oriented one.

Based on these considerations, we study the transition from car-oriented to car-reduced planning in different spatial contexts guided by the following research questions:

- 1. To what extent do the belief patterns of organizational actors interrelate with the material, institutional and symbolic dimensions of car-reduced developments?
- 2. To what extent do belief-driven and spatial factors promote or hinder the transition from car-oriented to car-reduced planning?
- 3. What similarities and differences between transition pathways towards car-reduced planning can be derived from the distinct cases?

To conceptualize the transition from car-oriented to car-reduced planning practices we draw on sustainability transitions research and combine a governance perspective (Loorbach et al., 2017) with a spatial view (Levin-Keitel et al., 2018) on transitions. Moreover, we use insights of the advocacy coalition framework (Sabatier, 1988; Jenkins-Smith et al., 2017), dealing with the influence of actors' beliefs on policy processes.

Therefore, our conceptual framework consists of two parts. First, it includes the spatial dimensions of urban transition processes introduced by von Wirth and Levin-Keitel (2020). In view of our research questions, we focus on the material-physical, the regulative-institutionalized and the cultural-symbolic dimension. Second, we use four belief-driven patterns of transition governance, we have derived in previous work on a car-reduced development process: belief setting, belief translation, belief persistence, and belief change (Schröder and Klinger, under review).

Designed as a comparative case study we investigate four car-reduced housing developments in three different German Cities (Darmstadt, Cologne and Bielefeld). For this purpose, we currently analyze 22 expert interviews and relevant planning documents by means of a qualitative content analysis following Rädiker and Kuckartz (2020).

We will present our results which indicate first, that the actors' beliefs contribute to a large extent to the material, institutional and symbolic design of the new neighborhoods. In turn, the actors' beliefs are also shaped by the spatial context of the current development. Second, mobility-related beliefs and spatial context factors can promote or hinder the transition from car-oriented to carreduced beliefs. To what extent these diverging beliefs are translated into planning action and implementation depends on a complex interplay of factors such as persuasion, ownership structure, or technocratic planning taken for granted. Third, we identified similar core elements but the variety of spatial contexts lead to different car-reduced approaches, development processes and (planned) measures. Therefore, we show place-specific and cross-case patterns of the transition from caroriented to car-reduced planning. All in all, the studied transition experiments represent distinct transition pathways based on a common ground.

Hence, our study contributes to a spatial and actor-oriented perspective on governing sustainable mobility innovations. In doing so, it provides important insights on how the fabric of beliefs and spatial characteristics influence the transition of urban and mobility planning.

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