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A Summer Tale for the Mobility Transition? The German 9-Euro-Ticket through the Lens of Socio-Technical Experimentation

Michael Bissel ^{a *}

^aTechnische Universität Berlin, Germany

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This work addresses the following topic(s) from the Call for Contributions:
(Please check at least one box)

- Placemaking to integrate urban spaces and mobility
- Promoting sustainable mobility choices in metropolitan regions
- Governing responsible mobility innovations
- Shaping the transition towards mobility justice
- System analysis, design, and evaluation
- other: _____

Extended Abstract

This contribution is based on the following peer-reviewed article:

Bissel, M. (2023). A Public Transport Ticket that Moved a Country: Assessing the Value of the German 9-Euro-Ticket as a Socio-Technical Experiment. Findings. <https://doi.org/10.32866/001c.84645>

It further integrates findings from the following article:

Bissel, M., & Gossen, M. (In Press). Nudging für die Verkehrswende? Eine verhaltenswissenschaftliche Analyse am Beispiel des 9-Euro-Tickets und des Deutschlandtickets. Internationales Verkehrswesen.

Problem statement

From June to August 2022, the *9-Euro-Ticket* allowed passengers to use public transport across Germany for nine euros per month (Loder et al., 2023). This temporary policy aimed to reduce cost of living in view of Russia's war in Ukraine as well as carbon emissions (Dietl & Reinhold, 2022). It can further be seen in the context of the Covid-19 crisis (Nobis & Kolarova, 2022).

The 9-Euro-Ticket is considered the 'largest field *experiment* in the mobility sector' (Krämer & Korbitt, 2022). Experiments represent an innovative and promising governance instrument (Bulkeley, 2015). Regarding the term 'experiment', a natural science and a socio-technical understanding can be distinguished. Within the latter, alternative solutions promote technological, social and institutional learning. They are 'seeds of change' for new stable configurations to fulfill societal functions such as mobility (Sengers et al., 2019).

Research objectives

Many research projects examined the 9-Euro-Ticket, at least partly, from a natural science perspective (Dietl & Reinhold, 2022; Engler & Rusche, 2023; Gohl & Schrauth, 2022). However, the informative value may be limited (Becker et al., 2023; Krämer et al., 2022). Notably, the 9-Euro-Ticket also fits well with the socio-technical understanding of experimentation, especially with the concept of *sustainability experiments* (Sengers et al., 2019). Thus, by investigating the learnings from the 9-Euro-Ticket, this study takes an alternative approach and examines the value of the ticket as a socio-technical experiment rather than its impact as a policy.

* Corresponding author. Tel.: 0162-641-8113;
E-mail address: michael.bissel@campus.tu-berlin.de

Methodological approach

This study builds on a review of research on the 9-Euro-Ticket. A systematic search to ensure comprehensiveness and transparency (Snyder, 2019) was combined with a qualitative narrative synthesis (Popay et al., 2006). The databases Scopus and Web of Science as well as Google Scholar were consulted. The latter is deemed particularly important to identify grey literature (Haddaway et al., 2015). Overall, the search returned $n = 350$ records. Entries were screened based on pre-specified criteria (see Figure 1). Finally, 18 documents remained.

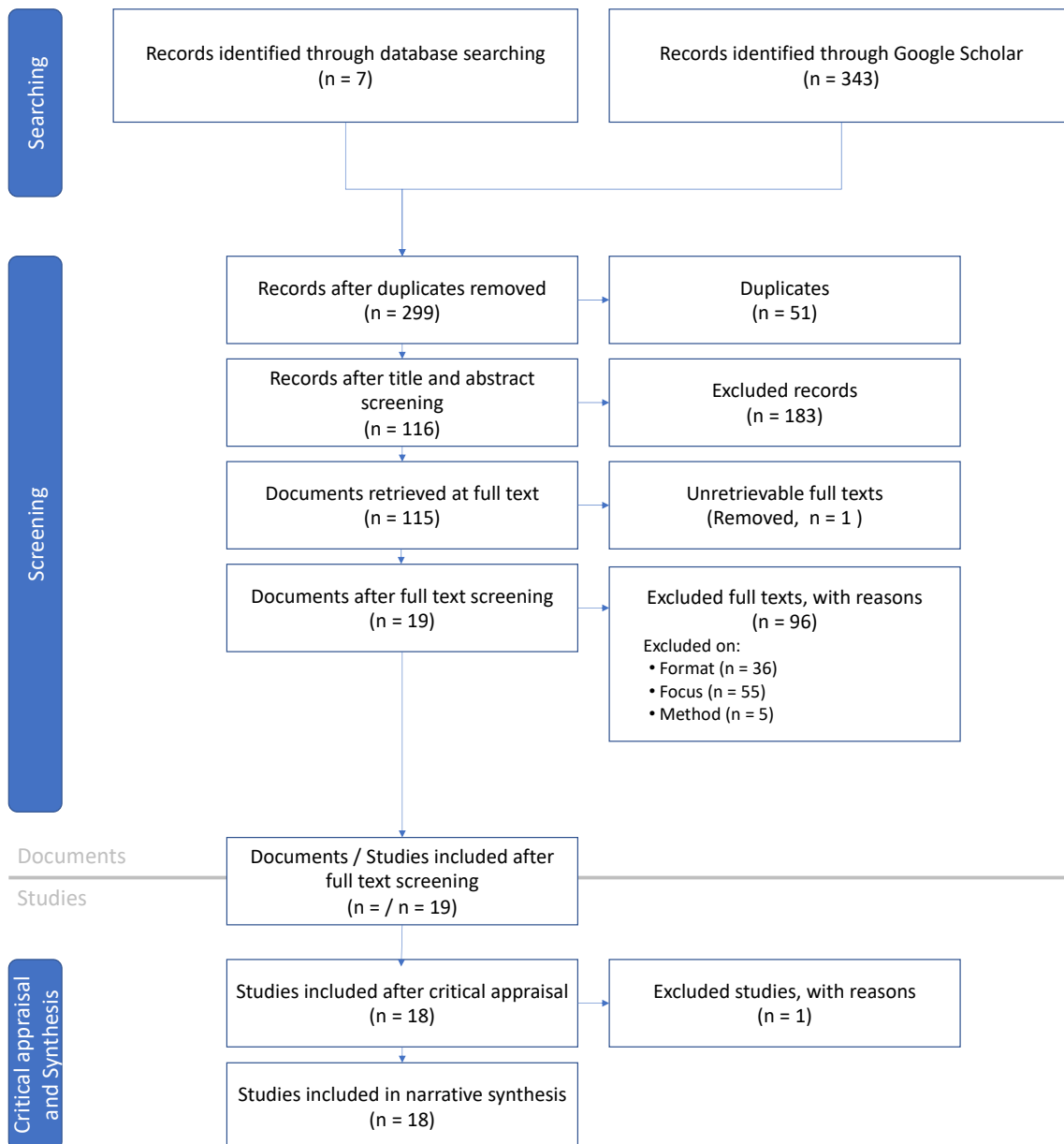


Figure 1: ROSES flow diagram of literature review

Results

The results of the included studies can be broadly categorized into technological, social and institutional learning (Figure 2). First, the ticket enabled *technological learning* in terms of insights regarding public transport provision. Besides the low price, simplicity and nationwide validity were identified as success factors (Bissel & Gossen, In Press; Krämer et al., 2022; Nobis & Kolarova, 2022; VDV et al., 2022). 70 to 80% rated it as attractive (VDV et al., 2022) while 10% disagreed (Loder et al., 2023). While the ticket reached the middle of society (Nobis & Kolarova, 2022), popularity was higher among young people, low-income citizens, and residents of larger cities (Gaus et al., 2023; Krämer, 2022; Loder et al., 2023; VDV et al., 2022). Some studies suggest greater use for leisure activities (Dietl & Reinhold, 2022; Loder et al., 2023; Nobis & Kolarova, 2022). Others emphasize commuting and daily travel (Krämer et al., 2022; VDV et al., 2022).

Second, in terms of *social learning*, the 9-Euro-Ticket shaped perceptions of public transport, stimulated discussions about its societal role, and improved social inclusion (Krämer et al., 2022). Research indicates that attitudes towards and trust in public transport increased (VDV et al., 2022). An analysis of Twitter posts reveals a lively political debate, including fundamental issues such as fairness of transport subsidies. For example, whether the 9-Euro-Ticket represents a ‘freebie mentality’ (Laser, 2023). In parallel, a discourse analysis based on 9-Euro-Ticket memes highlights discussions about the societal role of public transport as well as social status and mobility (Milner & Wolff, 2023). Regarding status, two research projects focused on low-income households and stress access to the transport system as a prerequisite for social inclusion. The studies found positive effects of the ticket on quality of life driven by increased freedom and autonomy, access to essential elements of social life and reduced bureaucracy. The participants used the ticket for basic needs such as grocery shopping and medical appointments and also increased leisure activities. Moreover, the ticket improved the mobility of children and adolescents (Aberle et al., 2022; Hille & Gather, 2022).

Third, the 9-Euro-Ticket was an opportunity for *institutional learning*, including but not limited to public transport operators (Krämer & Korbitt, 2022). For instance, the shared mobility provider Moia evaluated the impact of the 9-Euro-Ticket on its services and found no lasting negative impact on demand. This resulted in reflections on stronger integration of its services with public transport (Pfundstein et al., 2022). Also, driven by the 9-Euro-Ticket, the TU Berlin conducted a study to investigate commuting of employees and to understand mobility-related needs and barriers. Besides learnings relating to public transport (e.g., barriers regarding job tickets), overarching institutional measures to promote sustainable mobility were identified. This also includes potential measures to promote other transport modes such as secure bicycle storing (Becker et al., 2023).

	Technological Learning	Social Learning	Institutional Learning
Description	Learning processes regarding public transport provision as well as strengths and weaknesses of different fare systems (including acceptance as well as user structure and behavior).	Learning of the general public regarding fairness of the transport system as well as its impact on different societal groups.	Learning of individual institutions regarding public transport and sustainable mobility as well as its impact on the own organization.
Exemplary studies	VDV et al., 2022 Krämer et al., 2022 Loder et al., 2023	Aberle, 2022 Hille & Gather, 2022	Pfundstein et al., 2022 Becker et al., 2023

Figure 2: Overview of learning processes

In summary, the 9-Euro-Ticket enabled far-reaching learning processes. While the experiment may not have shifted all car trips to public transport (Loder et al., 2023) and may not have directly led to lasting changes in mobility behavior (Gaus et al., 2023), it may indeed represent a ‘seed of change’. The study thus supports the view that the experiment has ‘moved’ Germany (Hille & Gather, 2022) on its path towards a mobility transition (Krämer et al., 2022). The 9-Euro-Ticket can be seen as a successful socio-technical experiment with the 49-euro ‘Germany ticket’ as a new stable configuration (Krämer et al., 2022).