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# Speculative Design and Human Behavior
# in Seeding the Future of Mobility

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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

### Problem statement

As technologies like autonomous vehicles and smart transportation systems become more integrated into our daily lives, they are setting the stage for a revolution in how we move from point A to point B (Bansal & Kockelman 2017) (Lyons 2018). Yet, the current body of research disproportionately concentrates on these technological advancements, often sidelining the critical roles of human behavior and adaptation in shaping future mobility. This technological focus is not sufficient for fully understanding or planning the future of mobility. A solely tech-centric view fails to consider how people will interact with, benefit from, or even resist new forms of mobility, leading to a gap in our collective knowledge. Notably, the role of speculative design in exploring human behavior within this context has been largely overlooked. Without this speculative lens, the field lacks a comprehensive tool for envisioning a range of future scenarios, from the individual to societal scales, thereby leaving policymakers, designers, and stakeholders less prepared for the complexities of a rapidly changing mobility landscape (Dunne & Raby 2013) (Auger 2013). This amplifies the urgency for research that balances technological innovation with human-centric considerations, highlighting the necessity for speculative design as a methodological tool for a more holistic approach to the future of mobility.

### Research objectives

In light of the identified shortcomings in existing literature and the pressing need for a more comprehensive approach to future mobility, this research undertakes a multi-faceted inquiry with specific aims:

1. Employing a hybrid methodology: The study leverages a dual-methodological approach, combining (auto)ethnography and speculative design. Through (auto)ethnography, the research aims to extensively document and analyze current human attitudes, behaviors, and perceptions concerning existing mobility systems. This qualitative method provides the empirical foundation upon which speculative scenarios can be built.
2. Envisioning future mobility through speculative design: One of the primary objectives is to scrutinize the utility and efficacy of speculative design as a tool for generating human-centric models of future mobility. By creating speculative scenarios that encompass both technological and human variables, the research aims to offer a more nuanced understanding of potential future states of mobility.

By addressing these objectives, the research aims to bridge the existing gap between technology-focused and human-centric approaches, ultimately contributing to a more balanced and insightful discourse on the future of mobility.

## Methodological approach

In order to realize the research aims, this study incorporates a synergistic methodological framework that amalgamates both (auto)ethnography and speculative design. The (auto)ethnographic component serves as a cornerstone for a robust empirical understanding of current mobility practices, attitudes, and societal norms (Ellis et al. 2011). This qualitative approach offers the granularity necessary to comprehend individual experiences, while also framing them within larger socio-economic milieus. It lays the empirical groundwork, thereby anchoring the study in real-world observations and lived experiences.

Speculative design acts as a counterpoint to the empirical focus of (auto)ethnography, offering a method for ideational exploration of future mobility landscapes (Dunne & Raby 2013) (Auger 2013). It serves as a mechanism for probing potential human responses to imagined technologies and infrastructures, thereby creating a palette of human-centered future scenarios.

Taken together, the employment of these dual methodologies achieves a balanced inquiry. It unites the empirical rigor of (auto)ethnography with the forward-looking, explorative nature of speculative design. The resultant methodological synthesis affords a multifaceted understanding that contributes substantively to the evolving dialogues on both societal and economic dimensions of future mobility.

## (Expected) results

This section synthesizes key outcomes derived from the study's multi-pronged methodological approach. It seamlessly integrates empirical observations obtained through (auto)ethnography with speculative scenarios conceived via speculative design methodologies. This integration produces a multi-dimensional analytical framework that enriches our understanding of both current mobility choices and potential future scenarios. Moreover, the results provide actionable insights that possess the potential to influence policy deliberation and design interventions. What follows is a detailed elaboration of these results, categorized into distinct but interconnected facets.

- Empirical insights via (auto)ethnography: The application of (auto)ethnographic methodologies yielded a complex array of determinants affecting contemporary choices in mobility. These determinants span the spectrum from individual predilections to overarching economic constraints. Such findings add crucial layers of depth and complexity to existing mobility discourses, enriching our understanding of why people make the mobility choices they do (Ellis et al. 2011).

- Assessing the role of speculative design: This research undertakes a systematic evaluation of speculative design as an instrumental methodology for contemplating future states of human mobility. Specifically, the research underscores the capability of speculative design to seamlessly weave human agency and ethical considerations into its visionary frameworks, making it a robust tool for future-centric studies (Dunne & Raby 2013) (Auger 2013).

- Unveiling societal and economic consequences: The generated speculative scenarios led to the identification of numerous societal and economic ramifications that are essential for future planning. Among these are matters related to equitable access to advanced transportation systems, the ethics and practicalities of data collection and usage (Lyons 2018).

- Informing policy and design: Based on empirical and speculative analyses, the research provides actionable insights that can be deployed in both policy formulation and design execution. One salient point that emerged was the imperative for a collaborative, participatory approach that integrates the perspectives of a diverse array of stakeholders in the design and implementation of future mobility ecosystems (Lyons 2018).

## References

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