

Master Thesis Proposal

Sustainable Mobility – Concepts, Models, Cases

Mobility and accessibility play crucial roles in fostering participation, economic activity, employment opportunities, and overall prosperity within our society. However, the prevailing transport system exacts a significant toll on the environment. Over recent decades, Germany has witnessed a consistent rise in traffic volume, both in terms of passenger and freight transport performance. Since 1960, freight transport has more than tripled, while passenger traffic has quadrupled.

Despite notable advancements in individual vehicle technologies resulting in cleaner and quieter operations, motorized transportation remains a major contributor to environmental degradation. This includes emissions of greenhouse gases, air pollutants, noise pollution, as well as the utilization of land and resources. With the increase in transport, energy consumption in Germany's transport sector has more than tripled since 1960. Presently, transportation accounts for approximately one-fifth of total greenhouse gas emissions in the country.

Addressing how to sustainably maintain and safeguard the mobility of both people and goods without imposing an excessive burden on individuals and the environment is a pivotal question. This inquiry lies at the heart of sustainable mobility.

The tasks and objectives of the master thesis are to

- Define sustainable mobility and discuss what aspects are to be considered in a sustainable mobility concept.
- Review and assess the main concepts that have been suggested in the public media (from governmental and non-governmental institutions, consulting companies, etc.) and in academia.
- Review and classify methods that can be used to evaluate sustainable mobility concepts, e.g. smart city design proposals.
- What new business model opportunities and challenges arise for firms from the sustainable mobility movement?

Requirements

- OPM 7xx
- Good knowledge in Operations Management
- Analytical skills

Administrative information for writing a master thesis at the Chair of Service Operations Management can be found [here](#).

Selected Literature Recommendations

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Michellini, G., Dametto, D., & Michel, A. (2023). Who is doing what and how? Descriptive analysis of the sustainable mobility planning practice in Germany. *Transport policy*, 134, 231-241.

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Polst, S., Mennig, P., Schmitt, A., Scholz, K. (2022): Mobilitätswende 2030, Fraunhofer IESE, <https://assets.static-bahn.de/dam/jcr:c0065ce6-940d-4491-bd5c-6a340568931d/Mobilitaetswende-2030-studie.pdf> (in German)

Ratna, G. (2022). Volocopter: Revolutionising Urban Mobility? [Case Reference No. 222-0012-1]. Amity Research Centers. <https://www.thecasecentre.org/products/view?id=183552>

Reuter, F., & Etezadzadeh, C. (2020). Interview: Urbane Mobilität in der dritten Dimension. Smart City–Made in Germany: Die Smart-City-Bewegung als Treiber einer gesellschaftlichen Transformation, 571-577.

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