

Technische Universität Braunschweig - Institut für Verkehr und Stadtbauwesen



TU Braunschweig is the academic center in the middle of one of the most active research regions in Europe and has a renowned Faculty of Architecture, Engineering and Environmental Sciences. We work successfully with over 20 research institutions in our neighborhood as well as with our international partner universities. Our university's core research areas are Mobility, Engineering for Health, Future city and Metrology. TU Braunschweig is part of TU9 - the association of Germany's leading Institutes of Technology. The cooperating institutes stand for relevant research, strategic and results-driven thinking and action, committed teaching and successful transfer of knowledge and technologies to society and industry. The IVS is a small, research-oriented institute with a strong focus on integrated transport planning, traffic engineering, and sustainable mobility. Our size fosters a collaborative and supportive environment with close interaction between students, researchers, and faculty. IVS offers a practice-based curriculum in areas such as traffic simulation, public transport planning, mobility data analysis, and street space design. In research, the institute develops data-driven methods for traffic analysis, travel demand forecasting, and the simulation of innovative mobility solutions, with a particular emphasis on agent-based models and the use of floating car data. Close cooperation with cities, public authorities, and industry ensures both practical relevance and real-world impact.

The Institute of Transportation and Urban Engineering (IVS) offers a position as Research Associate (PhD) (m/f/d)

(EG 13 TV-L, full-time, fixed-term for 3 years, with possible extension)

City: Braunschweig; Starting date (earliest): At the earliest possible; Duration: 3 years;
Remuneration: EG 13 TV-L; Closing date: 24/08/25

Working field

- Contribute to the development of an agent-based simulation framework (MATSim) for future rural mobility scenarios
- Design and implement new and innovative strategies including automated vehicle operation, and evaluate their integration into existing public transport networks
- Analyze spatial and behavioral aspects of mobility in rural areas using empirical data and geospatial indicators
- Quantify impacts on accessibility, equity, environmental performance, and system efficiency
- Collaborate with interdisciplinary academic partners and engage with stakeholders from plan-ning practice and policy
- Support teaching and supervision of student projects
- Experience in one or more of these research areas is an advantage.

Requirements

- Completed university degree (Master's or Diploma) in traffic engineering, urban planning, computer science, data science or related disciplines

- Programming skills in Java and/or Python
- Experience in traffic or transport simulation, ideally with agent-based models such as MATSim
- Knowledge of rural mobility challenges, shared mobility concepts, and public transport planning is desirable
- Familiarity with geospatial data analysis (e.g. GIS) and performance evaluation methods is an advantage
- Very good knowledge of English is required; knowledge of German is desirable
- Strong analytical skills and the ability to work independently and in a team
- Experience in research, methodological knowledge and passion for scientific writing
- Interest in pursuing a PhD in the fields of agent-based transport modelling, DRT, and integrated rural mobility systems

What we offer

- A position in a forward-thinking research environment at the interface of simulation, planning, and mobility innovation
- Flexible work hours and remote work options
- Excellent academic supervision and support for your PhD
- Access to advanced modelling tools, mobility data, and interdisciplinary collaboration
- Opportunities for professional development and training programs
- Support for active participation in national and international scientific conferences
- Contribution to a relevant societal challenge: the development of equitable and sustainable mobility in rural areas within a practice-oriented research project

Application

We welcome applicants of all nationalities. At the same time, we encourage people with severe disabilities to apply. Applications from severely disabled persons will be given preference if they are equally qualified. Please attach a proof of disability to your application. We are also working on the fulfilment of the Central Equality Plan based on the Lower Saxony Equal Rights Act (Niedersächsisches Gleichberechtigungsgesetz—NGG) and strive to reduce under-representation in all areas and positions as defined by the NGG. Therefore, applications from women are particularly welcome in this case.

The personal data will be stored for the purpose of processing the application. By submitting your application, you agree that your data may be stored and processed electronically for application purposes in compliance with the provisions of data protection law. Further information on data protection can be found in our data protection regulations at <https://www.tu-braunschweig.de/datenschutzerklaerung-bewerbungen> . Application costs cannot be reimbursed.

Questions and Answers

For more information, please send an email to Prof. Dr.-Ing. Bernhard Friedrich: friedrich@tu-braunschweig.de.

Deadline for applications is August 24, 2025

As part of your application, please submit a short proposal (1 to 3 pages, plus references) outlining a research idea or potential publication topic related to the goals of the project. This could include, for example, a simulation-based approach to assess the integration of DRT into rural public transport, an evaluation framework for the spatial and social impacts of automated shared mobility, or the development of strategies for coordinating on-demand services with existing bus networks. Interviews scheduled for end-September 2025. The expected start date is December, 2025.

Are you interested? Please send your complete application as a single PDF file to friedrich@tu-braunschweig.de.

Contact

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More information at <https://stellenticket.de/196583/HTWB/>
Offer visible until 24/08/25

