



Delft University of Technology

## Editorial

### Special issue of the 8th symposium of the european association of research in transportation

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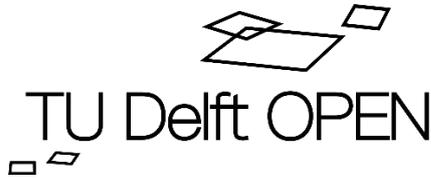
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## Editorial: Special issue of the 8th Symposium of the European Association of Research in Transportation

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This special issue presents three selected papers from the 8th Symposium of the European Association of Research in Transportation (hEART) that was held from 4 to 6 September 2019 in Budapest, Hungary. hEART is an interdisciplinary research conference, covering all areas of transportation research, with a focus on quantitative methods and analysis of transport systems. The 2019 conference planning and organization was coordinated by the Faculty of Transportation Engineering and Vehicle Engineering of the Budapest University of Technology and Economic.

More than 180 leading transportation experts and promising young researchers coming from around 20 countries attended the 8th edition of the symposium. The conference program included 108 podium presentations and 14 poster presentations, spread over 33 sessions, and covering topics related to the advances of transportation modelling, the effects of dynamic traffic assignment, the changes of travel habits and the impacts of autonomous vehicles.

Based on the relevance to the journal and the reviews of the accepted abstracts, we, the special issue guest editors, invited seven authors to develop their conference contributions into journal manuscripts. The seven selected papers went through the normal EJTIR journal review process and three of them got accepted for publication. These three papers are presented to the readers in the present special issue.

The three contributions reflect the interdisciplinary nature of the conference, covering different areas of transportation research with different methodologies. They also all connect to some of the current challenges of the community, as highlighted by the keynote speakers.

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The first paper is authored by **Jandari et al. (2020)** and investigates a new modelling approach to study cycling behavior. Specifically, and unlike existing related studies, the authors use a binary item response model to estimate the probability that a person will select the bike in a certain situation. In their model, the choice is explained by a trade-off between the individuals' tendency to cycle and the threshold related to the cycling situation. The results of the study show that occasional cyclists are more affected by adverse weather situations, darkness, and uphill slopes. Contrary to the previous studies, results also indicate that a separate bike path is an important motivator to use the bike, especially for frequent cyclists.

By diving into the topic of cycling behavior, this research contributes to the efforts made by the community to transform the current transport systems to reach the climate goals, which was the focus of the conference keynote speech given by Professor Cathy Macharis from the Vrije Universiteit Brussels.

As highlighted by Professor Chandra R. Bhat from the University of Texas during the first conference keynote, emerging new choice analysis directions are currently prevalent in the scientific community. Demand modeling, and specifically choice analysis, remains challenging in a fast evolving technological environment. This is especially true for public transport operators who use these models to inform real-world transportation planning decisions. In the second paper of this special issue, **Scherr et al. (2020)**, a research team from the Swiss Federal Railways (SBB) presents an innovative travel demand model that is microscopic and combines activity-based and agent-based approaches.

The novelty of this methodology is that all long-term and daily mobility decisions of each traveler are modeled while ensuring that all of these individual decisions are sensitive to transport supply and to time-space constraints. A novel plan building heuristic is developed for this purpose. The authors validated the model results against empirical observations of travel demand in Switzerland.

Eric T. Verhoef, Professor of the Vrije Universiteit Amsterdam, delivered the third keynote lecture on the questions of using tradable permits to manage urban traffic congestion. Other transport initiatives aim at decreasing urban congestion. One that has been witnessing an increase in activities and initiatives is Urban Air Mobility (UAM).

The focus of the third contribution included in this special issue by **Haddad et al. (2020)** is UAM. More specifically, the authors present a 5-stage approach for the selection of indicators for a multi-criteria analysis for the assessment of UAM, in a case study of Upper Bavaria, Germany.

The results include a list of indicators for assessing the potential of UAM integration to existing public transportation systems; the chosen indicators were then compared against existing ones for sustainable urban mobility. A high match between resulting indicators and previous ones further validate the results and suggest that there is a need for an iterative approach in the assessment of disruptive transport technologies.

We would like to conclude this editorial by thanking all the reviewers, for their time and for providing constructive feedback during the reviewing process. Also, thanks to all the authors, for their efforts in answering the reviewers' concerns. We believe that the review process truly helped to secure the quality of this special issue.

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