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Editorial

Vít Gabrhel
Guest editor of the special issue

In the 21st century, data on travel behaviour represent an essential source of information for transportation planning and travel demand management. Such data are obtainable only through a systematic measuring and surveying spatial, temporal, safety as well as other aspects of travel behaviour.

Due to this importance, such data on travel behaviour was the theme of the conference 'Travel Behaviour in Data', which took place in October 2018 in Brno, the Czech Republic. This conference aimed to facilitate interdisciplinary discussion about data on travel behaviour – their collection, analysis, and implementation in transportation planning and travel demand management.

More than one hundred of Czech and Slovak experts and stakeholders from various groups participated on the conference – representatives from the Ministry of Transportation, transport departments in cities, transport integrators, researchers from academia or NGOs as well as experts from the business.

Presentations covered various areas – from the sampling in travel household surveys to estimating the value of time, from counting of bicycle transport to discussing state of the art methods to process and present traffic data, from using data on travel behaviour to facilitate carpooling to designing mobility as a service.

Despite focusing primarily on the Czech context, one of the goals of the conference was to introduce issues undertaken in the Czech Republic to the international public. Thus, authors – as well as other experts from the international community – were offered to publish their findings related to data on travel behaviour in the special issue, which is now presented to you.

M. Šimeček introduces discrete choice analysis on the example of a feasibility study on the modernization of the railway corridor between Slovakian cities Žilina, Košice, and Čierna nad Tisou. In this study, 811 participants from the general public in Slovakia were provided with different scenarios in a stated preference experiment, through which the value of travel time was estimated. As a result, it was possible not just to estimate the value of travel time for different modes of transport (i.e. car, train, and bus) or purposes for travel (i.e. work or leisure). It was also possible to estimate additional costs passengers would be willing to pay for extra services such as Wi-Fi. The results of the paper "Discrete Choice Analysis" show consistency in two regards. Firstly, the values of travel time in this study are similar to the values identified in previous studies in Slovakia. From an international perspective, the value of time for trips made by car was found to be greater for leisure trips made by public transport.

The value of travel time is also the subject of another study, conducted by V. Máca and M. Braun Kohlová. However, as the study's title ("Valuation of travel time in free-flow traffic and congestion reliability of travel time – estimates for Czech Republic") suggests, the scope switches focus from Slovakia to the Czech Republic. To be more specific, the authors of this study conducted a stated-preference experiment regarding the value of time on existing routes between Praha and Brno. In other words, between the two largest cities in the Czech Republic, that are currently connected only via one highway. In the survey participated more than 600 of adult residents of the Prague and Brno agglomerations who had travelled on the Prague-Brno in either direction at least once in the previous half year. Results of this study not only provide further support for the previous findings that trips made by car have a higher value of time than those by public transport. The results also show the relationship between socio-economic status and the value of time, which helps to understand that respondents who wealthier tend to drive in cars.

The topic of mode choice is also examined in the third study named "Feeling like cycling? Psychological factors related to cycling as a mode choice". This study accents importance of the psychological factors such as attitudes towards modes of transport, which improve our ability to predict whether a person decides to drive a car or ride a bike on his or her

way to work. Although this relationship has been a theme for research in the international setting, it is not the case of the Czech Republic. There, in town Litoměřice, as a part of a sustainable urban mobility plan, 1 301 respondents wrote a travel diary and also filled a questionnaire with items on subjective or psychological aspects associated with choosing a mode of transport. Although several objective factors in Litoměřice align with conditions encouraging cycling, this mode of transport represents less than 1% of all trips. In this context, psychological factors provide relevant insights. For example, contrary to the previous research in this area, respondents who saw the current traffic in Litoměřice as safe for cyclists, as well as those who considered the cycling infrastructure as developed, were less likely to be those who rode a bike in reality.

Attitudes are too analysed in the paper "Attitudes of inhabitants living in the vicinity of railroads on the matter of trespassing on the railway" by P. Skládaná, P. Skládaný, and P. Tučka. However, this study shifts focus on traffic safety. As trespassing on the railway ends approximately 200 lives in the Czech Republic, authors decided to focus on the frequent trespassers – citizens living near railways and close to an illegal shortcut. To be more specific, the authors examined reasons for trespassing from the perspective of user design of the existing infrastructure. For example, one of the most frequent reasons for trespassing was shortening a journey. At the same time, the sample of 619 respondents tended to underestimate the number of victims of train-person collision as the respondents were correct in 27% of their answers. Thus, the results provide evidence for a policy-related action.

Data on travel behaviour could also serve as evidence for the severity of a certain behaviour on traffic safety in real-world situations. Such behaviour is using and manipulating with a mobile phone while driving. K. Bucsuházy and her colleagues E. Matuchová, R. Zůvala, P. Moravcová, M. Kostíková, and R. Mikulec analysed data from the Czech in-depth accident study. For example, the study "Factors contributing on mobile phone use while driving: In-depth accident analysis" suggests that drivers younger than 24 years were more prone to manipulate with a mobile phone while driving. At the same time, the authors identified a relationship between annual mileage and mobile phone use. So, the risk is not limited only to young drivers. As a result, conclusions of this study support a recent increase of penalty in the Czech point demerit system regarding mobile phone use while driving.

All of the previous studies collected their data through surveys. The final study of this special issue, however, works with purely observational data collected through camera recording and computer processing. However, the study also examines traffic safety and thus provides a different angle for studying this area. The study "Visual Analysis of Vehicle Trajectories for Determining Cross-Sectional Load Density" aimed to identify physical characteristics of the transport infrastructure that influence perception of a driver and consequently his or her driving behaviour. Such characteristic is, for example, the width of a road. R. Juránek, J. Špaňhel, J. Sochor, A. Herout, and J. Novák argue that the long-term visual recording and computer vision analysis of the recordings provides the efficient way how to identify weak points in the traffic infrastructure and, as a result, how to improve the traffic safety in such weak points. In their application of the method, the authors argue that the further application of the horizontal marking led to a slower ride and safer position of the vehicle in a lane when approaching intersection.