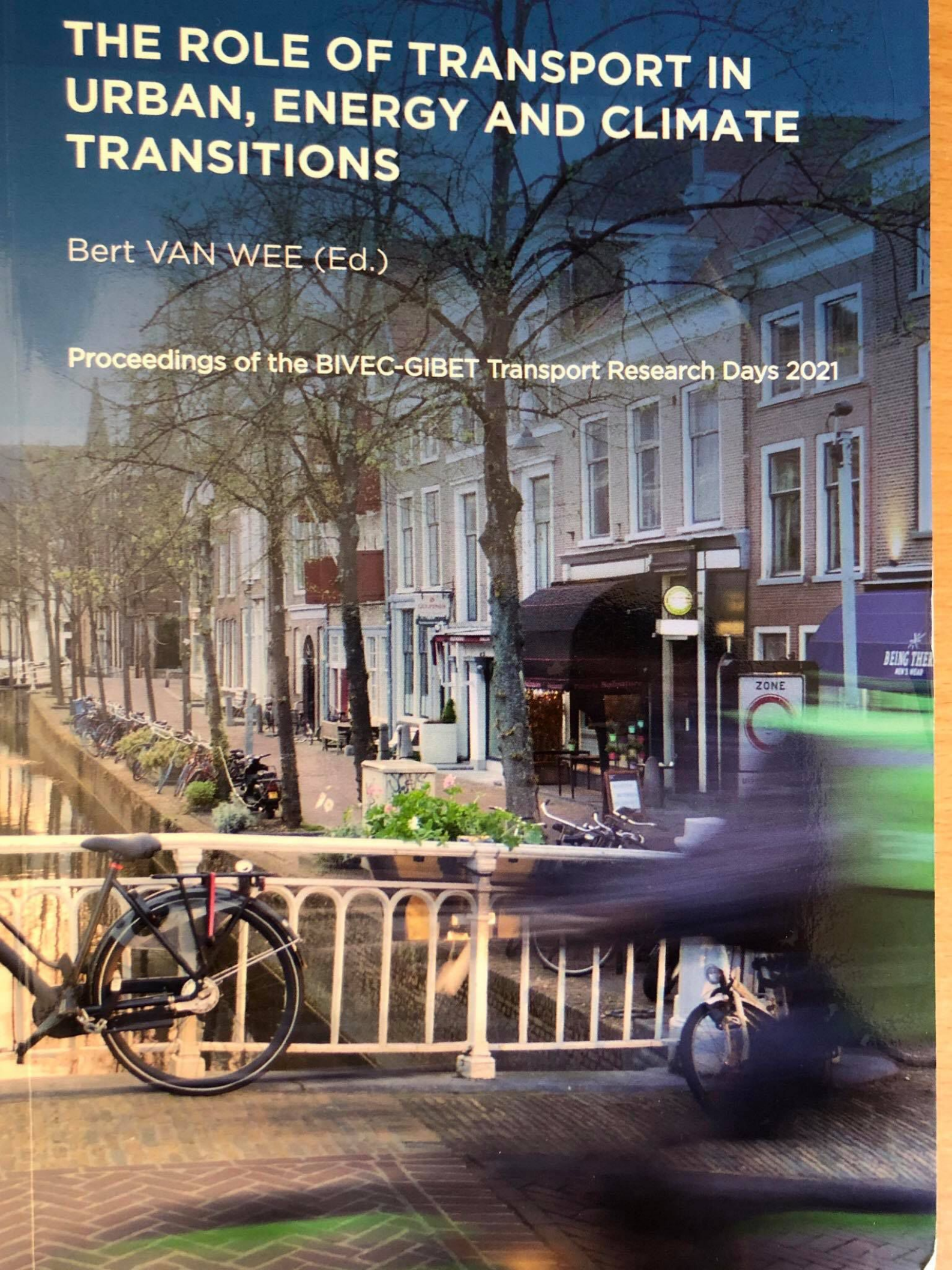


THE ROLE OF TRANSPORT IN URBAN, ENERGY AND CLIMATE TRANSITIONS

Bert VAN WEE (Ed.)

Proceedings of the BIVEC-GIBET Transport Research Days 2021



ABOUT THE BOOK

This book presents the proceedings of the 9th BIVEC-GIBET Transport Research Days (27-28 May 2021) organized online by TRAIL Research School and Delft University of Technology, the Netherlands. The Transport Research Days (TRD) are organized biannually and offer young and established scholars from the three Benelux Countries an opportunity to present their research findings to an informed audience of transport, mobility, and logistics researchers.

ABOUT THE EDITOR

Bert van Wee is Full Professor of Transport Policy at Delft University of Technology, and Scientific Director of TRAIL Research School.

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Preface

Dear colleagues, Chers collègues,

A very warm welcome to all of you who attend the 2021 Transport Research Days (TRD) of BIVEC-GIBET, the Benelux Interuniversity Association of Transport Researchers, taking place on the 27th and 28th of May in Delft, the Netherlands. The TRD are organized biannually and offer young and established scholars from the three Benelux Countries an opportunity to present their research findings to an informed audience of transport, mobility, and logistics researchers. This is the 9th time that the TRD have been organized. Previous editions were held in Hasselt (2005), Rotterdam (2007), Brussels (2009), Namur (2011), Luxembourg (2013), Eindhoven (2015), Liège (2017) and Ghent (2019).

This year the TRD were organized by Delft University of Technology, the Transport and Logistics Group of the Faculty of Technology, Policy and Management, and TRAIL Research School. Despite (or maybe also: thanks to?) the fact that this year we organized the conference online because of the COVID-19 pandemic, we received 52 papers and extended abstracts. We are confident that we have put together a very interesting program that will bring forward transport, mobility and logistics research in the Benelux-countries quite significantly. This was made possible thanks to the active input of many of you who submitted high quality papers. We want to thank all participants, all session chairs, and the people who helped organizing the TRD, especially Esther van Baarle (TRAIL). We also thank Veronique Van Acker and Mario Cools who supported us on behalf of BIVEC. And we thank the Transport Institute of TU Delft for their financial support.

In this conference proceedings book you will find the full papers and some extended abstracts that were submitted by the participants. Please note that all copyrights belong to the authors.

We hope you enjoy the 2021 Transport Research Days!

Prof. Bert van Wee

Delft University of Technology and TRAIL



BIVEC/GIBET

Promoting high quality research and education in the field of transport, within its region, is the main goal of the Benelux Interuniversity Association of Transport Economists - BIVEC-GIBET for short. Founded in 1978, the Association has evolved from a small group of transport economists into a solid and broad-based network of a diversity of transport experts. It presently unites both academic staff and professional people qualified in fields such as transport economics, logistics, regional economics, transport geography, transport engineering, transport policy, and transport law. BIVEC-GIBET already has 40 years of experience, and the organization is still going strong!

What are BIVEC-GIBET's main aims?

- **Transport Research Days.** A two-day conference where current research is being presented by junior and senior researchers in sessions preceded by senior researchers.
- **Joint BIVEC-BENELUX Policy day.** A one-day workshop on a topic that has a high policy relevance where in the morning the academics get the floor, and in the afternoon the policymakers. Topics such as cross-border mobility, traffic safety, road pricing have been addressed.
- **Piet Rietveld PhD Award.** This dissertation prize recognizes the best doctoral dissertation in the area of transport, mobility and/or logistics research (broadly defined) that was publicly defended and accepted for eligibility for a PhD degree at a Benelux University institution. The award entails a certificate, a three-year membership of BIVEC, and 2500 EUR.
- **One day research seminars,** organized by BIVEC members (e.g. on Chinese logistics, Eco Zones, ...)
- **BIVEC-GIBET Transport Chair.** This Chair is awarded to an individual who has important scientific and/or social merits related to transport and mobility within Europe. The first recipient (in 2012) was professor David Banister (University of Oxford). The second recipient (in 2014) was professor Jonas Eliasson (Royal Institute of Technology, KTH). The third recipient (in 2016) was professor Alan C. McKinnon (Kuehne Logistics University, Hamburg), and the fourth recipient is professor Jos Delbeke (Florence European University Institute & KU Leuven). The current recipient is professor Maria Attard (University of Malta).

Interested and/or convinced to become a member? No problem, just go to our website: <http://www.bivec-gibet.eu> and fill in the application form. An annual individual membership costs 50 EUR and gives you free or strongly reduced registration fees to all our activities.

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The effects of personality factors and attitudes toward traffic safety on driving outcomes in a typical motorcycling country

Hiep Trung Bui ^{1,2}
 Son Tung Nguyen ^{1,2}
 Ismail Saadi ³
 Mario Cools ^{1,4,5}

Abstract: *This study investigated the relationships between the driving experience, personality traits, attitudes towards traffic safety (ATS) and risky driving behaviours (RDB) and driving outcomes in a traditional motorcycling country. A sample of 1,373 Vietnamese motorists participated in the study. According to the findings, ATS negatively impacts RDB, and motorcyclists with high scores on Normlessness and Aggression were more likely to have adverse driving outcomes. Practical implications for the on-road safety of motorcyclists were also addressed.*

Keywords: Personality traits, driving behaviour, safety attitude, motorcyclist, motorcycling country, Vietnam

1. Introduction

On-road safety represents a significant challenge globally, notably in motorcycle-dependent countries with an excessively high number of traffic fatalities, lack of adherence to laws, low-risk perception, and inadequate safety studies (Vlahogianni et al., 2012; WHO, 2018). According to World Health Organization reports, motorcyclists account for 43 percent of all deaths in South-East Asia (WHO, 2018). For instance, in Vietnam, a typical motorcycling nation with 86% of the households owning at least one motorcycle (Miaschi, 2019; United Nations, 2018), there were 8,177 road accidents in 2020, killed 6,575 people and injured 4,354 others (Vietnam's National Traffic Safety Committee, 2021). As a result, improving safety for motorcyclists is an urgent priority. Among significant traffic accident risk predictors, personality traits (PT) have long been approved as important factors that were firmly linked with risky driving behaviours (RDB) and on-road hazards (Table 1). While most studies on the influences of the PT toward RDB and accident risk were conducted in countries with high car ownership levels, there is still a considerable need to investigate those influences in the context of motorcycling-based traffic systems.

PT	RELATIONSHIPS WITH DRIVING BEHAVIORS / OUTCOMES
Anxiety	"Anxiety had a positive association with drivers' errors" (Lucidi et al., 2019). "Anxiety was predictive of unfavourable driving outcomes (e.g., risk-taking, aggression, poor driving behaviour)" (Bowen, Budden, and Smith, 2020). "Anxiety was significantly correlated to excitement-seeking and risky driving behaviour" (Oltedal and Rundmo, 2006).

¹ University of Liège, Local Environment and Management Analysis (LEMA), Urban and Environmental Engineering (UEE), Belgium

² University of Economics – The University of Danang, Vietnam

³ Université Gustave Eiffel, IFSTTAR, COSYS-GRETTIA, Marne-la-Vallée, France

⁴ Faculty of Business Economics, Hasselt University, Diepenbeek, Belgium

⁵ Department of Information Management, Modelling and Simulation, KU Leuven, Brussels, Belgium