

EDITORIAL

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Transport survey method concerns the methodology of collecting data for transport studies. It addresses a wide range of issues including the measurement of transport phenomena, sampling, survey instrument, data handling, etc. In the past decades, methodologies have been developed to collect cross-sectional, longitudinal and interactive information on travel behavior and other transport phenomena. The use of appropriate survey methods is the key to ensure the quality of data, which is vital to transport studies and planning. The importance of transport survey method justifies the consistent research attentions and efforts that have been devoted into this field. In recent years, research on transport survey methods has gained new momentum. Progresses have been made in a number of areas including stated preference methods, the use of Internet for data collection, and data handling and analysis. This special issue is intended to document some of the latest developments. Most of the articles are selected from the papers presented at the workshop on Transport Survey methods held at Hong Kong Baptist University on December 15 2003. This special issue consists of three academic papers, one technical report and one research note.

Internet-based data collection has recently gained increasing popularity. The paper by Arentze, Bos, Molin and Timmermans investigates the issues on response rates, sampling bias and reliability of Internet-based travel surveys. The paper reports the experiences with the use of Internet-surveys in three studies of different complexity. On the positive side, the study shows that Internet-based surveys can provide reliable data for even quite complex stated adaptation experiments. On the negative side, the paper suggests some typical pitfalls of Internet-based surveys, including the non-availability of sampling frame and sampling bias. The later may result in under- (or over)-representation of certain socio-economic groups. The paper by Wang and Li evaluates the validity of uniform design for constructing experiments in stated preference modeling. Because of its ability to offer small numbers of profiles (thus reducing the burdens of respondents) for even complex cases, uniform design has recently been proposed as an alternative to orthogonal design for stated preference studies. Wang and Li's paper employs Monte Carlo simulations to analyze the statistical properties of uniform design and compare uniform design with orthogonal design on the ability to pick up the significant variables and the accuracy of parameter estimation and model prediction in different scenarios varying on sample size and model specification. Based on the simulation results, the paper finds that, like orthogonal design, uniform design supports unbiased estimation even for small samples. On the other hand, the fact that uniform design uses only one third or even less number of profiles that are required by orthogonal design may sacrifice to some extent the accuracy of estimation and prediction. This problem, however, may be compensated by increasing the sample size. Using a different type of experiment, the paper by Pravinvongvuth and Chen presents an application of Paired Combinatorial Logit (PCL) model to handle some of the drawbacks of multinomial logit model in a route choice context, i.e., the inability to account for overlapping (or correlation) among routes and to account for perception variance with respect to trips of different lengths. Using a set of carefully designed experiments and

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graphical illustrations, the paper examines the effects of congestion, scaling, and overlapping on the PCL choice probabilities. The experimental designs and graphical illustrations allow for intuitive explanation and comparison of the different effects on the calculation of the route choice probabilities. The paper finds that the scaled PCL model combined with congestion effect has good features that can be used to model the route choice problem. The research note by Allsop argues the need to include additional items in traditional travel surveys and extend the scope of travel survey methods to inform transport safety policy and practice. Based on the observation that travel patterns affect the numbers of people killed and injured in transport accidents, the paper advocates the use of the data that are already commonly collected in travel surveys to investigate the interactions between travel patterns and amount of death and injury in transport accidents. The paper further suggests that the range of such investigations could be extended in useful ways if some additional items of data could be collected in travel surveys. It also suggests that the understanding of the occurrence of transport accidents and people's involvement in them could be improved if we might supplement with surveys akin to travel surveys the data that are recorded when accidents occur. While the papers introduced so far are academic oriented, the paper by To, Yau and Lam addresses an issue of practical relevance. The paper introduces the method that is used to expand the sample data of the Travel Characteristics Survey 2002 of Hong Kong to derive the patterns of travel characteristics for the entire territory. The paper explains how under-reporting, a problem occurs in many household interview surveys, is handled in the expansion. Because the degree of under-reporting differs substantially between trip purposes, time periods of trips and transport modes, different expansion factors are applied to different trip purposes, time periods and transport modes. The expanded data matched well with traffic count data and transport statistics. The experience reported in this paper may be relevant for other practitioners to handle similar problems.