Transport Surveys

Raising the Standard

Proceedings of an International Conference on Transport Survey Quality and Innovation

May 24-30, 1997

Grainau, Germany
TRANSPORT SURVEYS: RAISING THE STANDARD

Proceedings of an International Conference on
Transport Survey Quality and Innovation
May 24-30, 1997
Grainau, Germany

Sponsored by

Ministry of Transport, Transport Research Centre, Rotterdam, The Netherlands
SOCIALDATA GmbH, Munich, Germany
Transportation Research Board, Washington, D.C., U.S.A.
Transport Research Centre, Melbourne, Australia

CONFERENCE COMMITTEE

Co-Chairs
Prof. Peter Jones, University of Westminster, U.K.
Prof. Peter Stopher, Louisiana State University, Baton Rouge, LA, U.S.A.

STEERING COMMITTEE

Kay Axhausen
Ambrosius Baanders
Patrick Bonnel
Werner Brög
Juan de Dios Ortuzar
Phil Fulton

Martin Lee-Gosselin
Elaine Murakami
Alan Pisarski
Charles Purvis
Tony Richardson
Gerd Sammer

Cheryl Stecher
Mary Lynn Tischer
Jose Viegas
Alice Watland
Manfred Wermuth

TRB STAFF

Thomas Palmerlee, Senior Program Officer
Gordon Franke, Project Assistant

Subscriber category
IA Planning and Administration

Transportation Research Board
National Research Council
2101 Constitution Avenue,
Washington, DC 20418

TRB website: national-academies.org/trb

The Transportation Research Board is a unit of the National Research Council, a private, nonprofit institution that is the principal operating agency of the National Academy of Sciences and the National Academy of Engineering. Under a congressional charter granted to the National Academy of Sciences, the National Research Council provides scientific and technical advice to the government, the public, and the scientific and engineering communities.

The Transportation Research Board is distributing this Circular to make the information contained herein available for use by individual practitioners in state and local transportation agencies, researchers in academic institutions, and other members of the transportation research community. The information in this Circular was taken directly from the submissions of the authors and has not been edited by the Transportation Research Board. This document is not a report of the National Research Council or the National Academy of Sciences.
PREFACE AND ACKNOWLEDGMENTS

This proceedings is from the conference entitled “Transport Surveys: Raising the Standard,” which was held at Eibsee, Germany from May 24 through May 30, 1997. The conference was sponsored by the Transportation Research Board, SOCIALDATA GmbH, München; the Directorate-General for Transport, DG VII of the European Commission, Brussels; the Transport Research Centre, Melbourne, Australia; and the Ministry of Transport, Transport Research Centre, Rotterdam, Netherlands. Socialdata undertook the local organization of the conference, including the hotel facilities, the local program, staff for registration, distribution of conference materials, and so forth. The Transportation Research Board provided sponsorship of the U.S. Steering Committee and its meetings in the U.S., and is also publishing the proceedings of the conference. The other sponsors assisted with some of the costs of the conference, including sponsorship of persons from eastern European countries by DG VII. The Conference Steering Committee would like to thank these sponsors for their contributions to the success of this conference.

All major transport policy and investment decisions are based on a careful evaluation of options, which in turn is underpinned by various data collection exercises; the validity of the final assessment is crucially dependent on the quality of these data inputs. In many countries, survey budgets are under increasing pressure while, at the same time, greater demands are being placed on the analyst to explain why as well as what people are doing. It is therefore crucial to identify which are the most appropriate survey instruments to meet the needs of the various data users, in a cost-effective way and to make the case for collecting data of high quality. There is much ignorance among transport professionals in all countries about how to specify and judge the quality of surveys of travelers, and increasing pressures to “cut corners” to save money. At the same time, advances in technology and methodology provide a range of new opportunities to collect important data in new and cost-effective ways, the potential value and quality of which need to be carefully assessed.

This conference was designed to provide an unique opportunity to examine these issues in depth with many leaders in the field of survey methodology, over a six-day period in a relaxed environment. Most of the working sessions were in small workshop sessions, using a set of commissioned resource papers to provide a basis of discussion. All those attending had the opportunity to make their input to what was designed to be a set of Guidelines, to be drawn to assist practitioners in selecting appropriate survey techniques and ensuring that the work is of high quality.

The conference had four main aims:

1. To share and disseminate knowledge about various aspects of surveys (sampling, instrument design, coding, etc.);
2. To recommend a set of basic procedures for designing, conducting, and analyzing surveys;
3. To derive a set of measures of data quality that can be applied in different contexts; and
4. To assess future research needs, taking into account both the requirements of analysts and policy makers, and the challenges posed by technological developments (e.g., Global Positioning Systems).
The contributors to the success of this conference are too many to name. However, a few should be mentioned specifically. We would especially like to thank Werner Brög for his inspiration to hold this conference, and for all of the work that he and his staff at SOCIALDATA contributed in the organization of a very successful conference, including Ursula Hüttner for her work in managing registrations, the paper flows, and keeping everything on track before, during, and after the conference. We would like to thank Alice Watland of the TRB for frequently riding herd on the North American members of the Steering Committee, and for all of her work in arranging meetings, and providing support to the Steering Committee. Finally, special mention should be made of Elaine Murakami of US DOT who took on herself the task of rounding up tardy reviews and stray resource papers. Without the help of these persons, and numerous others, this conference could not have been a success.

We hope that these Proceedings will provide a useful resource base for those with an interest in survey methods, whether as practitioners, researchers, or commissioners of surveys and survey research. We also hope that the effort that went into producing this document will help to raise the state of practice of transport surveys in the future.
PART I: CONFERENCE OVERVIEW

A. KEYNOTE PAPER ................................................................. I-A / 1
   Raising the Standard! Transport Survey Quality and Innovation
   Werner Brög

B. KEYNOTE PAPER ................................................................. I-B / 1
   Recognizing, Creating, and Marketing Survey Quality:
   Guidelines for Quality Assurance in Travel and Activity Surveys
   Alan E. Pisarski

C. CONFERENCE SUMMARY ................................................. I-C / 1
   Organization and Overall Results of the Conference
   Peter Jones and Peter Stopher

PART II: WORKSHOPS

A. WORKSHOP ON MULTI-METHOD AND MULTI-INSTRUMENT SURVEYS
   RESOURCE PAPER ............................................................. II-A / 1
   Surveys Using Multiple Approaches
   Konstadinos G. Goulias
   WORKSHOP SUMMARY ..................................................... II-A / 17
   José Viegas

B. WORKSHOP ON MULTI-DAY AND MULTI-PERIOD DATA
   RESOURCE PAPER ............................................................. II-B / 1
   Multi-Day and Multi-Period Data for Travel Demand Analysis and Modeling
   Ram M. Pendyala and Eric I. Pas
   WORKSHOP SUMMARY ..................................................... II-B / 23
   Alan E. Pisarski

C. WORKSHOP ON RESPONDENT ISSUES: SAMPLING, WEIGHTING, AND NONRESPONSE
   RESOURCE PAPER ............................................................. II-C / 1
   Data Quality Problems in Travel Surveys: An International Overview
   Wim F. de Heer and Ger Moritz
   WORKSHOP SUMMARY ..................................................... II-C / 22
   Manfred Wermuth
PART II: WORKSHOPS (continued)

D. WORKSHOP ON ITEM: SAMPLING, WEIGHTING, AND NONRESPONSE

RESOURCE PAPER ................................................................. II-D / 1

Item Nonresponse, Sampling, and Weighting
Jimmy Armoogum and Jean-Loup Madre

RESOURCE PAPER ................................................................. II-D / 20

Item Nonresponse in Travel Surveys: Causes and Solutions
Johanna P. Zmud and Carlos H. Arce

WORKSHOP SUMMARY ....................................................... II-D / 35
A. J. Richardson

E. WORKSHOP ON QUALITY INDICATORS

RESOURCE PAPER ................................................................. II-E / 1

Quality Indicators
Nelly Kalfs, Henk Meurs, and Willem Saris

WORKSHOP SUMMARY ....................................................... II-E / 15
Gerd Sammer

F. WORKSHOP ON DATA PRESENTATION

RESOURCE PAPER ................................................................. II-F / 1

Presenting and Preserving Travel Data
Kay W. Axhausen

WORKSHOP SUMMARY ....................................................... II-F / 20
Chuck Purvis

G. WORKSHOP ON RESPONDENT BURDEN

RESOURCE PAPER ................................................................. II-G / 1

Understanding the People We Survey
Elizabeth Ampt

WORKSHOP SUMMARY ....................................................... II-G / 14
Elaine Murakami

H. WORKSHOP ON QUESTIONNAIRE DESIGN

RESOURCE PAPER ................................................................. II-H / 1

Question Formulation and Instrument Design
Arnim H. Meyburg and Helen M. A. Metcalf

WORKSHOP SUMMARY ....................................................... II-H / 22
Ambrosius Baanders and Stephen Arrowsmith
PART II: WORKSHOPS (continued)

I. WORKSHOP ON PRACTITIONER’S FUTURE NEEDS

RESOURCE PAPER ................................................................. II-I / 1

Future Transport and Travel Data Needs: A Practitioner’s Perspective
Toon van der Hoon

WORKSHOP SUMMARY .................................................. II-I / 19
Susan Liss

J. WORKSHOP ON MODELERS’ NEEDS

RESOURCE PAPER ............................................................. II-J / 1

Data Needs, Data Collection, and Data Quality Requirements of
Activity-Based Transport Demand Models
Theo Arentze, Harry Timmermans, Frank Hofman, and Nellie Kalfs

WORKSHOP SUMMARY .............................................. II-J / 31
Juan de Dios Ortuzar and John Bates

K. WORKSHOP ON QUALITATIVE/QUANTITATIVE METHODS

RESOURCE PAPER ............................................................. II-K / 1

Qualitative Research in the Transport Sector
Tim Grosvenor

WORKSHOP SUMMARY .............................................. II-K / 19
Cheryl C. Stecher

L. WORKSHOP ON HYPOTHETICAL SITUATIONS

RESOURCE PAPER ............................................................. II-L / 1

Hypothetical Situations: The Attempt to Find New Behavioral Hypotheses
Bruno Faivre D’Arcier

WORKSHOP SUMMARY .............................................. II-L / 18
Martin Lee-Gosselin

PART III: SESSIONS

NEW TECHNOLOGIES

A. Conducting Telephone Origin – Destination Household Surveys
With an Integrated Informational Approach..................................III-A / 1
Robert Chapleau

B. Using Global Positioning Systems and Personal Digital Assistants for Personal
Travel Surveys in the United States..............................................III-B / 1
Elaine Murakami, David P. Wagner, and David M. Neumeister
PART III: SESSIONS (continued)

CASE STUDIES

C. Similar, Yet Different: Some Emerging Trends in Travel Surveys in Australia
   A. J. Richardson and Helen Battellino

D. NPTS: The U.S. National Household Travel Survey
   Susan Liss

E. The 1994 Microcensus on Transport Behavior:
   A Case Study of Switzerland
   Rita Seethaler

F. Using a Range of Methods to Collect Travel Data:
   The Experience of British National Travel Survey
   Stephanie Freeth

ILLITERACY

G. Transportation Surveys Among Illiterate and Semiliterate Households in South Africa
   Patricia van der Reis

H. Researching the Whole Picture: Developing Appropriate Survey Methods for Transport Research Among High Illiteracy, Low-income Populations in Accra, Ghana
   Jeff Turner

PART IV: PARTICIPANTS

List of Participants