

TRANSPORT SURVEY METHODS: BEST PRACTICE FOR DECISION MAKING

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Preface

The objective of this book is to communicate the state of “good” practice in transport survey methods from around the world. It identifies the progress made toward methodological solutions and the challenges that remain ahead. Most importantly, it consolidates an international perspective on improving data and information to support transportation decision-making. One of the central conclusions to be drawn from its contents is that innovation to improve our international data and information infrastructure, and the thorough testing of innovations, should be a primary preoccupation for the immediate future.

This book brings together a selection of peer-reviewed papers and workshop syntheses from the 9th international conference held in Puyehue, Chile in November 2011. It is not a proceedings volume, as this role was fulfilled by the provision, to all participants, of unpublished electronic pre-prints of papers and posters that were accepted by a review board for presentation at the Conference.

Each ISCTSC conference is organized around key themes. The Chile Conference focused on “Scoping the Future While Staying on Track.” It sought a strategic balance between, on one hand, the anticipation of changing data needs that result from important ongoing shifts in major transport policy issues and, on the other, the imperative to ensure that benchmark data are stable and consistent enough for comparisons to be made across time. This is the contemporary context for identifying and researching developments in survey methods, in concert with other data sources, which can meet the resultant challenges. Of course, data collection methods are also subject to challenge and change, most notably in the current era from technological developments. Our overarching goal is thus to review, critique, and update the body of knowledge about survey methodologies, in order to enhance the quality, value, and utility of the data that surveys provide for shaping transport practice, policy, and programs.

This publication should be of substantial interest to analysts, planners, and researchers who provide information and knowledge to transportation policy makers and decision-makers. It should also be of interest to students and their teachers, because it considers the current condition of transport data and information to support good decision-making, and identifies where future improvements are needed. Finally, it has relevance for transportation policy makers and decision-makers who rely on good information and intelligence for the soundness of the work that they do.

The book's international perspective would not be possible without the institutional infrastructure of the International Steering Committee for Travel Survey Conferences (ISCTSC). This sentiment, which is usually placed in the acknowledgments, resides here because of the significance of this organization for good practice in transport survey methods. The mission of the organization is to organize periodic international conferences on research into the conduct of transport surveys that support planning, policy, modeling, monitoring, and related issues for urban, rural, regional, intercity, and international person, vehicle, and commodity movements. The ISCTSC vision is the continuous improvement of transport survey methods, and of the information they provide to decision-makers, in both developed and developing countries. With respect to developing countries, it supports its mission through a scholarship fund that subsidizes conference attendance, and through the donation of conference publications, such as this, to developing-country libraries.

A professional volunteer organization, the ISCTSC, has a rich legacy of past conferences and publications that began in the late 1970s with a small invitational conference in Eibsee, Germany, organized by Werner Brög and colleagues. Subsequent conferences were held in Hungerford Hill, Australia in 1983 (Ampt, Richardson, & Brög, 1985), Washington, DC in 1990 (Ampt, Richardson, & Meyburg, 1992), Steeple Aston, England in 1996 (Bonsall & Ampt, 1996), Eibsee, Germany in 1997 (TRB, 2000), Kruger Park, South Africa in 2001 (Stopher & Jones, 2003), Playa Herradura, Costa Rica in 2004 (Stopher & Stecher, 2006), and Annecy, France in 2008 (Bonnell, Lee-Gosselin, Zmud, & Madre, 2009).

With the publication of this book, and under a recent constitutional change that provides for overlapping cochair terms, we pass the ISCTSC baton to the recently elected cochairs. They are: Marcela Munizaga, who so ably coled the Local Organizing Committee for the Chile Conference (for a two-conference term); and the return of Tony Richardson, who provided much inspiration for the series as one of its "founding mothers and fathers" (for one conference). We sign off knowing that they will benefit, as have we, from the extraordinary goodwill that sustains the ISCTSC around the world, and confident that the future of the series is in excellent hands.

Johanna Zmud
Martin Lee-Gosselin
October 2012

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For the period leading up to the conference through to the completion of the book the ISCTSC members were:

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PART I
SETTING THE CONTEXT

Chapter 1

Transport Surveys: Considerations for Decision Makers and Decision Making

Johanna Zmud, Martin Lee-Gosselin, Marcela Munizaga and Juan Antonio Carrasco

Abstract

This book provides an international perspective on improving information to support transportation decision making. It comprises a selection of papers plus workshop syntheses from the 9th International Conference on Transport Survey Methods in Chile in November 2011. The conference was organized into 14 workshops with both paper presentations and discussions in the workshops forming the majority of the conference activity. The papers reported primarily on research pertaining to continuous improvement in transport survey methods — the backbone of the transportation data pipeline in most countries. But some papers also addressed the new ways in which innovation — notably technological innovation — is being applied to the capture and analysis of data to produce necessary information faster, better, and less expensively. The conference program built on a rich legacy of intellectual pursuits spanning the past two decades, and it is anticipated that the conference will continue into the future. Thus, the contents of this book represent a 5–10 year view through a moving window on the international state of the practice and concerns in transport survey methods.

Keywords: Location-aware technologies; decision processes; respondent interfaces; social context; new data streams; multi-horizon choices

1.1. Introduction

In today's difficult global economy, governments are struggling with demands to increase basic services and to do so with fewer available resources. Governments must ask themselves where the marginal dollar of expenditure will have maximum impact. This is true across all sectors of private and public economies but particularly so in the transportation sector. Regardless of country, transportation infrastructure is in a critical state. Bridges are load-restricted, closed, or falling down from lack of maintenance; transit systems endure unending cycles of maintenance interruptions; congestion wastes commuters' time and impedes logistics. Most governments' statistics have shown that transport has become worse for just about everyone. In most major cities, journey times by all modes of transport have lengthened. On the other hand, there are efficiencies to be gained. As the Chilean Transport Deputy Minister Gloria Hutt reflected upon in the opening plenary, in the last decade there has been an enormous change in the access to communication technologies (e.g., satellite TV, mobile phone, Internet access). Such technologies have had impact not only on the functioning of the transportation system and on the ways in which individuals organize their travel, but also these have had impacts on the ways in which data are obtained and analyzed.

In hard economic times, policy makers are looking for every opportunity to spend less and get more "bang for the buck." It is a time for smarter decisions — especially transportation investment and policy choices based on objective information. That takes data — and good data are getting increasingly harder to come by. How do we get the robust data needed for sound decision making? The answer lies in the collection of good passenger and freight transportation data on volumes, origin, and destination flows, costs of travel, impacts of travel, influencers on demand, and substitutes for travel.

The papers in this book illustrate how travel behavior research is addressing the need for good data and better information about passenger and freight travel to support decision making. The papers span 14 different topics that contend with stepwise improvements in mainstream transport survey methods, technology applications that support new types of data collection and analysis methods, or innovative methods to address new policy or planning challenges. The ground covered (see [Table 1.1](#)) is worth noting, as these themes were not predetermined but were derived from more than 140 extended abstracts that were submitted to the ISCTSC in response to the Call for Papers — almost double the number submitted to the previous conference. The themes are thus in themselves an expression of contemporary priorities from the international community of transport survey researchers, and of the lively current interest in the field.

As [Table 1.1](#) indicates, the types of improvements deal with survey and sampling design, the use of non-survey data sources, data processing, and interpretation. While household travel behavior surveys were often the methodological focus of the papers in this book, the primary objective of most papers is to provide approaches to improved measurements of critical data regardless of the specific type of survey or other method employed.

The terms "data," "information," and "knowledge" are frequently used in this book, often interchangeably. But in reality, there are distinctions that are important