

10th International Conference on Transport Survey Methods

Design and Response Quality in a One-Year Longitudinal Survey of Overnight and Long-Distance Travel

Lisa Aultman-Hall^{a*}, Chester Harvey^a, Jeffrey J. LaMondia^b, and Chloe Ritter^c

^a The University of Vermont Transportation Research Center, 210 Colchester Avenue, Burlington, VT 05405, USA

^b Auburn University, Department of Civil Engineering, 238 Harbert Engineering Center, Auburn, AL 36849, USA

^c Resource Systems Group, Inc. 2200 Wilson Blvd., Suite 205, Arlington, VA 22201, USA

Abstract

This paper describes a unique twelve-month online panel survey of overnight travel, assessing participant retention and feedback in inform future long-distance travel survey design. Diverse methods were used to recruit 1,220 initial participants, 51.5% of whom completed the panel. Connections to a university or the research team positively impacted retention. Heavy traveling had a small but negative impact. Survey feedback indicated the importance of accounting for repeated trips and complex combinations of modes, travel parties, and purposes. The survey demonstrates that a monthly panel framed around overnight stays is a strong candidate for collecting detailed long-distance travel data.

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Peer-review under responsibility of International Steering Committee for Transport Survey Conferences ISCTSC

Keywords: Travel survey methods; Longitudinal survey; Long distance travel; Overnight travel

1. Introduction

Over the past few decades, overnight and long-distance trips have become more prevalent among households' typical travel patterns (LaMondia and Bhat, 2011). These trips have significant implications for climate change, mass transport within megaregions, accessibility for aging populations, and new technology to support green tourism and commuting. As such, it is increasingly important to collect data over multiple days in order to capture this type of travel. While many researchers recognize this need and seek effective methods for collecting longitudinal travel surveys, the majority of work focuses on shorter timeframes or specific topics that do not provide complete travel

* Corresponding author. Tel.: +1-802-656-1245
E-mail address: Lisa.Aultman-Hall@uvm.edu

information (Goulias et al. 2006; Yen et al. 2006). Additionally, very little research exists on the methodological issues associated with longitudinal travel surveys of long-distance or overnight travel.

The non-routine nature of overnight or long-distance travel requires either (a) considerably larger sample sizes or (b) considerably longer sample collection intervals. However, due to the costs associated with both types of surveys, it is challenging to complete both without a strong understanding of the best means of collecting this information. Without this, most long-distance add-ons to routine daily travel surveys focus on only two-weeks to three-months (RSG 2013), including large sample sets such as the National Household Travel Survey (Steiner and Cho 2013). But even these time frames may be too short to capture variations within individuals' and households' long-distance travel patterns. It has been demonstrated, for example, that tourism and leisure travel are more accurately described over yearly planning horizons (LaMondia et al. 2008; Van Nostrand et al. 2012). For this type of travel, it is difficult to characterize the number of leisure activities, travel season, potential repeated activity patterns, and with whom individuals are traveling without considering these longer timeframes (Anderson and Langmeyer 1982, Hsieh et al. 1997, Castro et al. 2007; Limatanakool et al. 2006). Work and business travel also require longer timeframes to adequately define their trips, as corporate organizations assign duties in various locations and seek to manage overall travel costs across the fiscal year (Gustafson 2012).

Therefore, the objective of this paper is to advance our understanding of survey methods and inform future design by analyzing a unique yearlong longitudinal travel survey (distributed monthly) and consider response quality from the panel participants over this timeframe. The survey focused on all types of travel that involved overnight stays as well as collected data about when these trips were planned. Specifically, this paper (1) describes the unique survey approach and assesses its attributes, (2) measures retention of participants throughout the year, and (3) considers online and focus group comments related to improving survey design. The measures of retention are evaluated as a function of participant demographics, recruiting method, travel frequency, travel types and relationship to the study team, as well as whether the individual worked in the transportation or university sectors.

1.1. The Longitudinal Study of Overnight Travel

This paper is based on data from the Longitudinal Study of Overnight Travel (LSOT) conducted monthly between February 2013 and February 2014 using an online survey instrument developed by researchers at the University of Vermont and Auburn University and implemented by Resource Systems Group, Inc. (RSG). Respondents were residents of the United States and Canada. Their home locations, which were predominantly in Vermont, Alabama, and California, are shown in Figure 1. The overall goal of the study was to pilot the innovative survey method while collecting sufficient observations to analyze attributes of planned and executed overnight trips for all purposes by individuals aged 25 years and older over a 12-month period.

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