

XVIII Congreso Panamericano de Ingeniería de Tránsito, Transporte y Logística (PANAM 2014)

Household or individual – Advantages and disadvantages of different interview selection strategies

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Abstract

In light of the growing importance of transport analysis since the 1960s, interviewing households has become a proven means of gathering information concerning the travel behavior of the population. In spite of the exploitation of various classical methods and the partial use of new media, the acceptance of household interviews in Germany has deteriorated sharply over the last few years. This can be seen in the continuously declining response rates. A low response rate may have a negative impact on the quality of the data gathered and on the acceptance of the published results. The Technische Universität Dresden is currently analyzing the possibility of halting the declining response rate by combining different survey methods that differ in regard to the target group. One of the key questions in considering a target-group-specific approach is the decision of whether to choose the household or the individual as the primary unit of analysis. Deciding on a favorable sampling strategy requires careful reflection on the advantages and disadvantages in terms of statistics, content and the practicability of the survey.

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Peer-review under responsibility of PANAM 2014.

Keywords: Household survey; travel survey; travel behavior; cross-sectional survey; reference day survey; unit of analysis; selection strategy; response rate; cluster sample; sampling method

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1. Introduction

Since the 1970s, household questionnaires have been an established practice in Germany for surveying the travel behavior of residents. Due to the separation of Germany after WWII, two cross-sectional surveys have been developed within the last 40 years. After Reunification in 1990, these surveys were continued at regular intervals as Mobility in Germany (MiD), conducted by the Federal Ministry of Transport, and Mobility in Cities – SrV (“SrV” stands for, in German, “System of Representative Transportation Surveys”), conducted by cities, municipalities and transportation companies and associations. The two large German cross-sectional surveys are connected by the German Mobility Panel (MOP), particularly during the periods between MiD surveys. This longitudinal instrument also makes intrapersonal behavior analysis possible.

The necessity of conducting household surveys as an essential basis for strategic transportation planning was first recognized and discussed academically in Germany at the Technische Universität Dresden, in the former GDR, at the end of the 1960s. After various test surveys, the instrument was first implemented in 1972. Since then, continued technical guidance and organization of the SrV survey has been entrusted to the Technische Universität Dresden, which sees itself as the trustee of the cities and has the task of continually developing the method further and adapting the survey to current applicable conditions, as well as taking care of routine administration.

The SrV, which is arranged as a reference day survey, is repeated regularly, i.e. every five years, and was conducted for the tenth time in 2013. Its results primarily aid the planning and politics of municipal transportation development in overcoming one of the central tasks: the continual observation and evaluation of developments and effects. The data build a significant foundation for strategic and control-oriented plans, as well as for demand and effect calculations of measures, based on transportation models. The results serve politics and the public sphere as material that describes the transportation landscape and its development over time, as well as from city to city. Furthermore, the data are made available to research organizations for secondary analysis.

Measured by continually worsening response rates, the acceptance of household surveys has decreased dramatically in western countries in the last years and decades (see de Leeuw & de Heer, 2001, Singer, 2010, Massey & Tourangeau, 2013). This trend can also be identified for the latest rounds of the MiD and SrV surveys, despite extensive, comprehensive use of classical methodology and the at least partial use of new media (e.g. online surveys). Figure 1 shows the development of the SrV and KONTIV/MiD responses since 1972. The KONTIV surveys of 1976, 1982 and 1989 are the predecessors to Mobility in Germany (MiD) – “KONTIV” stands for, in German, “Continual survey of Transportation Behavior”.

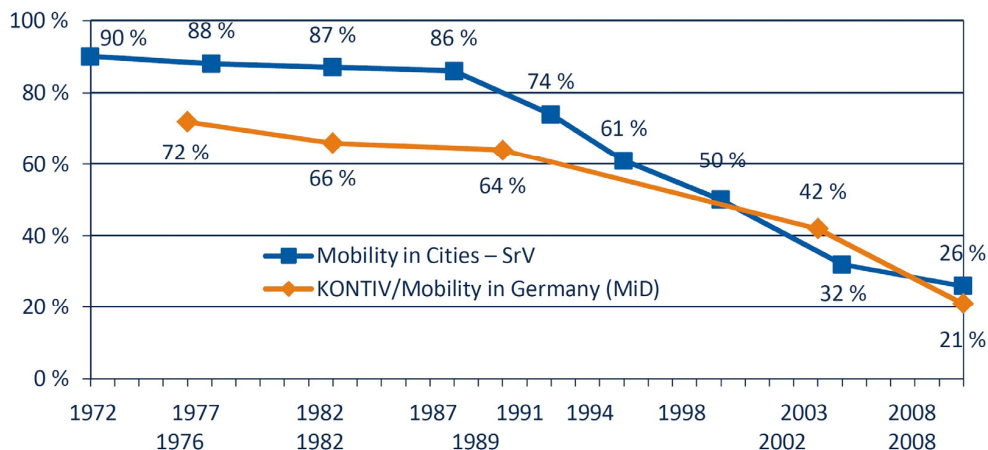


Fig. 1. Development of the SrV and KONTIV/MiD responses since 1972
(KONTIV/MiD survey response rates: Scheiner, 2009, Follmer et al., 2003 and 2010)

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