The Dynamics of Change – latest results from the German Mobility Panel

Prof. Dr.-Ing. Dirk Zumkeller

Institute for Transport Studies; University of Karlsruhe
Kaiserstr. 12, Geb. 10.30, 76131 Karlsruhe, Germany
phone: +49-721-6082729
fax +49-721-6088031
zumkeller@ifv.uni-karlsruhe.de

Abstract

Germany has taken an approach to analyse and monitor travel demand development which encompasses different surveys: Cross-sectional surveys with large samples (Kontiv, MID) are carried out every 5 to 10 years. These cross-sectional surveys are supplemented by two longitudinal (panel) surveys: the German Mobility Panel (MOP) with focus on everyday travel and the INVERMO panel survey of long distance travel (see figure 1).

FIGURE 1: Concept of National Mobility Surveys in Germany

Such a data base can form a platform for a better knowledge about the dynamics of change in a longitudinal perspective and furthermore help to develop a dynamic modelling of activity travel patterns. While a cross-section is just a snapshot of the current situation, it does not address the question how behaviour changes either over time or as a result of any
interventions. Generally, an observation of changes in aggregate demand figures can be attributed either to a change in the underlying population, in external factors, or in changing behaviour of individuals. The former two can be analysed with different kinds of ongoing surveys, while the latter requires a panel approach. A possible example here would be public transport patronage: people may start as PT-users because they cannot afford a car, but some of them may remain faithful to PT when their income increases and they own a car. To which extent these people use this car and PT simultaneously can only be identified with a panel. These longitudinal considerations suggest a distinction between short-term (telematics etc), mid-term (how do individuals meet budget constraints) and long-term (car-ownership, land use...) impacts.

It goes without saying that e.g. the impacts of rising fuel prices on activity travel behaviour can occur on any of these levels, depending on the sustainability of high and/or rising fuel prices. This up-to-date example nicely illustrates that there is a quest for data to better understand behavioural processes such as longitudinal or panel data. But surveying such data brings along new problems for data quality such as non-response, attrition, fatigue and panel conditioning.

Funded by the Ministry of Transport, Buildings and Housing, the German Mobility Panel (MOP) surveys “every-day mobility” at annual intervals, using a small representative sample of approximately 800 households per year. Determining “every-day mobility” also essentially covers long-distance transport levels, where long-distance journeys take place within the one-week survey period. Since these long-distance journeys are relatively rare in the MOP, it was complemented by an additional long-distance panel for three years, the so-called INVERMO sample. The MOP began its activity in 1994, focussing exclusively on the former West German states and since 1999 has broadened the scope of its survey to include the new federal states. This extensive data collection process started in 1992 with a pilot study resulting in the regular start in 1994. The associated methodological exercises were complemented by a so-called selectivity study in 2002 and many other research projects ranging from statistical exercises to modelling approaches. This methodological ensemble forms the background for an ongoing process covering now 15 years of field duration and growing experience to better understand the dynamics of change.

As a result of this process, the MOP is still alive, nobody wants to stop it and furthermore it is now already complemented by three regional panels (Frankfurt, Mannheim and Stuttgart regions). These regional panels have been launched by their sponsors because the economic and spatial development in Germany and within these regions is quite heterogeneous in an era of economic change, an aging society, increasing social divide and ecological challenges.