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Background
Model for Long-term decisions is Discrete-choice model based on utility maximisation theory (Salvini and Miller, 2005; Waddell et al., 2003)

But
• decisions regarding car ownership and residential location (Pinjari, et al, 2007) and work and residential location (Waddell et al, 2006) are interdependent.
• longer-term mobility decisions are path dependent.

Current Dynamic Researches
• Hazard models to examine the impact of duration on the occurrence of events (e.g., Feijten and Mulder, 2002; Beige and Axhausen, 2006).
• Waarden, Borgers and Timmermans (2003a, 2003b) argued that activity-travel repertoires evolve into a state of disequilibrium due to critical incidents and key lifecycle events and therefore require treatment of the dynamics.
• Verhoeven et al. (2005, 2006) suggested to represent the interdependencies.
• Habib et al. (2006) suggested the concept of stress.
• Han et al. (2007, 2008) used aspiration level, influenced by the social network.

Object of this paper
To build a comprehensible framework that incorporates the dynamism and interdependency

Methodology
a) test empirically whether the assumed relationships are supported by observed longitudinal longer-term decisions

Bayesian Belief Network
• Flexible in determining relationships (between dimensions and over time) and not define relevant relationships a priori.
• able to deal with concepts, such as in our model ‘stress’.

Data description
As a new approach, it required many factors to be observed which are absent in presently available datasets. Still the WBO provides an attractive test case. It includes
• information of many interrelated longer-term mobility dimensions of different points in time
• information about satisfaction
Of the households in the remaining dataset (usable subsample of 40,133 households.) about 17% changed residential location in the past two years and about 18% of the households intend to move within the next two years.

The way forward...
This study contributes to the state-of-the art by treating dynamics and interdependencies in an integrated way.
The current study admittedly only gives a limited impression of the dynamics in longer-term decision making. Future work will focus on improving insights in this area in various ways.
• Most importantly, more appropriate data needs to be collected
• More rigorous conceptualization of aspiration and stress.

Implementation
Network learning with causal-relationship between events, current state and decision.

Figure 1: Conceptual Framework of Long-term Mobility Decisions

Figure 2: A stress-based approach