

## Travel and residential change: An introduction



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### ABSTRACT

In this introduction to the special issue on travel and residential change, we provide an overview of the literature on the interaction between travel behaviour and dynamics in the residential context, focusing on (i) the effect of travel on people's intention to relocate, (ii) the effect of travel on the residential location choice, and (iii) the effect of changes in the residential environment on travel. We present a model summarising these relations and briefly describe the studies included in this special issue.

### 1. Introduction

Numerous studies have analysed the effects of the built environment – and the residential location in particular – on travel behaviour. People living in suburban or rural neighbourhoods tend to use the car for most of their trips and mostly travel relative long distances. Urban residents, on the other hand, have shorter travel distances and travel more frequently with car alternatives, such as public transport, walking or cycling. These variations can be partly explained by differences in the so-called 5Ds: Density, Diversity, Design, Destination accessibility, and Distance to public transport (e.g., [Ewing and Cervero, 2001, 2010](#)). High densities and diversities – mostly found in urban environments – encourage active travel as they result in relatively short distances. A design stimulating a certain travel mode (e.g., bus lanes, separated bike lanes, pedestrian zones) can stimulate the use of the respective modes. Destination accessibility – referring to the proximity of activities – discourages car use, while short distances to public transport stops stimulate public transport ridership. Although studies on the effect of the built environment on travel behaviour are abundant, studies focusing on the interaction between changes in the built environment and travel – including travel behaviour, attitudes and satisfaction – are limited. In the following sections we focus on these interactions between residential change and travel. [Section 2](#) analyses the effect of travel on people's intention to relocate, while [Section 3](#) examines how the residential location choice is affected by travel. In [Section 4](#) we analyse how a change in the residential environment can impact how people (perceive) travel, while in [Section 5](#) we present a model describing the process of the interaction between travel and residential change. Finally, the studies included in the special issue on travel and residential change are shortly described in [Section 6](#).

### 2. Effects of travel on intention to relocate

People can have numerous reasons to move to a new house or neighbourhood. A residential relocation is often linked with certain life events such as a new job (location), moving in with a partner, having

children, retiring or divorcing. However, people might also tend to relocate due to dissatisfaction with the characteristics of their neighbourhood (e.g., [Ginsberg & Churchman, 1984](#); [Oh, 2003](#)). Travel satisfaction, on the other hand, might also influence residential satisfaction and people's intention to relocate. Since the residential environment can restrict the use of certain travel modes, not living in a neighbourhood stimulating the use of favoured modes can negatively affect travel satisfaction and satisfaction with the place of residence ([Cao & Wang, 2016](#); [De Vos et al., 2016](#)). For instance, a person preferring active travel but living in a suburban environment might (i) not be satisfied with the way of travelling due to the (forced) use of motorised modes, (ii) not be satisfied with the residential location because it limits the possibilities to walk or cycle, and (iii) create an intention to relocate to a residential neighbourhood which better fits the desire for active travel, i.e., an urban-style neighbourhood.

### 3. Effects of travel on residential location choice

The choice of where to live is affected by a wide range of elements, such as distance to work or family/friends, characteristics of the dwelling and the presence of amenities in the neighbourhood. People's travel preferences and needs might also influence the residential location choice since the residential neighbourhood can set the parameters within which many travel choices (such as travel mode choice) are made for a considerable period of time. People with a positive stance towards car use will often try to live in suburban neighbourhoods due to good car accessibility, while those preferring active travel or public transport will mostly have a preference for compact, mixed-use neighbourhoods because of short distances and (mostly) good public transport services. This (transport-related) residential self-selection has been frequently addressed in the travel behaviour field, as it can mediate the effect of the built environment on travel behaviour (for an overview, see [Cao et al., 2009](#); [Næss, 2009](#); [van Wee, 2009](#)). However, the importance of transport-related elements in the residential location choice is subject to debate ([Ettema & Nieuwenhuis, 2017](#); [Wolday et al., 2018](#)), partly since studies have found that travel-related attitudes are not

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always consistent with the chosen residential neighbourhood (De Vos et al., 2012; Schwanen & Mokhtarian, 2005). Furthermore, the choice of where to live might not always be free and can be constrained by – among others – budget limitations and distance to work (Lin et al., 2017).

#### 4. Effects of a changed residential environment on travel

Since the residential neighbourhood has an important effect on people's travel behaviour (even after accounting for self-selection effects (e.g., Cao et al., 2009)), moving to a new residential neighbourhood is likely to influence people's travel patterns. Studies have found that people relocating to compact, mixed-use neighbourhoods walk, cycle and use public transport more frequently and travel less by car than in their previous neighbourhood, while opposite results are found for people relocating to suburban or rural neighbourhoods. These changes in travel mode frequency are often related with changes in travel distances (imposed by the new built environment) and changes in the household car ownership after relocating (e.g., Aditjandra et al., 2016; Krizek, 2003; Scheiner & Holz-rau, 2013; Oakil et al., 2016). Two recent studies indicate that moving to a new neighbourhood results in travel attitudes becoming more in line with travel behaviour stimulated by the new neighbourhood, i.e., moving to urban neighbourhoods improves attitudes towards public transport and active travel, while moving to suburban neighbourhoods improves car attitudes (De Vos et al., 2018; Wang & Lin, 2019). A residential relocation might also influence satisfaction with travel. It is likely to assume that moving to a neighbourhood consistent with travel preferences will mostly improve travel satisfaction while moving to a neighbourhood which is inconsistent with the preferred way of travelling will mostly reduce travel satisfaction levels. It should be noted that a change in residential environment does not always result from a residential relocation but can also be the outcome of changes in the built environment (e.g., densification and land use mixing in existing neighbourhoods).

#### 5. A model describing the relations between travel and residential change

Fig. 1 shows how travel (left) and residential change (right) interact with each other, as explained in Sections 2 – 4. Travel satisfaction can influence the intention to relocate. When people decide to effectively move to another place of residence, the residential location choice can be affected by attitudes towards travel. The new residential

environment, resulting from a residential relocation or from residential redevelopments, can in turn influence travel behaviour, travel attitudes and travel satisfaction. Note that travel behaviour, travel attitudes and travel satisfaction are strongly related with each other (for an overview of these links, see De Vos, 2019).

#### 6. Travel and residential change: A special issue

This special issue contains eleven studies analysing the links between travel and residential change. Four studies mainly focus on the relation between travel attitudes and the residential location choice. van Herick and Mokhtarian (2020) analyse various techniques that have been applied in existing studies to address the residential self-selection bias, and how much diverse results found are a consequence of the method used. Bruns and Matthes (2019) examine the extent of transport-related residential self-selection in two city regions in Germany, and how this interferes with integrated land use and transportation strategies. Kroesen (2019) estimates a latent class transition model using data from two waves of the Mobility Panel Netherlands in order to analyse to what extent the built environment influences travel-related residential preferences. Gehrke et al. (2019) use an integrated choice and latent variable modeling framework to investigate the influence of lifecycle stage, mobility style, and lifestyle aspirations on residential neighbourhood preferences of residents of Portland (Oregon, US).

The remaining seven studies mainly focus on how travel behaviour, travel attitudes and travel satisfaction can change due to a residential relocation. Janke and Handy (2019) analyse how life course events – including residential relocation – explain changes in attitudes towards and levels of cycling for residents of Davis (California, US), using a mobility biography approach. Thronicker and Klinger (2019) compare urban movers and non-movers in Leipzig (Germany) and look at how life changes (including changes related to family, work and mobility) influence their interest in a mobility package promoting the use of public transport, cycling, and carsharing. De Vos et al. (2019) examine how changes in travel patterns – resulting from a residential relocation – affect satisfaction with commute trips and leisure trips of recently relocated residents in Ghent (Belgium). Kamruzzaman et al. (2020) examine spatial biases in residential mobility of individuals in Brisbane (Australia) experiencing significant changes in urban form following a residential relocation and estimate the effects of urban form and spatial biases on mode switch behaviour. Haque et al. (2019) use the British household panel survey to conduct discrete choice models to analyse

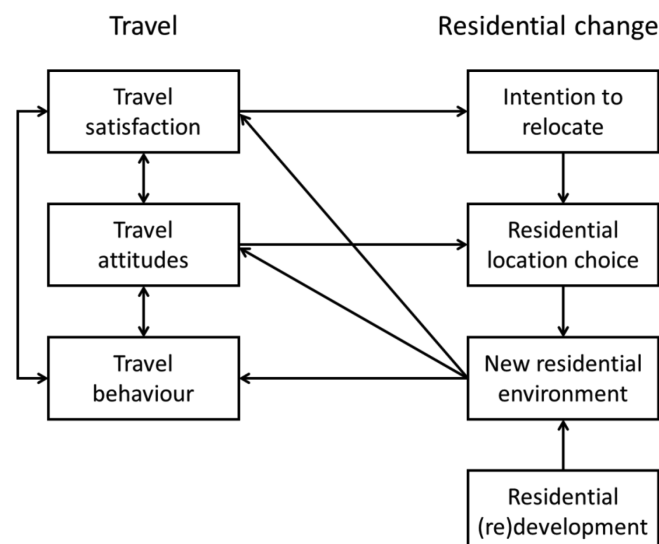


Fig. 1. Interaction between travel and residential change.

how residential relocations at different scales (i.e., locally, regionally or nationally) influence medium-term (e.g., car ownership) and short-term (e.g., travel mode choice) mobility decisions. Zarabi et al. (2019) conduct semi-structured interviews in Montreal (Canada) in order to analyse how a residential relocation – as an important life event creating a new residential context – can disrupt travel habits. Finally, Farinloye et al. (2019) also use a qualitative approach to analyse how people change their travel behaviour after relocating away from London (UK).

In sum, this special issue provides new insights into the bidirectional link between travel attitudes and the residential location (choice), and how a new residential environment can affect travel behaviour, travel attitudes and travel satisfaction. On the other hand, studies examining how travel (satisfaction) can influence residential satisfaction and people's intention to move to another residential neighbourhood are not included in this special issue. As a result, we encourage future studies to focus on this underexplored link.

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