Qualitatively exploring the effect of change in the residential environment on travel behaviour

Keywords: Travel; Relocation; London; Behaviour; Residential Self-select; Qualitative

Temitope Farinloye*
Questbury Research Services,
Canterbury, Kent, UK
Temitope.farinloye@questbury.com

Emmanuel Mogaji
University of Greenwich,
Greenwich, London, UK
E.O.Mogaji@greenwich.ac.uk

Stella Aririguzoh
Covenant University,
Canaanland, Ogun State, Nigeria
stella.aririguzoh@covenantuniversity.edu.ng

Tai Anh Kieu
University of Economics
Ho Chi Minh City, Vietnam
kieuanhtai@gmail.com

**Corresponding Author*

Cite as:

Farinloye, T., Mogaji, E., Aririguzoh, S., & Kieu, T. A. (2019). Qualitatively exploring the effect of change in the residential environment on travel behaviour. Travel Behaviour and Society, 17(October), 26-35. doi: https://doi.org/10.1016/j.tbs.2019.06.001

Abstract

Qualitative research with residents relocating from London was undertaken to develop an understanding of how and to what extent a change in the residential environment affected people's travel behaviour and attitudes. Data was collected through semi-structured interviews and was thematically analysed. The findings reveal that when in a new location, residents observe the features of their built environment, identify the cause of their stress, and make efforts to address it with a change in travel behaviour. The key contribution of this study is the realisation of different levels of travel behaviour in response to a change in residential location – some residents maintained their travel behaviour, some complemented it, while some changed their behaviour to adapt to their new built environment. Theoretically, this research contributes to the extension of knowledge on travel behaviour as it focuses on suburbanising Londoners; the qualitative method adopted for this research also contributes to current knowledge. Practically, there is the potential of developing a travel behaviour change initiative around ridesharing and policy changes and initiatives to improve physical planning and sustainable travel.

Keywords

Travel; Relocation; London; Behaviour; Residential self-selection; Qualitative research

Highlights

- Qualitative research with residents relocating from London.
- Residents observe features of their new environment and make efforts to change their travel behaviour.
- Some residents maintain their previous travel behaviour, such as driving or using public transport.
- Some residents complement their behaviour by changing their travel time and or travel mode.
- Some residents change their behaviour by learning to drive or cycle.

Introduction

The study of travel behaviour, including how people commute and travel within their neighbourhood, has been of great interest to researchers from diverse disciplinary backgrounds, which has necessitated different policy changes and initiatives to improve physical planning, sustainable travel, and public health by reducing dependency on cars (Wang & Wen, 2017). Though travel preferences have been known to influence residential self-selection relocation, individuals change their travel behaviour as they interact with a new built environment (Handy et al., 2005). The mobility biographies approach is an emerging body of knowledge that examines changes in travel behaviour induced by events or experiences, such as residential relocation, over an individual's life course (Scheiner & Holz-Rau, 2013).

The concept of mobility biography can be summarised as experiences pertinent to an individual's travel behaviour and highlights life events and milestones that can warrant the need for residential relocation to a new environment, such as marriage or having children (Scheiner & Holz-Rau, 2013). Often, residential relocation is discussed in the context of self-selection. Residential self-selection (RSS) is defined as 'the process by which households choose their residential location based on their desired and expected travel behaviour' (Ettema & Nieuwenhuis, 2017, p. 146). This implies that individuals make a conscious effort to relocate to a place that aligns with their preferred method of travel. However, travel behaviour cannot be treated in isolation from its wider (infra)structural context such as housing supply (Evans, 2011; Rau & Manton, 2016) and socioeconomic variables (Wang & Lin, 2014). Van Wee (2009) further suggested that choice variables at the personal and household level, such as income, sex, and household structure, should be included in research and models to understand travel behaviour and location.

To this end, this present study focuses on individuals who have relocated away from London to a new housing development just outside of Canterbury, a cathedral city in Kent, southeast England. These people have either self-selected their residential relocation as they want to relocate away from the city or were relocated due to social housing needs and local government relocation policy. A key justification for the current study is its focus on suburbanising Londoners, plus the qualitative method adopted for the study. The focus of this study differs from Jarass and Scheiner's (2018) study of the effects of residential and travel preferences on travel mode use in a new inner-city development in Berlin, where residents could afford to relocate to the inner city, and Ettema and Nieuwenhuis's (2017) study of those that relocated to a transit-oriented development. The focus of this study also differs from the study of four groups (urban-to-urban, urban-to-less-urbanised, suburban-to-suburban, and suburban-to-more-urbanised) by De Vos et al. (2018) that used a quantitative survey method as this study adopts a qualitative method to explore the effect of change in the residential environment on travel behaviour.

The present study contributes to and broadens the knowledge on residential relocation and travel behaviour of those who relocated due to suburbanisation and the local government's relocation policy, providing an understanding and exploration of how and to what extent a change in the residential environment (resulting from a residential relocation) can affect people's travel behaviour. Methodologically, this study contributes to previous literature primarily by identifying the possible influence of the changes in the built environment on travel behaviour using a qualitative method and offering qualitative insights to extend the use of Scheiner's (2014) process model of spatial mobility and Ye and Titheridge's (2017) conceptual model.

Housing Policy and Relocation in London

London is one of the world's most cosmopolitan and culturally diverse cities. It is the fastest growing region in the country, with an all-time high of almost 8.8 million inhabitants from different parts of the world (London.gov.uk, 2018). Nearly two-thirds of the increase in population is due to net immigration from abroad (Prynn, 2017). Urbanisation has led to the demand for more living spaces, and new houses and flats are being built to meet this rapidly increasing demand (Kieu & Mogaji, 2018)

Nonetheless, the housing crisis remains the greatest challenge in London. In the past decade, London has excelled at creating jobs and opportunities, but at the same time, new homes have not been built to accommodate the growing population (London.gov.uk, 2018). Now, a generation of Londoners cannot afford to rent, and many are forced to live in overcrowded or unsuitable conditions (Brooker, 2017). The rapidly changing property map of the city has put parts of central and inner London out of bounds for most young buyers with house prices out of reach of young Londoners (Partington, 2018). The high cost of buying a house, both for individuals and even the local government, has meant that people are relocating outside of London. There are two groups of people who relocate outside London: those who self-select their residential relocation (suburbanisation) and those who relocate due to social housing needs (and relocation policy).

The unaffordable house prices in London are often considered one of the primary reasons for Londoners' relocation to suburban neighbourhoods outside the city. Some prospective home buyers, who may have lived all their life in London, now have to extend their search to areas outside the city to buy a house they can afford. Some others may have been attracted to new 'garden' towns and villages that the government planned across England to resolve the housing crisis (Osborne, 2018). The plans will deliver 14 new villages of about 1,500 to 10,000 homes

located outside existing settlements. These locally-led garden towns and villages are anticipated to provide 200,000 new homes, thereby turning smaller hamlets into larger communities, while others will expand existing towns into nearby land (McCann, 2017).

In addition, London boroughs are struggling to meet the housing demands for a growing number of those on welfare benefit, while also facing a decline in social housing, spiralling private rents, and welfare cuts (Fitzpatrick et al., 2018). As such, they are increasingly sending these people out of the capital to cheaper properties (Booth & Barr, 2017), which is described as 'out-of-borough' placement. Figures from March 2015 show that 2,707 families have been placed outside of Greater London, sometimes, as far away as the North of England (Shelter, 2015). This is what Peck (2012) described as austerity urbanism, a circumstance in which the cut in public services is necessitating the need to relocate outside the city. Out-of-borough placement causes isolation for those relocated outside London because they are now far from their families and support networks (Watt, 2018). This inadvertently may also affect their integration in the new environment as well as their travel behaviour and satisfaction. They become dissonant residents because they may not be living in their preferred type of neighbourhood and the built environment may restrict their use of their preferred travel mode, forcing them to use an alternative mode (De Vos et al., 2016). The theory of RSS suggests that individuals have a high level of freedom regarding where to live. However, this may not always be the case as individuals may have to relocate to a neighbourhood they can afford. Likewise, a relocation can be offered as part of their housing benefit.

The Motivation for Residential Relocation

The concept of mobility biographies has become a key focus in this ever-increasing area of study on relocation and preferences for neighbourhood and travel behaviour (Scheiner & Holz-

Rau, 2013). This approach recognises life situations, such as immigration, employment, education, or addition to the family, as motivating factors to relocate to another neighbourhood (Scheiner & Holz-Rau, 2013). Specifically, in travel concepts, the term 'biographical processes' refers to 'events and experiences in the individual biography that are correlated with specific forms of travelling' (Scheiner & Holz-Rau, 2013, p. 433). These biographical processes are classified into three life domains: household and family biography, which includes leaving the parental home, getting married, or divorce (Goodwin, 1989; Zwerts et al., 2007); employment biography, which includes relocating to start a new job, college, or retiring (Dargay & Hanly, 2007); and residential biography, which includes residential relocation to a different neighbourhood (Scheiner & Holz-Rau, 2013). Rau and Manton (2016) further developed this concept of mobility biography by explicitly separating the process into mobility milestones and other life events. Mobility milestones are mobility related events such as buying a car, getting a driving licence, or having a traffic accident; these events are predominantly shaped by prevailing transport and mobility related (infra)structural conditions, while other life events are not mobility related, such as moving home, starting college, or having a child.

Many factors have been considered as motivations for RSS, and Van Wee (2009) offers options that include locations and activities, travel modes, travel and driving behaviour, exposure to safety levels, and impact of externalities. In addition, Ettema and Nieuwenhuis (2017) also noted that access to specific modes of transport is usually considered to be very important in deciding where to relocate. Lund's (2006) research on household living in transit-oriented developments (TOD) near rail stations in California revealed that the type and quality of housing, housing cost, and quality of the neighbourhood were some of the reasons for living in the TOD; one-third of the households also considered access to public transit as a prominent reason for relocating. In addition, more than half of participants in a study of the San Diego

metropolitan area highlighted travel access as a reason for relocation (Chatman, 2009). Also, those who were mindful of the environment and intended to reduce their pollution selected locations where they could afford to reduce their car use (Schwanen & Mokhtarian, 2007). Likewise, Frank et al. (2007) noted those who selected their residential location based on how convenient and suitable it was for walking.

Proponents of the idea of RSS have always argued that people have a high level of freedom regarding where to live. However, Lin et al. (2017) claimed that this is not often the case, suggesting that there are many features that can hinder or reduce RSS choices. Van Wee (2009) noted that researchers of RSS limit themselves to the aspects of self-selection, which excludes socioeconomic variables. While exploring RSS in the Chinese context, Wang and Lin (2014) noted that in cities where the state is greatly involved in housing provision, a high proportion, perhaps even the majority of urban households have little-to-no freedom regarding their place of residence. In addition, individuals have little-or-no control about the neighbourhood or type of housing being offered (Lin et al., 2017). This relates to the idea of out-of-borough placement in London, where an individual might not have much control about their new residential location. The ability to afford a house can also limit the options in RSS. Studies show that low-income earners will find it harder to self-select their preferred residences compared to high-income earners (Næss, 2005; Schwanen & Mokhtarian, 2004), especially in countries where residential choice is largely market-based. Research by Aditjandra et al. (2012) further implies that high-income earners were more likely to be 'self-selective'. Scheiner's (2010) study in Cologne, Germany showed that a shortage of residential houses could also limit a person's opportunity to choose their preferred neighbourhood.

Travel Behaviour After Residential Relocation

On relocating to a new neighbourhood, residents have to interact with their built environment. Scheiner and Holz-Rau (2013) argued that changes in levels of satisfaction with attributes of the new built environment have a significant impact on the individual's travel behaviour. Van Acker et al. (2016) suggest that the concept of travel behaviour is multidimensional and includes various indicators such as observable behavioural patterns (mode choice, trip time, trip frequency, and trip purposes), travel attitudes, and preferences. De Vos and Witlox (2016) argued that the built environment is not the only important explanatory variable of peoples' travel behaviour. Travel mode choice can be determined both by the residential neighbourhood and by preferences towards neighbourhoods and travel modes (De Vos et al., 2012). Previous research has shown that walking, cycling, and public transport use are significantly higher in urban neighbourhoods because they are often compact, unlike suburban areas that are less compact with low-density neighbourhoods (Cao et al., 2009; Ewing & Cervero, 2010). Suburbanisation leads to an increase in car use and decrease in public transport use, bicycle use, and walking; the opposite is true for relocations to the city (Scheiner & Holz-Rau, 2013).

The physical appearance of these different neighbourhoods has also been found to affect the travel behaviour of its residents. Scheiner and Holz-Rau (2013) recognise that changes in access to opportunities (due to a change of location) lead to changes in travel behaviour. Access to the work place, social activities, and education may have changed, thereby necessitating the need to develop new travel behaviour. The spatial ties and associated changes after a residential relocation have been examined in several studies (Scheiner, 2005; Holz-Rau et al., 2014) that argue that these changes may have an impact on travel mode choice as the activity patterns change.

Travel behaviour and location choice are strongly linked (Van Wee, 2009). Several studies have found that travel behaviour and travel mode change after residential relocation. Næss (2009) conducted a meta-analysis of travel and the built environment and noted the impact of residential location on travel via car and attitudes to driving. It was observed that respondents feel highly dependent on their car to conduct their daily activities as they settle in their new location. Næss (2009) also showed that transport attitudes are more car-oriented among suburban respondents than among respondents living close to the city centre of Copenhagen. Using data from a survey of residents of eight neighbourhoods in Northern California, Handy et al. (2006) discovered a relationship between the built environment and walking and cycling behaviour, acknowledging accessibility, physical activity options, and safety as motivation. Lucas et al. (2018) studied the travel diaries of adults in Merseyside, in northwest England and revealed that the physical location of where people live in the city is more influential on their trip-making patterns than social determinants such as household income, age, gender, and or employment status; the street connectivity, level of bus services, and neighbourhood safety were also noted as contributing factors. In China, the differences in the built environment and the compact nature of most cities affects the elderly's travel behaviour. Feng (2017) found that the elderly are more likely to travel on foot and by public transport than by private cars, and this finding differs from the earlier research by Rosenbloom (2001), which showed the dominant transport mode of the elderly in the United States, Australia, and some European nations is by private car.

In addition, an individual's preferences towards a certain mode of transport will result in the higher use of that mode if it is not restricted by elements such as the built environment (De Vos & Witlox, 2016). This aligns with earlier findings that personal lifestyles and attitudes have an important impact on travel behaviour (Schwanen & Mokhtarian, 2005a; 2005b), suggesting

that irrespective of the built environment or transport mode available after residential relocation, individuals can still adopt a different travel behaviour that aligns with their lifestyles.

Theoretical Framework

The RSS hypothesis suggests that people choose their residential location with built environment characteristics that align with their travel preferences (Mokhtarian & Cao, 2008; Van Wee, 2009), and people might also self-select the location of their residence with respect to work locations (Van Wee, 2009), however, this may not always be the case as there are other considerations for sociodemographic changes, such as affordability and forced relocation. The motivation for relocation notwithstanding, individuals will exhibit a change in their travel behaviour as travel mode and attitude are variables for RSS (Cao et al., 2009; Handy et al., 2005; 2006), and it plays a significant role in influencing travel behaviour (Ettema & Nieuwenhuis, 2017).

This theoretical framework for this study model builds on Scheiner's (2014) process model of spatial mobility, Ye and Titheridge's (2017) conceptual model and Aditjandrac et al. (2016) Public transport path analysis model. Scheiner's (2014) process model contributes to previous RSS and travel studies in many aspects, highlighting the impact of change of location and travel choices over a person's life course, the mutual relations between location choice, travel behaviour, and preferences, and the interdependent relations between residential choice and events in other biographies (e.g. a change in workplace). This present study does not include all these considerations but recognises the self-selection process of a residential location and the desire to relocate. While Ye and Titheridge (2017) focused on explaining travel satisfaction, part of their conceptual model also specified the correlations between the built environment characteristics, ranging from density to accessibility, travel attitudes, and travel behaviour. The

current study considers sociodemographic changes such as affordability and forced placement in people's life course as antecedents of RSS relocation, unlike Ye and Titheridge (2017), whose model deems sociodemographic traits as moderating the relations between the built environment and travel behaviour. Likewise, Aditjandrac et al. (2016) Public transport path analysis model recognises that built environment characteristics, socio-demographics characteristics and attitudes influences travel behaviour, further arguing that that changes in travel accessibilities, car ownership and activities influences travel behaviour, albeit the use of public transportation.

Based on the above arguments, the conceptual model of the study is presented in Figure 1. It illustrates the structural relationships between the life situations influencing the need to relocate. The model highlights the socio-demographics of individuals that may need an RSS, perhaps, to become a homeowner or because of the government's relocation policy. A correlation between the mobility biography and socio-demographics changes induced by extrinsic factors such as unaffordable housing prices, income and government housing policy is identified. Likewise, the residential relocation is correlated to the features of the built environment. Those relocating will have to integrate to explore these features. Irrespective of the motivation for RSS, the features of the built environment, such as the design, density, and diversity, a causality effect is proposed on travel characteristics, such as travel activities, mode, and attitude (Ewing & Cervero, 2010). Perhaps this may necessitate the need to own a mobility tool, which will affect the individual's travel behaviour. These characteristics, which converge, are considered measures of travel behaviour as residents self-relocate.

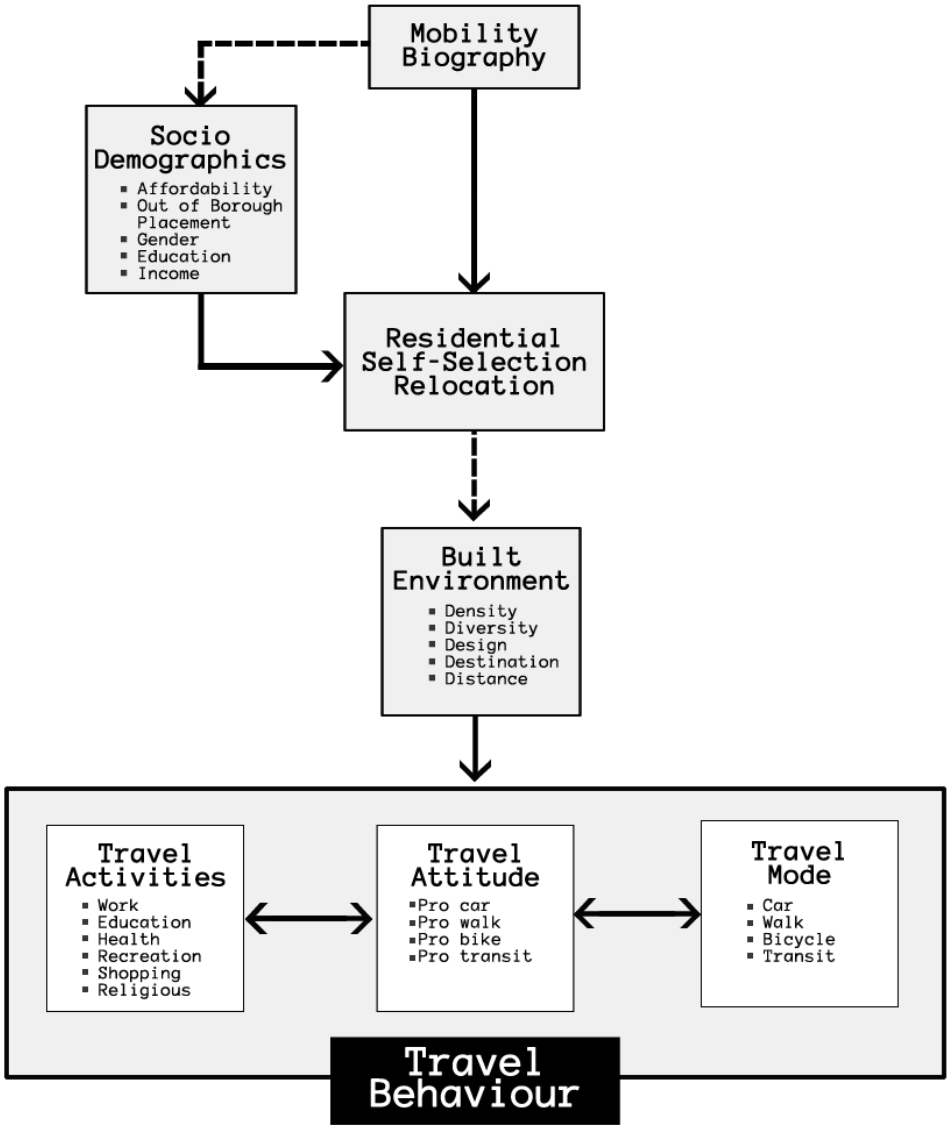

Figure. 1: The theoretical framework for changes in travel behaviour after residential self-selection relocation

Although many studies have looked at the role of relocation and change in travel behaviour, this study focuses explicitly on residents relocating away from an urban to a new development in a suburban location. This is different from previous studies that have explored relocation from an urban to a more urbanised neighbourhood (De Vos et al., 2018), those that have relocated to a transit-oriented development (Ettema & Nieuwenhuis, 2017; Lund, 2006), or even inner-city relocation (Jarass & Scheiner, 2018). In addition, as studies on travel behaviour

have been predominantly quantitative, the current study recognises the need for a different and alternative method to explore this research. Cao et al. (2009) reviewed 38 empirical studies on RSS effects on travel behaviour, and only two of these studies asked direct questions through qualitative interviews while others focused on quantitative approaches. Cao et al. (2009) further noted that qualitative research methods offer valuable information regarding the process of residential and travel choices, sometimes beyond that of multivariate analyses. Rau and Manton (2016) also called for additional methodological contributions to build on previous travel studies. This adds further credibility to the current study, thereby offering a deeper insight into travel behaviour through this qualitative study.

Methodology

Semi-Structured Interview

Interpretivist, qualitative research (Bryman & Bell, 2015) with relocating residents was undertaken to develop an understanding of how and to what extent a change in the residential environment affected the participants' travel behaviour and attitudes. Qualitative methodology can independently provide deeper insight into the research, thereby encouraging participants to reveal the causalities behind their change in travel behaviour (Feng, 2017). It is ideally suited to exploratory research (Clifton & Handy, 2001) that identifies the extent, empirical details, and the narrative of the subject matter (Cass & Faulconbridge, 2016). Qualitative research draws out explanations in context by probing contextual factors and underlying motivations and bring to the fore consciousness norms, values, attitudes, and other factors lying behind unconscious routines (Lucas, 2013; Schwanen et al., 2011). It enables the researcher to have a conversation with the participants and gain a better understanding of their experiences regarding the subject matter (Willig, 2008).

Though constrained by time, finance, and personnel, this methodology can enhance the trustworthiness of the research by guiding the participants (Rau & Manton, 2016) and improve the response rate to enhance control over the sample (Axhausen, 2008). It elicits explanations for behaviour rather than testing the influence of any factor (Cass & Faulconbridge, 2016). Questions are framed with the 'opportunity for clarification, explanation, and elaboration of questions and responses' (Clifton & Handy, 2001, p. 8). The interviewer can better understand how travel behaviours are constructed to effect a change, something that is not often captured through quantitative studies (Lucas, 2013).

Sample Recruitment and Representativeness

In this study, following the rationale outlined above regarding the qualitative methods, data was collected through semi-structured interviews with residents in a new housing development in Canterbury, a cathedral city in Kent, southeast England. The development is 97km from London City. An invitation letter to participate in the research was dropped through the letterbox for all street addresses in the selected neighbourhood, and residents were informed it would be an interview and they were not obliged to contact the researcher if they were not interested. A week after, the researcher went to all the street addresses in the neighbourhood to ask if they had seen the letter and about their willingness to participate. More information about the research was provided, especially with regards to the need for participants to relocate from London. London was identified as neighbourhoods within the orbital motorway boundaries of the M25 (Paul, 2017). After subsequent visits and clarifications, residents were able to indicate their interest; 168 letters were sent to the new homes, but only 40 residents agreed to be interviewed, thereby giving a response rate of 23.8%. Participants were signed up with agreed dates and times for the interview in the diary; interviews were carried out between May and September 2018. The participants' ages ranged from 28 to 65, male (60%, n = 24) and female

(40%, n = 16). The participants were White (40%, n = 16), followed by Africans, including Black Caribbean people and Black Africans (47.5%, n = 19), and Asians, including Asian/Asian-British, Indian, and Pakistanis (12.5%, n = 5). The participants that self-selected the location made up 85% (n = 34), while 15% (n = 6) were out-of-borough placements. An explanation for the low number of out-of-borough placements could be that there is a limited number of social housing within such new developments and, some individuals may not want to be seen on the housing benefit. Participants were assured of their anonymity and that no personal details would be shared.

Data Collection

The interview transcriptions were thematically analysed using the six phases of analysis established by Braun and Clarke (2006). First, by reading the transcripts over and over again, the researchers became familiar with and immersed in the data to better understand the residents' travel behaviour. Braun and Clarke (2006, p. 87) noted that 'immersion usually involves repeated reading of the data and reading the data in an active way; searching for meanings, patterns and so on'. Second, the transcripts were imported into NVIVO, a qualitative analysis software tool (Feng, 2017), and initial codes were generated. Since the themes are theory-driven, the coding was approached in line with the conceptual model, in which key constructs were parent nodes during the analysis. Third, there was a search for themes (child nodes) related to the main themes (parent nodes). Fourth, the themes (child nodes) were reviewed and refined as it became more evident that some of these themes were closely related and some were dormant (dormant themes were subsequently removed). Fifth, the refined child nodes were considered satisfactory and renamed. After the detailed analysis, three parent nodes emerged that illustrated participants' mobility tool ownership and their travel behaviours. Lastly, the themes are presented in the following sections.

Credibility and Authenticity

There was a ‘member check’ to ensure the credibility and authenticity of this study. Merriam and Tisdell (2015) describe the member check as a respondent validation where the transcribed interviews are sent back to the participants for verification. It is considered the single most important provision that can be made to bolster a study’s credibility (Lincoln & Guba, 1985). As suggested by Shenton (2004), the emphasis is on whether the participants consider that their words match what they intended to state. A detailed description of quotes from the interviews were used to bolster each point. As suggested by Lincoln and Guba (1985, p. 125), a ‘thick description of the sending context so that someone in a potential receiving context may assess the similarity between them and the study.’ In addition, a detailed account of the methods, procedures, and decision points in carrying out this study was documented in the form of an ‘audit trail’, as advised by Shenton (2004). The assurance of analytic rigour is to ensure that data was not selectively used and that the researcher’s own position did not overpower the participants’ voices, which can be evidenced from the audit trails.

Findings

The study qualitatively explores the effect of change in the residential environment on travel behaviour. As illustrated in the theoretical framework, travel activities, travel attitude, and travel modes were considered to be the components of travel measures. The findings present evidence of mobile biographies where life situations warranted the need for residential relocation. Irrespective of the mobile biographies, individuals relocating to a new residential location may have to adjust their travel activities and mode of travel; this has been seen to change and alter their travel behaviour; however, some individual still maintained their previous behaviour.

The developed theoretical framework was adopted to explore how and to what extent a change in the residential environment affects people's travel behaviour. The following section explores the travel activities of residents in the new neighbourhood, their attitude towards travel, and the mode of travel they choose. This converges into a typology of residents' travel behaviour as they settled down in the new neighbourhood.

Travel Activities in the New Location

For those who were relocated, the proximity of their usual activities is important. This includes their place of work, schools, and nursery for children, leisure activities like the cinema and gym, shopping, and religious centres like churches, synagogues, temples, and mosques. As residents adjust to their new location, their travel activities change; however, some tried to maintain their activities even though it was challenging.

There are those who had to maintain their usual activities such as going to their place of work, taking the children to school, and maintaining family contact. The family connection and network were also important, especially for those who had to move due to the government's relocation policy. Particularly, those who were relocated based on government policy felt that London was where they had their family and friends and that they would like to maintain that connection and network of relationships.

> *I knew I had to move, I was given three options, but I still wanted to be close to London, that's where I have my families and friends. I looked how long it will take me to get to London by train and I saw I could get the High-speed train into St Pancras, so I made my decision to be here, at least I can afford the travel ticket at Weekends if I need to travel*

Due to the challenging nature of travel, the cost of fuel and maintaining a car, and the stress, some participants had to adjust their travel activities. The participants found that they did not visit places they used to frequent as often, and they were gradually trying to cut down on activities that involved travel, trying to avoid unnecessary trips. In regards to shopping, the participants claimed that they do not go as regularly as they used to, likewise for those attending a religious centre; they feel it might be difficult to stop going, so they go once every month instead of weekly.

> *I can't be driving to Dover for shopping every weekend, it is not easy and it can be very stressful after driving through the week days, so I only go once a month now and we are considering online shopping.*

It was not surprising to see that some who completely changed their travel activities found new facilities in their neighbourhood. Some found a new local job, changed their children's school, or attended a place of worship in the neighbourhood. Often, the participants saw this as a difficult decision to make, but they recognised its benefit for their convenience, wellbeing, and sustainability for the environment.

> *I was travelling to London almost every day and I had to look for a job in Canterbury, though not paying much like London, it is very convenient. I just take the train. Less than 30 minutes I am at work.*

> *We no longer go to London to worship, though it is sad to leave our friends and families, I think we have made a good decision. I drive to London every day of the week; it has not been easy.*

Travel Attitude

Some participants still preferred using a car even if they relocated to a new neighbourhood; these individuals often cite convenience as the reason for their choice. They feel it is easier to

get around with the car, even with the features of a built environment and they feel that cars are necessities and not a luxury.

> *Using a car for me was not about the pleasure of driving one but a necessity, it will be difficult to cope in this area. I want to believe the developers are developing this place for those who drive.*

While recognising those who prefer the car, there are indications that some of these individuals may consider alternative options. One of the participants who still drives to London had to change his car to make his travel more affordable and safer for the environment, while another considered ride sharing.

> *I was using a petrol engine car, but because of travel cost and the environmental impact since I now travel more, I had to buy a Hybrid car which is quite sustainable and cleaner. Even though I will like an electric car, there is no charging port here.*

> *Through engagement and interaction with one of my neighbours, I noticed he also drives to London and to save cost on our travel expenses, we agreed to share the ride. I drive mine for two days and he drives his for three days. It has been very good for us; we have company on our journey and saving ourselves from stress.*

There were those who had to learn to drive due to the relocation and the features of their built environment. One of the participants who had three young children going to nursery and primary school had to learn to drive to cope with the demands of moving around.

> *I noticed that it was becoming stressful taking the children to the school, accessing other facilities and even shopping, all the family had to get on the train. My husband works in London, so he doesn't mind but I need to move around here, so I learnt how to drive, and I passed, I bought a car and since*

then, I have not walked to the station. I drive around now as it is more convenient.

This change in attitude was further confirmed by those who did not drive before they moved, even though they could, and now they feel the need to get a car to aid their commute. Often, this is not because individual adults work in London, but because the households found it difficult to access their place of worship, school, and even shopping or access to a hospital.

My partner works with Transport for London and I have free travel in London, so we were saving on our transportation cost, but since moving here, I need to pay for my travel on public transport, I am considering learning how to drive now.

I can't' imagine dealing with their unreliable services all alone, one train goes to Victoria every hour and the bus is not reliable, I had to go dust my driver's licence and get a car, it is more convenient that way. I was using the train in London but now, I think I am better off using my own car.

Provided the environment is safe and conducive to walking, there are those who will walk. They feel it allows them to explore and enjoy their neighbourhood and to be healthy as well. However, there were some limitations to this. First, the weather may not always be conducive to walking, but the participants are often more inclined to walk in summer. Second, they cannot walk to work, their religious centre, or activities often. Third, the health of the individual may not allow them to walk as much as they want.

When its summer, I cycle down to the School to pick my boy, I taught him to cycle. He likes it. Even when it is winter, he still wants to cycle.

Like those who are much inclined to walk in their new neighbourhood, there are those who prefer to cycle and use a scooter. However, unlike walking, the skills requirement is another determining factor. Those who have the skills are more likely to buy a new bicycle as they get to the new neighbourhood. Parents are also encouraging their children to ride bicycles.

> *Interesting, I got a big scooter which I use to the station, I don't have to chain it to the station, I can bring it on board into the train along with me, even been a woman, I feel safe using it to the Station, I couldn't have done that in London. It can be very dangerous.*

There was little evidence of those who prefer public transport in the new neighbourhood, especially concerning the buses; the train is still considered a better alternative. Those who use the train consider it to be better for the environment and cheaper, provided it fits into their travel activities. Perhaps they found the bus more convenient because it can access places farther from the train station and they seldom have their own mode of transport.

> *Public transport in London is quite good and I am trying to adjust to the same idea here. I use the train even though it comes every hour, I try to plan my journey.*

> *I have never driven, I have been using the train though with loads of disappointment, but I still find it economical and accessible. I even believe I am doing my bit to save the environment.*

The possibility of working on the train has made it more appealing to some individuals. As expressed by one of the participants who works as a software developer in London, he feels he can get things done in those travel hours.

Because of the long-distance journey, I now do some works on the Train. I carry my laptop and make sure I spend my time well. I stayed at the end of the train to avoid any distraction.

Travel Mode

The car was the most common mode of transport for the participants who relocated from London to a new neighbourhood. They found it easier to commute, though not necessarily cheaper or convenient. For those who were driving before relocating, they maintained this mode of transport, and some had to learn to drive again or even bought a new car as they needed it. Insufficient public transport infrastructure in the new neighbourhood has necessitated the need for cars, especially for those with families and who engage in activities not found within the neighbourhood.

I use the Bus in London with my Oyster Card but since I moved here, I no longer use the Bus because it is not reliable. Instead, I drive.

I need my Van to do my work, even though I was driving in London, I still need my Van here, nothing much has really changed.

Driving to work in London was the usual thing for me and I continued to drive, I see no reason otherwise even with the fact that the station is far, public transport is not frequent, I think I am fine.

The built environment has encouraged participants to walk. They adopted this travel mode to access facilities that are close by in the neighbourhood. This includes the doctor's surgery, schools and nursery, the park, and shops. Participants found the environment safer and more conducive to walking than the urban neighbourhood from which they relocated. A dedicated

footpath that allows for pushchairs for babies, cycling and scooters for children, and those in wheelchairs, street lighting and few cars in the area encouraged participants to walk more.

Like walking, the features of the built environment also increased the use of bicycles as a travel mode, however, because it requires skill, only those who were cycling before they moved decided to continue using it. There was no evidence of adults learning to cycle in the new neighbourhood. However, they acknowledge that their children have shown an interest in cycling and using scooters. The children found the environment safe and other children in the school are using it also. Those who use it regularly recognise that the closeness of the facilities has encouraged them. There were those who also used bicycles to access the train station.

> *Cycling in London was deemed dangerous. My wife has always discouraged me from Cycling even though I liked it so much, but I can understand her point anyway. Since moving here, the neighbourhood feels safer, the roads are in a very good condition and no much of traffic to cause an unusual slow, so I bought a Bicycle and I cycle to the station to get my Train.*

Public transport was seldom used by residents who relocated to the new suburban neighbourhood. They feel their expectations (of public transport) have not been met. The buses do not come frequently, and it takes an hour to get to the next city by bus when it takes 15 minutes by car. The train has too many stops, it is not regular, and it may not be reliable as there are often cancellations. The participants feel they cannot rely on public transport to engage in their activities, and often end up driving or using a taxi.

> *Now I rely more on my mobile phone for map, direction and entertainment during my journey, I make sure my phone is well charged as the journey on the train can be boring and long.*

> *When I was in London, you can leave your house late and be assured that you will get a bus or tram or train, but here you need to wake up early and never miss it as the trains run every hour. If you miss it, you are left with no choice but to go back home.*

There were those who used the train to commute to work and maintained that travel mode after the relocation. They feel that since they were not using a car in the city, they have relied on the train and continue to use it. Also, there were those who felt that the train was suitable for their travel needs. One of the participants who still works in London had to find a way to make her cost of transport cheaper.

> *I knew I will be making frequent journeys and which will not be covered by my Oyster Card, so I had to buy the Network Railcard that gives me a 30% discount, but I need to plan my meetings in London for a suitable time, so I can use the off peak train, though I still use the train like in London, it is quite expensive when you live outside London.*

While others had to combine different public transportation to get to work

> *The National Express Coach leaves from Canterbury to Victoria, I use the train to get to the Bus Station and I join the bus. It can be cheaper but also be delayed and do not come on time if the Road is busy. But so far that has been a good alternative than using the train to get to Central London.*

Travel Behaviour upon Relocation

The participants acknowledged that upon settling down, they considered their travel options and made decisions to ease their mobility issues. As presented in the theoretical framework, Travel activities, travel attitudes, and travel mode, which converge, are considered measures of travel behaviour. A typology of residents' travel behaviour emerged as they settled down in the new neighbourhood. A summary is presented in Table 1.

Type 1: Maintained Travel Behaviour

Some participants said their travel behaviour had not changed since they relocated. Their travel activities, attitudes, and mode have not changed either and, therefore, they have maintained their travel behaviour. Half of the participants noted that they had cars that they were using in London to commute to work, and they are still using cars to commute to work even after relocation. They have not changed their travel activities as their children still attend the same school and their usual leisure activities. Even though they recognised the stress of driving and the effect on the environment, they feel they are committed to these activities and their relocation should not affect their commitments. They acknowledge that it costs them much more now to maintain the car, but often they feel it is better, more convenient, and cheaper than using public transport.

Type 2: Complemented Travel Behaviour

Some participants reported that they are still maintaining their travel behaviour, but they are complementing it with other means to make it more viable and sustainable for them. Some participants were using the train before they relocated and continued to use the train but had to buy a bicycle to get to the train station in the new neighbourhood. Some participants said they had to complement their travel behaviour with different strategies to further reduce costs. Some participants who use the train said they had to buy railcards, which gave them a 30% discount, but they are restricted as they cannot travel during peak periods. This also influenced their travel activities as they had to negotiate with their manager to start later than the usual time. For those commuting within the neighbourhood to access facilities, they said they were familiar with using buses in London, but now they needed to be mindful of the timing of the bus and be more alert as the buses do not come as frequently as they do in London. Also, some participants

recognised the need for sustainable travel, choosing new options such as walking and cycling to complement their existing travel behaviour.

Type 3: Changed Behaviour

Some participants found commuting to and from their new location to be challenging, and they see the need to do something about it. They exhibited new travel behaviour because of the relocation. Some participants felt they needed to change their travel behaviour as they settled into the new developments; they recognised the limited travel options and were thinking of adopting a different behaviour. Some participants that did not drive while in London, started driving in the new location because they did not change their place of work, likewise some participants now walk and cycle to their place of work because they have a new job in the new neighbourhood and do not need to travel. These participants never cycled in London, but because of the built environment features and changes to their travel activities, they have changed their travel behaviour. Those who previously relied on public transport in London had to change their travel mode because they found it extremely difficult and stressful accessing facilities.

Table 1: Summary of travel behaviour upon residential self-selection relocation.

Typology	**Description**	**Travel Behaviour**
Maintained Travel Behaviour	The individual has not changed their travel behaviour after their RSS relocation. Their travel activities and travel mode remained the same. • They still work in the city, travelling every day. • Schools and nurseries have not been changed. • They still go out for regular shopping and religious activities.	• Pro-car – They consider it more convenient, gives them easy access, and found it suitable for work. • Pro-train – Their usual travel mode, the train station is closer to work, and they can avoid parking in the city. They also use the time on the train to work. • Not pro-walking. • Not pro-cycling.
Complemented Travel Behaviour	While recognising the impact of their travel on the environment, the stress, and cost of travelling, individuals are making an effort to adjust their travel activities and mode as they adjust to their new environment. • Weekly shopping is now done monthly. • They work from home two days out of five. • Reduced visits to religious centres, leisure activities, and family visits.	• Pro-car – They still like using their car but make an effort to buy cars with a different engine. Often, they consider hybrid or electric cars. • Pro-transit – They buy rail cards to supplement the cost of travel, they use coaches and travel during off peak times. • Pro-cycling – They now cycle to the train station, especially those with the skill as it feels safe. • Pro-walk – They may choose to walk instead of drive around the neighbourhood.
Changed Behaviour	Individuals recognise the need to make a complete change to their travel behaviour as they adjust to their new environment. They completely change their travel behaviour and adopt travel modes they may not have used before. • They changed job and now work locally. • They changed the children's school so they can walk or cycle to school. • They changed their religious and leisure centres.	• Pro-car – Due to the under-developed public transport infrastructure, especially buses, individuals learned to drive and those with a licence buy a car. • Pro-cycling – Those with skills cycle around the neighbourhood more, children are taught to cycle and use scooters to get to school. • Pro-walk – The built environment is conducive to walking. They walk to the GP surgery, shops, and walk the children to school. • Not pro-transit – Not always interested as it can be delayed, unreliable, and takes a long time.

Discussion

This paper has sought to enhance the understanding of the effect of change in the residential environment on travel behaviour. Interviews were carried out with residents who have relocated from an urban neighbourhood to a new residential development, either because they bought a house they could afford or as an out-of-borough placement. The analysis revealed that some changed their behaviour and some did not, which agrees with previous findings that built environments influence travel behaviour (Lin et al., 2017). The thematic analysis of the data presents a typology of the residents' travel behaviour as they settled down in a new neighbourhood. Some participants maintained their travel behaviour, some complemented it, while some completely change their travel behaviour.

While acknowledging that the qualitative sample size of the study might not make the findings generalisable, there are indications that individuals who chose to maintain their behaviours are more likely to be those who have professional jobs in the city and may not be able to find an alternative job in their new neighbourhood. In addition, some of these individuals have not explored other modes of transport because often they see their usual travel mode (driving and train transport) as more convenient and familiar; this confirms that travel mode choice is not only associated with the current residential neighbourhood but also the previous residential neighbourhood (De Vos et al., 2018). Though it still costs them money to maintain a car and buy a ticket, these participants feel that convenience is more important than cost.

For those who have complemented their travel behaviour, they are more likely to be those who can find alternative jobs in the new neighbourhood. Some participants (teachers and nurses) left their jobs in the city and were able to get a similar job in their new neighbourhood. They explored other transport modes and decided to use more economic and convenient modes. They feel they need to save some money after exploring the available options. This includes using

the bicycle to get to the train station whereas previously they might have walked because the stations are closer in urban neighbourhoods; another possible explanation is that a new neighbourhood creates a new context in which certain travel choices can be reconsidered (Verplanken et al., 2008). The time of change is considered to be the first few months after the relocation, when the residents settle down, apart from those who took longer to get the new job. This confirms that individuals can adapt their attitude to their new environment in a short time frame (De Vos et al., 2018).

For those who completely changed their behaviour, they are more likely to be those with parenting responsibilities, taking care of children at home and those who have changed job. This aligns with findings from earlier studies that found that residential relocation, childbirth, and changes in employment lead to the modification of an individual's travel behaviour (Sprumont & Viti, 2017; Beige & Axhausen, 2012; Rau & Manton, 2016). Though Scheiner and Holz-Rau (2013) suggested that there is a decrease in the use of cars for women after childbirth (as they are more likely to be walking) the findings of the current study offers a different perspective. It was found that having an additional child means mothers may not be willing to walk with their children to school or nursery, and some women noted that it was not convenient to walk with three children and they got a car to ease their mobility. The need for comfort and ease of accessing social and other facilities was also an important factor. This can happen over a year, especially for those who had to learn to drive and get a licence to start driving, as this was also found to influence a complete change in behaviour. Also, due to the high monetary cost involved in relocation, people might wait a certain period before buying an additional car (De Vos et al., 2018), even though they just got their licence.

The participants' travel attitudes and modes were found to have changed to a certain extent. Some participants decided to walk and cycle more because of the features of their new built environment. There were instances of those who were using public transport in London but decided to drive when they relocated because they found the public transport in their new location to be unreliable and too infrequent for their needs. Their attitude towards using a car was observed to have increased; a possible reason for this is that public transport in these suburban areas is not developed enough to meet the growing demand for houses. There is one bus running every 30 minutes and one train running once every hour off peak; residents do not have positive attitude towards their public transport, and that has further necessitated the need to drive a car. This was more important to those in out-of-borough placements as they had positive attitudes towards public transport in their previous neighbourhood, but that has changed in the new area. None of the participants in out-of-borough placements used a car in London; they relied on public transport, but now some of them are considering learning to drive to ease their transport problems.

Conclusion

This study offers valuable insights to the literature of travel behaviour and relocation, either self-selected relocation or an enforced relocation. The results found in this study, mainly from respondents' self-reported changes in mode use and attitude, are consistent with the previous data and studies on travel behaviour. One key contribution is the realisation of different levels of travel behaviour response to the change in residential location. The finding of this study corroborates earlier studies that suggest that travel mode choice and attitude are affected by the residential neighbourhood (De Vos et al., 2018; Scheiner & Holz-Rau, 2013). In addition, irrespective of the motive for relocation, there are indications of residents' efforts to keep up with their behaviour, complement it, or change it as they adapt to their new built environment.

As Moghtaderi et al. (2015) highlighted the importance of having an in-depth understanding of the residents' behaviour to plan and execute a successful behaviour change intervention, this study offers an appropriate empirical framework for policy interventions to change travel behaviour in a new development. This study acknowledges that the characteristics of the built environment encourage non-motorised travel behaviour, but efforts are still needed to improve sustainability and the impact of motorised travel.

Theoretically, the current study contributes to the extension of knowledge on travel behaviour, especially in a new development beyond the urban and suburban dichotomy. This study highlights the relationship between an individual's situation, their preference in selecting a residential location, and the mobility tool that reinforces the behaviour as they engage with their built environment. Through the qualitative research approach, the study has identified those causal influences, relocation as an RSS based on sociodemographic issues and government support through housing provision. This study further extends Mokhtarian and Cao's (2008) study on the impact of RSS on travel behaviour, Hammond's (2005) work on residential choice and travel behaviour, and Jarass and Scheiner's (2018) study on residential relocation to a new inner-city development. It was found that affordability was a key determinant when it comes to residential choice and considering this is a decision often made by the parents. Access to work was not that important compared to the needs of other family members such as affordability, access to schools, and job prospects for the other partner. Even though some individuals were using the same travel mode when they moved, there is evidence of others complementing their travel mode (using bicycles and railcards) and even changing it (learning how to drive).

Practically, there is the potential of developing a travel behaviour change initiative around ridesharing as it has a stress-mitigating effect, particularly with longer commute distances (Chan & Shaheen, 2012). There will be a considerable number of residents who will be travelling to the city to work that can share rides to ease their stress, and further encourages a reciprocity expectation where individuals participate in shared activities in their communities (Amirkiaee & Evangelopoulos, 2018).

Since the core feature of sustainable travel in European cities primarily depends on a reduction in car use (Van Acker et al., 2016), it is essential to consider an initiative to reduce car use in new developments across the UK. As demand for houses outside London will continue to rise, and more new developments are being built, this offers practical implications for urban planners and policymakers with regards to the impact of land use on travel. Developers of new housing should anticipate the need for public transport, and this should be integrated into the planning and implementation as more frequent buses and trains encourage a positive attitude to public transport. More households will be buying cars as there is a potential shift from public transport and non-motorised modes of travel to private cars, which presents numerous environmental, social, and economic challenges (Ding et al., 2018). The authors of this paper further reiterate the call to explore the effectiveness of integrating the built environment and transport policies in addressing transport issues. This could be in the form of ensuring consistent and frequent public transport and an initiative towards ridesharing and the environmental benefits of train transport (Mogaji & Erkan, 2019).

This study offered a deeper insight into how and to which extent a residential change affects individual travel behaviours and attitudes; nonetheless, several limitations must be addressed. The research is exploratory in nature and intended to explore several travel behaviours. The

sample participants considered for this research project were based in the UK and this may have affected the outcome of the study due to (a) housing policies and (b) the issue of out-of-borough placement. Countries and or regions with different policies and or market conditions may have a different outcome.

As the results of this study are based on self-reported changes at different times after a relocation (De Vos et al., 2018), this study only provides a certain indication of changes in travel behaviour. Likewise, the qualitative methodology has not allowed much quantification of the relative contributions (Cao et al., 2009) of relocating to a new environment and RSS. Further studies can go beyond descriptive analysis, using statistical tests and analysis to better understand the selective process of relocating to a new development. Likewise, further studies can move beyond this qualitative study by providing an analytical representation of relationships among multiple variables and not a descriptive analysis of the residents' travel behaviour. A large and sufficiently diverse sample rather than a representative sample (De Vos et al., 2016) would be needed to achieve this.

References

Aditjandra, P. T., Cao, X. J., & Mulley, C. (2012). Understanding neighbourhood design impact on travel behaviour: An application of structural equations model to a British metropolitan data. *Transportation research part A: policy and practice, 46*(1), 22-32.

Aditjandra, P. T., Cao, X., & Mulley, C. (2016). Exploring changes in public transport use and walking following residential relocation: A British case study. *The Journal of Transport and Land, 9*(3), 77-95. doi:10.5198/jtlu.2015.588

Amirkiaee, S. Y., & Evangelopoulos, N. (2018). Why do people rideshare? An experimental study. *Transportation Research Part F: Traffic Psychology and Behaviour, 55*, 9-24.

Axhausen, K. W. (2008). Social networks, mobility biographies, and travel: survey challenges. *Environment and Planning B: Planning and Design, 35*(6), 981-996.

Beige, S., & Axhausen, K. W. (2012). Interdependencies between turning points in life and long-term mobility decisions. *Transportation, 39*(4), 857-872.

Booth, R., & Barr, C. (2017). *Number of Londoners abandoning capital hits 10-year high*. Retrieved 10 10, 2018, from https://www.theguardian.com/uk-news/2017/dec/29/londoners-leaving-capital-for-brighton-birmingham-and-bristol

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Brooker, N. (2017). *London housing: too hot for young buyers*. Retrieved 2 2, 2018, from https://www.ft.com/content/a0182e62-25e4-11e7-a34a-538b4cb30025

Bryman, A., & Bell, E. (2015). *Business Research Methods.* Oxford: Oxford University Press.

Cao, X., Mokhtarian, P. L., & Handy, S. L. (2009). Examining the impacts of residential self-selection on travel behaviour: a focus on empirical findings. *Transport reviews, 29*(3), 359-395.

Cass, N., & Faulconbridge, J. (2016). Commuting practices: New insights into modal shift from theories of social practice. *Transport Policy, 45*, 1-14.

Chan, N. D., & Shaheen, S. A. (2012). Ridesharing in north america: Past, present, and future. *Transport Reviews, 32*(1), 93-112.

Chatman, D. G. (2009). Residential choice, the built environment, and nonwork travel: evidence using new data and methods. *Environment and Planning A, 41*(5), 1072-1089.

Clifton, K., & Handy, S. (2001). *Limits on access in low-income neighborhoods and the travel patterns of low-income households. Research report 167502-1*. Southwest Region University Transportation Center, Texas Transportation Institute, College Station, Texas.

Dargay, J., & Hanly, M. (2007). Volatility of car ownership, commuting mode and time in the UK. *Transportation Research Part A: Policy and Practice, 41*(10), 934-948.

De Vos, J., & Witlox, F. (2016). Do people live in urban neighbourhoods because they do not like to travel? Analysing an alternative residential self-selection hypothesis. *Travel Behaviour and Society, 4*, 29-39.

De Vos, J., Derudder, B., Van Acker, V., & Witlox, F. (2012). Reducing car use: changing attitudes or relocating? The influence of residential dissonance on travel behavior. *Journal of Transport Geography, 22*, 1-9.

De Vos, J., Ettema, D., & Witlox, F. (2018). Changing travel behaviour and attitudes following a residential relocation. *Journal of Transport Geography, 73*, 131-147.

De Vos, J., Mokhtarian, P. L., Schwanen, T., Van Acker, V., & Witlox, F. (2016). Travel mode choice and travel satisfaction: bridging the gap between decision utility and experienced utility. *Transportation, 43*(5), 771-796.

Ding, C., Cao, X., & Wang, Y. (2018). Synergistic effects of the built environment and commuting programs on commute mode choice. *Transportation Research Part A: Policy and Practice, 118*, 104-118.

Ettema, D., & Nieuwenhuis, R. (2017). Residential self-selection and travel behaviour: what are the effects of attitudes, reasons for location choice and the built environment? *Journal of Transport Geography, 59*, 146-155.

Evans, D. (2011). Systems of provision. In D. Southerton (Ed.), *Encyclopedia of Consumer Culture* (pp. 1425–1426). Thousand Oaks, CA: SAGE Publications.

Ewing, R., & Cervero, R. (2010). Travel and the built environment: a meta-analysis. *Journal of the American Planning Association, 76*(3), 265-294.

Feng, J. (2017). The influence of built environment on travel behavior of the elderly in urban China. *Transportation Research Part D: Transport and Environment, 52*, 619-633.

Fitzpatrick, S., Pawson, H., Bramley, G., Wilcox, , S., Watts, B., & Wood,, J. (2018). *The homelessness monitor: England 2018.* London: Crisis UK .

Frank, L. D., Saelens, B. E., Powell, K. E., & Chapman, J. E. (2007). Stepping towards causation: do built environments or neighborhood and travel preferences explain physical activity, driving, and obesity. *Social Science & Medicine, 65*(9), 1898-1914.

Goodwin, P. (1989). Problems of Women's Mobility and Employment in the One Person Operation of Buses. In e. a. Grieco (Ed.), *Gender, Transport and Employment.* Aldershot, England:: Avebury.

Hammond, D. (2005). *Residential location and commute mode choice.* . Cardiff: Doctoral dissertation, University of Wales.

Handy, S., Cao, X., & Mokhtarian, P. (2005). Correlation or causality between the built environment and travel behavior? Evidence from Northern California. *Transportation Research Part D: Transport and Environment,, 10*(6), 427-444.

Handy, S., Cao, X., & Mokhtarian, P. L. (2006). Self-selection in the relationship between the built environment and walking: Empirical evidence from Northern California. *Journal of the American Planning Association, 72*(1), 55-74.

Holz-Rau, C., Scheiner, J., & Sicks, K. (2014). Travel distances in daily travel and long-distance travel: what role is played by urban form? *Environment and Planning A, 46*(2), 488-507.

Jarass, J., & Scheiner, J. (2018). Residential self-selection and travel mode use in a new inner-city development neighbourhood in Berlin. *Journal of Transport Geography, 70*, 68-77.

Kieu, T. A., & Mogaji, E. (2018). Marketing Communication Strategies of Off-Plan Homes. *Australia & New Zealand Marketing Academy.* Adelaide: University of

Adelaide/ANZMAC. Retrieved from https://anzmac2018.com/wp-content/uploads/2018/11/ANZMAC2018-Proceedings.pdf

Lin, T., Wang, D., & Guan, X. (2017). The built environment, travel attitude, and travel behavior: Residential self-selection or residential determination? *Journal of Transport Geography, 65*, 111-122.

Lincoln, Y., & Guba , E. (1985). *Naturalistic Inquiry.* Beverly Hills, CA: Sage.

London.gov.uk. (2018). *Tackling London's housing crisis*. Retrieved 1 1, 2019, from https://www.london.gov.uk/what-we-do/housing-and-land/tackling-londons-housing-crisis

Lucas, K. (2013). Qualitative methods in transport research: the 'action research' approach. In M. Lee-Gosselin, & J. A. Carrasco (Eds.), *Transport Survey Methods: Best Practice for Decision Making.* Bradford: Emerald Publishing.

Lucas, K., Phillips, I., Mulley, C., & Ma, L. (2018). Is transport poverty socially or environmentally driven? Comparing the travel behaviours of two low-income populations living in central and peripheral locations in the same city. *Transportation Research Part A: Policy and Practice, 116*, 622-634.

Lund, H. (2006). Reasons for living in a transit-oriented development, and associated transit use. *Journal of the American Planning Association, 72*(3), 357-366.

McCann, K. (2017). *Telegraph*. Retrieved 1 1, 2019, from https://www.telegraph.co.uk/news/2017/01/02/new-garden-towns-villages-provide-200000-homes-ease-housing/

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation.* (4th ed.). New Jersey, US: John Wiley & Sons.

Mogaji, E., & Erkan, I. (2019). Insight into consumer experience on UK train transportation services. *Travel Behaviour and Society, 14*, 21-33.

Moghtaderi, F., Burke, M., & Troelsen, J. (2015). Application of a Theoretical Framework as a Context for a Travel Behavior Change Policy Intervention. *International Journal of Social, Behavioral. Educational. Economic and Management Engineering, 9*(2), 607-614.

Mokhtarian, P. L., & Cao, X. (2008). Examining the impacts of residential self-selection on travel behavior: A focus on methodologies. *Transportation Research Part B: Methodological, 42*(3), 204-228.

Næss, P. (2005). Residential location affects travel behavior: but how and why? The case of Copenhagen metropolitan area. *Progress in Planning, 63*(2), 167-257.

Næss, P. (2009). Residential self-selection and appropriate control variables in land use: Travel studies. *Transport Reviews, 29*(3), 293-324.

Osborne, S. (2018). *The Express*. Retrieved 1 1, 2019, from https://www.express.co.uk/news/uk/927398/uk-housing-crisis-5-new-towns-between-oxford-cambridge-nimby-councils

Partington, R. (2018). *Home ownership among young adults has 'collapsed', study finds*. Retrieved 1 1, 2019, from https://www.theguardian.com/money/2018/feb/16/homeownership-among-young-adults-collapsed-institute-fiscal-studies

Paul, J. D. (2017). The limits of London. *International Journal of Urban Sciences, 21*(1), 41-57.

Peck, J. (2012). Austerity urbanism: American cities under extreme economy. *City, 16*(6), 626-655.

Prynn, J. (2017). *London population surges to all-time high of 8.8m*. Retrieved 2 2, 2918, from https://www.standard.co.uk/news/london/london-population-surges-to-alltime-high-of-88m-a3570641.html

Rau, H., & Manton, R. (2016). Life events and mobility milestones: advances in mobility biography theory and research. *Journal of Transport Geography, 52*, 51-60.

Rosenbloom, S. (2001). Sustainability and automobility among the elderly: An international assessment. *Transportation, 28*(4), 375-408.

Scheiner, J. (2005). Daily Mobility in Berlin: On'Inner Unity'and the Explanation of Travel Behaviour. *European Journal of Transport and Infrastructure Research, 5*(3), 159-186.

Scheiner, J. (2010). Social inequalities in travel behaviour: trip distances in the context of residential self-selection and lifestyles. *Journal of Transport Geography, 18*(6), 679-690.

Scheiner, J. (2014). Residential self-selection in travel behavior: Towards an integration into mobility biographies. *Journal of Transport and Land Use, 7*(3), 15-29.

Scheiner, J., & Holz-Rau, C. (2013). Changes in travel mode use after residential relocation: a contribution to mobility biographies. *Transportation, 40*(2), 431-458.

Schwanen, T., & Mokhtarian, P. L. (2004). The extent and determinants of dissonance between actual and preferred residential neighborhood type. *Environment and Planning B: Planning and Design,, 31*(5), 759-784.

Schwanen, T., & Mokhtarian, P. L. (2005a). What affects commute mode choice: neighbourhood physical structure or preferences toward neighborhoods? *Journal of Transport Geography, 13*(1), 83-99.

Schwanen, T., & Mokhtarian, P. L. (2005b). What if you live in the wrong neighborhood? The impact of residential neighbourhood type dissonance on distance traveled. *Transportation Research D, 10*(2), 127-151.

Schwanen, T., & Mokhtarian, P. L. (2007). Attitudes toward travel and land use and choice of residential neighborhood type: Evidence from the San Francisco bay area. *Housing Policy Debate, 18*(1), 171-207.

Schwanen, T., Banister, D., & Anable, J. (2011). Scientific research about climate change mitigation in transport: A critical review. *Transportation Research Part A: Policy and Practice, 45*(10), 993-1006.

Shelter. (2015). *Offering Temporary Accommodation Out of Area.* London: Shelter. Retrieved from https://england.shelter.org.uk/__data/assets/pdf_file/0004/1176457/2015_07_16_Briefing_Note_-_Nzolameso_vs_Westminster.pdf

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information, 22*(2), 63-75.

Sprumont, F., Astegiano, P., & Viti , F. (2017). On the consistency between commuting satisfaction and traveling utility: the case of the University of Luxembourg. *European Journal of Transport and Infrastructure Research, 17*(2), 248-262.

Van Acker, V., Goodwin, P., & Witlox, F. (2016). Key research themes on travel behavior, lifestyle, and sustainable urban mobility. *International Journal of Sustainable Transportation, 10*(1), 25-32.

Van Wee, B. (2009). Self-selection: a key to a better understanding of location choices, travel behaviour and transport externalities? *Transport Reviews, 29*(3), 279-292.

Verplanken, B., Walker, I., Davis, A., & Jurasek, M. (2008). Verplanken, B., Walker, I., Davis, A. and Jurasek, M., 2008. Context change and travel mode choice: Combining the habit discontinuity and self-activation hypotheses. *Journal of Environmental Psychology, 28*(2), 121-127.

Wang, D., & Lin, T. (2014). Residential self-selection, built environment, and travel behavior in the Chinese context. *Journal of Transport and Land Use, 7*(3), 5-14.

Wang, L., & Wen, C. (2017). The relationship between the neighborhood built environment and active transportation among adults: A systematic literature review. *Urban Science, 1*(3), 29-48.

Watt, P. (2018). Gendering the right to housing in the city: homeless female lone parents in post-Olympics, austerity East London. *Cities, 76*, 43-51.

Willig , C. (2008). *Introducing qualitative research in psychology*. Maidenhead: Open University Press, McGraw-Hill.

Ye, R., & Titheridge, H. (2017). Satisfaction with the commute: The role of travel mode choice, built environment and attitudes. *Transportation Research Part D: Transport and Environment, 52*, 535-547.

Zwerts, E., Janssens, D., & Wets, G. (2007). How the presence of children affects parents' travel behavior. Washington, US: Presented at the Transport Research Board 86th Meeting.