



# Seeking protection from precarity? Relationships between transport needs and insecurity in housing and employment



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## ABSTRACT

The importance of the nexus between transport, housing location and employment location has long been identified as important to social welfare. In transport research this has however operated largely at either end of the spectrum of advantage. There exists a strong tradition, with roots in welfare economics, which explores those with choices and how they make trade-offs between where to live and work, the associated wage rate and the commute costs. At the other end is work which recognises the social costs for those that do not have access to transport and struggle to participate in employment.

This paper focuses its attention on households that fall between these extremes and for whom the choice/no-choice dichotomy does not work. Through in-depth interviews with 46 people in the UK we find that the interactions between the location and, critically, security of both housing and employment plays a critical role in shaping what ‘choices’ exist. In particular, the findings explain why some households own cars although, on other metrics, they would not be expected to find ownership affordable, and how the security of housing tenure shapes long-term household trajectories. The literature on planning and travel behaviour has paid little or no attention to the security of housing and employment. This study suggests the importance of addressing this gap and refocussing attention on the different ways in which transport connects to wider planning and social policy.

## 1. Introduction

This paper addresses the issues of those people whose employment or housing conditions are precarious such that they face prospects of imposed rather than planned moves of home or work location. We aim to understand how people adapt to these insecure conditions, particularly through the transport options they use and the travel behaviours that result. Employment conditions such as casualization of the labour market (that is a move away from secure, or even any, employment contracts) and heavy demand pressures in the housing market coupled with insufficient social housing and a weakly regulated private rental sector (in the UK) place many in a position where they are planning with only short-term certainty, where they will live and work. In social policy, employment, welfare and health studies, the implications of housing and employment insecurities have been a subject of study for decades (e.g. Egerton, 1990; Becker Cutts et al., 2011; Desmond and Gershenson, 2016; Di Bernardo, 2016; Gregg and Gardiner, 2015; Heery and Salmon, 2002; Parkinson, 2016; Sverke and Hellgren, 2002). This has not been the case for policy or research in transport and mobility and nor, therefore, have the connections been fully made between housing, employment and transport as a key nexus

of social policy. This study begins the process of plugging that gap.

In transport and mobility research there is an increasing body of work showing how social exclusion can be exacerbated by limited accessibility from residential areas especially those with affordable housing, and inaccessibility to employment and other occupations (e.g. Bostock, 2001; Lucas, 2012; Mattioli and Colleoni, 2016; Mattioli, 2017; Preston and Rajé, 2007; SEU, 2003). This work is relevant to the research reported here particularly because it challenges dominant assumptions in transport policy and planning which tend to assume people decide when to move, and make choices about where to live based on trade-offs between accessibility, house size or quality (see critiques, for instance, Chatman et al. 2019; Kim et al., 2005; Naess, 2014; Pinjari et al., 2011; Scheiner, 2018; van Wee and Boarnet, 2014). Instead work on social exclusion and transport recognises (sometimes explicitly and sometimes implicitly) that people with low incomes have relatively little control over the locations of their homes and the accessibility of those locations (see for instance, Schwanen et al., 2015). However, the work on transport related social exclusion has not focused on security in housing or employment, and on associated uncertainties for people in insecure conditions about where they will live and work and when their circumstances might change.

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Our contention is that uncertainty and precarity in housing and employment have implications for mobility needs, travel behaviour, and in turn this has complex and substantial implications for welfare and opportunities of individuals and households. As we will show, there are multiple forms of housing and employment uncertainty and precarity which influence travel needs and behaviours. The relevant commonality is the ways in which the uncertainty or precarity restricts people's ability to plan when to move home or work, or where to move to and, therefore, the role that transport ends up playing to mitigate or mediate this.

As we will argue, our findings have significant implications for efforts to improve accessibility and reduce transport related social exclusion and car dependence. This contention is based on empirical findings from 46 in-depth interviews with participants from households with low to median incomes living in Northern England (details of selection criteria are provided in Section 3). The interviews formed part of a study exploring the implications of income, transport availability and accessibility on participants' household budgets, and on their ability to access opportunities and everyday activities. The significance of this uncertainty and insecurity was not anticipated prior to the empirical research taking place, and only became apparent through the data analysis.

Since the research reported here is qualitative, it can show that there are relations between housing and employment uncertainty, transport and opportunity and welfare, and as we will show, it can also reveal something of the complexity of those relations. What it cannot do is quantify the numbers affected or distributions across income groups or geographical locations. Quantitative knowledge is of course relevant to understanding and responding to the implications of relations between transport and housing and employment uncertainty, however there is not at present quantitative data collected with the intention of enabling this investigation. It is possible that there are datasets for which secondary analysis could be used to investigate these questions, and this is something which at time of writing the authors are exploring.

Nevertheless, the paper argues that these issues are becoming more widespread and important. For instance, studies in Britain show that people are increasingly struggling to buy a home, and that social housing is becoming less common and available, while more people are living in the private rented sector (PRS) (Birch, 2015). People in PRS are nearly twice as likely as people in social housing, and nearly 5 times as likely as people who own a home or have a mortgage, to have moved in the past 5 years (DCLG, 2016, p.2). Further 32% of working age people not in full time education, are considered to be in insecure employment (Gregg and Gardiner, 2015, p. 4). Far from being confined to Britain, housing and employment precarity is a substantial concern across much of the world (see for instance Becker Cutts et al., 2011; Dwyer and Phillips Lassus, 2015; Neilson and Rossiter, 2008; Nofre, 2016; Sverke and Hellgren, 2002). We cannot know from this study whether the forms of uncertainty and insecurity in other countries create transport and mobility impacts similar to those observed in Britain, however the widespread occurrence of these uncertainties suggests opportunities for cross-national reflection and comparison.

In the next section, we outline existing understandings of the relationship between housing, employment and travel behaviour. We then present the empirical study, outlining our epistemological approach and setting out the study design and context in Section 3. Section 4 describes interview findings, identifying multiple reasons which mean some people have to make unplanned or unchosen changes employment of housing locations, and showing how this affects people's travel requirements and decisions on housing, employment and transport. We also discuss how unplanned changes, while not uncommon, were not something faced by all our participants. Section 5 assesses the implications of our findings for existing conceptions of travel behaviour and for understanding of social exclusion. It then concludes with discussion of the challenges the study raises for social

inclusion and for wider transport policy.

## 2. Housing, employment and transport

There is widespread agreement in transport research and policy that people's travel is influenced by residential location and the nature of the built environment and mobility system in which they live and work (Hickman et al., 2010). Beneath this high level agreement are a number of broad lines of argument. For the purposes of this paper, we can distinguish sets of arguments according to the way in which they conceive residential moves.

First are arguments which derive from macro studies examining city growth which considered the relationships between land availability, housing costs, labour rates and location decisions (Anas, 1990; Mills, 1972; Muth, 1969; see also Litman and Steele, 2017; Iacono et al., 2008; Van Wee, 2015). Such approaches presume the city structure is shaped by citizens exhibiting choice when moving home and deciding where to live. These approaches conceive travel behaviour as a matter of choice, with factors affecting choice deemed to be based substantially on financial and time costs of travelling and the value of the activities that are being travelled to (see Banister, 2008; Cowie, 2009; Feldman et al., 2008; Naess, 2014). This idea is an application of welfare economics which tends to dominate transport planning. It is an interpretation of economics which conceives individuals as attempting rationally to maximise their social welfare through their decisions. These decisions allow the trading-off of accessibility (understood in terms of costs of travel and travel time) from home to occupation and services, and factors such as quality and costs of housing, and the quality of local schools (Hu, 2015; Kim et al., 2005; Pinjari et al., 2011). It has been argued that these approaches do not give sufficient attention either to planning which aims to restrict urban sprawl and at least to limit increases in travel demand, or to socio-technological changes which influence travel demand. This has led to development of models which seek to accommodate these changes (Hager et al., 2015; Saujot et al., 2016 van Wee, 2015). These developments present a significant change from the earlier models, however they are not a challenge to the conceptions of how people decide where to live and how to travel. These dominant approaches are also critiqued on the basis that they do not take sufficient account of the variety or range of people's preferences for different types of travel mode or different residential locations (see e.g. Chatman et al., 2019; Scheiner, 2018; Schleith et al., 2016).

Work on social exclusion and transport poverty has involved a framing of residential location and travel behaviour which is very different to those outlined above, particularly in moving away from the focus on individual choice or preferences. Unlike the dominant approach in transport, theoretical underpinnings of work on social exclusion are more varied and in some cases less obvious. We can nevertheless, distinguish two (albeit related) strands to the theoretical and conceptual approaches. First are the conceptions of travel behaviour and its' determinants, and constraints on travel and decisions about how to travel. Second are the normative conceptions of why and how different aspects of social exclusion in transport matter, and how they should be considered in policy and practice. Below, we briefly outline these strands in turn.

Research on social exclusion and transport tends to focus on geographical areas in which residents face transport exclusion due to poverty or inadequacy of public transport, but does not give attention to whether, or in what conditions, people need to move home. Instead the implicit assumptions are that people may have little choice about where to live, but also that they do not face having to move. It is worth emphasising that the assumption here is not that people have security in housing tenure, but rather that matters of housing tenure are simply not considered. As such, this work emphasises the role of current residential and employment locations, in the context of the wider built environment and the transport system in mitigating or exacerbating exclusion (Bardaka and Hersey, 2019; Blumenberg and Pierce, 2014;

Bostock, 2001; Cao and Hickman, 2018; Lucas et al., 2016; Preston and Rajé, 2007; SEU, 2003). Existing work further identifies how exclusion and hardship can be reinforced by a range of factors, again including built environment, in which everyday journeys tend to be long or complicated, or where journeys by foot, bicycle or public transport are difficult or unviable because of things such as risks from motor traffic (e.g. Bostock, 2001; Pooley et al., 2013) or limited public transport services (e.g. White, 2008). In addition to restricting mobility, there is evidence that such environments push people who are in what is called ‘material deprivation’ into car ownership: Mattioli (2017) found households across Europe who face material deprivation as defined by the European Union (Eurostat, no date) who nevertheless own a car. The study, which used secondary data from the European Union Statistics on Income and Living Conditions survey (a longitudinal survey conducted in countries across Europe) found that those households tended to be in low density areas with low levels of public transport. This study extended understanding of compound implications for welfare, created by low income but coupled with a mobility system and built environment with limited provision for those without cars. Yet as with other work on transport-related social exclusion and transport poverty, this study took a snapshot and did not consider whether people face uncertainty about whether, when or to where they will move home or work. The common thread in work on transport related social exclusion is a challenge to the conceptualisation of travel behaviour as a matter of choice. As noted above, much of this research does not have a strong theoretical basis, however there is (increasing) attention to theories including structuration and social practice theory to help understand influences and restrictions on decisions and behaviours (Cass and Faulconbridge, 2017; Mattioli, 2016; Mattioli et al., 2019; Mullen and Marsden, 2016; Pooley et al., 2013; Schatzki, 1997; Sewell, 1992; Sheller and Urry, 2006).

Some of this work on social exclusion in transport is not strongly informed by normative theory. However as Mattioli (2016) argues, it has tended to be framed in opposition to the dominant welfare economics approaches which those researching social exclusion hold to have led to policy and planning which fails to tackle transport poverty or exclusion. Yet even where research on social exclusion and transport does not explicitly draw on theory, it does implicitly hold that there are conditions or needs (such as housing, opportunity, economic welfare) which are important, and that transport policy and practice should support the creation of these conditions or meeting of these needs. Increasingly however mobility research has been informed by, or has sought to apply theories or approaches (other than economic approaches) to justice drawn from wider political theory and philosophy. As such it has considered application of capabilities approaches (e.g. Beyazit, 2011), sufficientarianism (Martens, 2016) egalitarian justice and communitarianism (e.g. Mullen et al., 2014; Mullen and Marsden, 2016) and human needs (e.g. Mattioli, 2016).

### 3. Empirical study of mobility, location and everyday lives

The evidence presented here comes from a study involving in-depth interviews with 46 people between December 2015 and May 2016. Our study adopts pragmatic epistemology in design and analysis. This holds that knowledge is not simply a representation of the world, but rather involves our developing concepts and theories influenced by our interactions with the world (broadly conceived as including all of society and physical environment). As such it would be expected that different people, and people at different times, have different understandings of the world (see e.g. Dewey, 2015). This approach has apparent similarities with social constructivism but differs in accepting that knowledge may be about things which exist independently of our interpretation (or even recognition) of them. Knowledge will always be partial and open to contestation, but pragmatism holds it is still possible to make progress in knowledge through investigative and deliberative processes which involve inter alia assessing logical and empirical consistency and

identifying where there is scope for contestation (such as claims about using reason, and experience (Bernstein, 2010; Dewey, 2015; Mullen, et al. 2011)). This means recognising that interview questions, participants’ responses, and our analysis and conclusions are influenced (but not determined) by prior understanding (of researchers and participants). It also means that while open to contestation (as for any research findings) our analysis and conclusions aim to be justifiable.

The topics covered in the interviews explored people’s everyday travel, and how availability and affordability of mobility influenced people’s lives in the short and longer term. The original purpose of the interviews was to understand welfare implications of changes in costs of mobility. People were asked to talk about their present experiences of travel and the impacts of this on other aspects of lives including impacts on family life, occupations and household finances. Participants were also invited to describe how their travel had changed over time, and the reasons for that. Those reasons sometimes included moving residential location and occupation, and in those cases participants discussed why they had come to move. As well as talking about the relationship between people’s mobility and the rest of their everyday lives, participants were asked whether they felt that lack of mobility or difficulties with mobility had affected aspects of their lives over a longer term (for instance by reducing opportunity for education). Initially codes to inform analysis were informed by existing conceptions of travel behaviour and transport related social exclusion (outlined in Section 2). However, during the process of conducting the interviews, we began to recognise that forms of employment and housing related uncertainty and insecurity were significant to travel behaviour and in participants’ explanations of difficulties they faced in accessing or financing travel they required for their day to day activities. This broad finding was not anticipated prior to the interviews, so the further codes regarding uncertainty used in the analysis were grounded in the data rather than being a priori codes. All interviews were coded using both sets of codes.

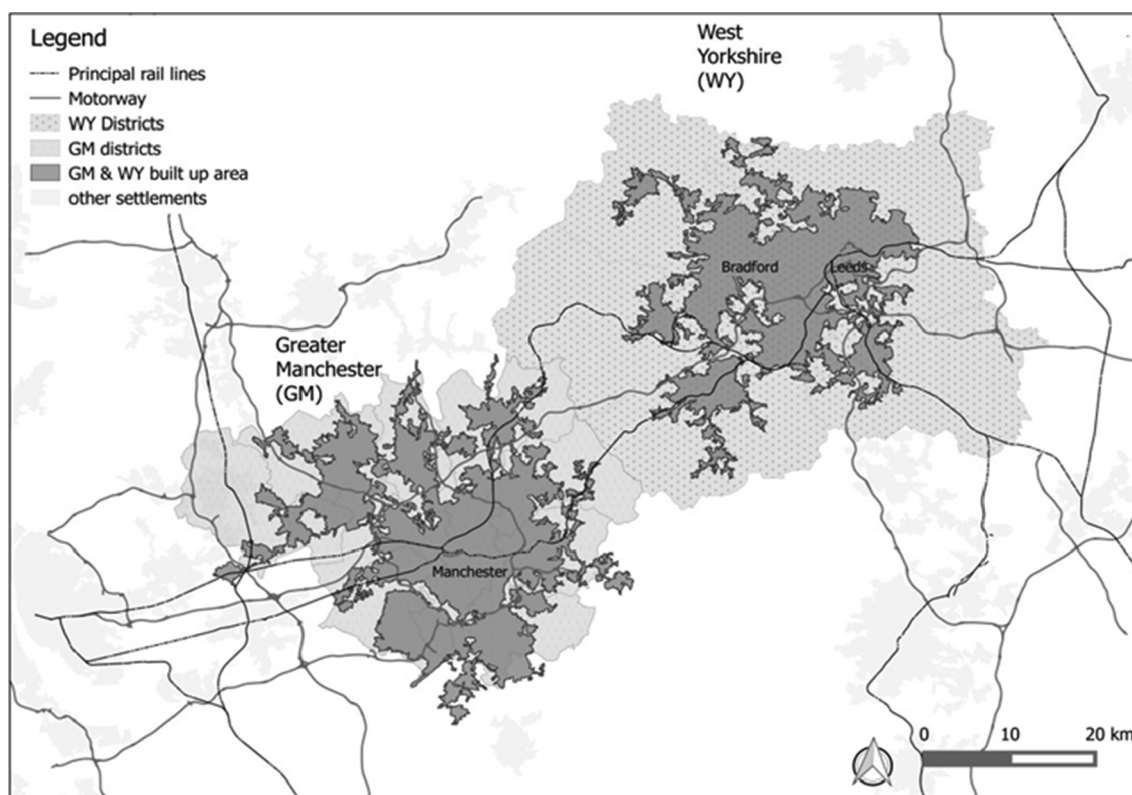
The participant selection criteria included having a gross household income at or below £35,000 for households with more than one adult, and up to £25,000 for households with one adult. As such the sample comprises a range of the lower half of the income range for England. At the time of recruitment for the study that was a level a little under the reported median gross household income for two adults and one child in the fifth from bottom decile (£36,200 in 2015) for participants from households with more than one adult, and a little over the median gross household income for one adult and one child in the fifth from lowest decile (£24,400 in 2015) for participants from single adult households (income figures taken from HM Treasury, 2015).<sup>1</sup> Participants were selected so that between them they included a mix of households currently living in social housing (local authority or housing association homes), private rented sector and owner-occupier or mortgaged. In the discussions the following terms and abbreviations are used (Table 1):

The sample was also selected to cover people living in urban, rural, and peri-urban areas, and to include people with and without access to private motor vehicles. The participants lived in West Yorkshire (population 2.3 million in mid-2016 and 2029 km<sup>2</sup> (ONS, 2018)) and Greater Manchester (population 2.78 million in mid-2016 and 1276 km<sup>2</sup> (ONS, 2018)), which are adjoining sub-regions in the north of England (see Fig. 1). Each area has a contiguous built up area containing the core, suburbs and smaller urban centres, and each contains peri-urban and rural fringes and some integrated governance of transport and economic responsibilities. Manchester and Leeds are the dominant cities of the respective areas. West Yorkshire, with its greater

<sup>1</sup> For 2015–16, the average gross household income of the sixth decile from bottom is £34,800. The lowest six deciles account for around 13.6 million households (calculated using data from ONS, 2017). Median income is used rather than mean as mean income can be affected by a small number of very high income households – use of median this reflects wider practice, see e.g. Hood and Walters (2017).

**Table 1**  
Definitions and abbreviations used in reporting findings.

Terminology	Explanation
Private rented sector (PRS)	Residential housing owned by private landlords and rented to tenants. Since the late 1990s most PRS housing in England is rented under what are called ‘assured shorthold tenancies’. The tenants are secure for a fixed term (at least six months and this can be longer if agreed by the initial contract). After the fixed term landlords can, at any time and for any or no reason, give tenants two months’ notice that they will seek a court order to evict them. This is called no fault eviction, and sometimes referred to as s21 eviction after the legislation allowing it, section 21 of the Housing Act 1988 (UK Government, n.d.).
Social housing sector (SHS)	Housing owned by what are called ‘social landlords’ who ‘tend to be non-commercial organisations such as local authorities or housing associations’ (Shelter, n.d.). Social housing is intended to be affordable and unlike PRS does not carry the risk to tenants of s21 eviction. Social housing is provided to tenants on the basis of criteria set by local authorities which (very broadly) assess levels of tenants’ need for housing (ibid).
Zero hours contract	According to ACAS this is “generally understood to be a contract between an employer and a worker where: <ul style="list-style-type: none"> <li>• the employer is not obliged to provide any minimum working hours</li> <li>• the worker is not obliged to accept any work offered.” (ACAS, n. d.)</li> </ul> This can mean that workers are offered work at short notice



**Fig. 1.** Greater Manchester and West Yorkshire.

land area and smaller population, is spatially less contiguous as an urban area than Greater Manchester. While both counties have rail and bus services operating across the sub-region, Greater Manchester unlike West Yorkshire has an extensive tram network extending to most urban areas in the city-region.

#### 4. Findings: experiences, implications and responses to uncertainty

Participants described multiple forms of insecurity and uncertainty relating to housing or employment. In this section we present this in two ways. First, we provide brief accounts of several individuals’ stories. Presenting accounts in this way enables us to see how, in some cases, there are interactions between different forms of employment and housing uncertainty, with complex implications for mobility needs and which can have profound impacts on people’s lives. This gives a more nuanced insight into relationships between forms of uncertainty

and mobility needs than would be feasible if we moved straight to presenting cross-cutting themes. The stories are outlined are specifically selected from the participants because their experiences reveal aspects of relations between mobility and housing or employment (although it should be kept in mind that participant recruitment did not consider housing or employment uncertainty). Given this deliberate selection, their stories are not intended to be extrapolated to imply the extent to which these experiences are distributed across society. What they do is to show that these experiences occur (see Baker and Edwards, 2012). Second, we summarise findings categorised according to transport implications and impacts resulting from uncertainty about housing and about employment, and finally a summary of experiences of participants unaffected by housing or employment uncertainty. As noted in Section 3, understanding of the relevance of housing and employment uncertainty emerged through the course of the study rather being something anticipated prior to the study. These summaries indicate the frequency of different experiences among all the participants



interviewed but (since this is qualitative research) that of course should not be taken to imply a claim about distribution across society. These summaries serve the twin purposes of providing an account of the range and frequency of experiences reported by participants, and indicating categories which may be helpful for consideration of potential response in policy and practice.

In the discussion of findings, we give participants pseudonyms (to preserve anonymity), note the age range of the participant, their employment status (self-employed (s.e.), zero-hours contracts (z.c.), an employee with contract status unspecified (c.s.u.)), whether they have a car and what housing tenure they have (all at time of interview). We report the findings using the tense applicable at the time of the interviews (so present tense refers to the circumstances at the time of interview). There are a few quotes from participants used in the following discussion, and in places they give details which we have generalised in order to preserve anonymity. This is indicated by use of square brackets.

#### 4.1. Outline of experiences from selected participants

**Helen** (PRS, c.s.u., 40 s, no car) had to leave her home because the social housing she lived in was due to be demolished. Helen's household comprised herself and a member of her extended family. While Helen would have been entitled to be rehoused in social housing, according to the rules governing social housing provision her household was not considered to be a 'family' requiring housing together. Hence Helen would only be able to move to social housing with space for one person. She also struggled to find affordable private rental homes. The one that she did eventually find (owned by a friend) was in a location which made her journey to work very difficult, so that her daily commute has changed from a walkable journey to one requiring several buses and taking up to two hours to work and 90 min back. The problem is not so much the distance of her new commute since by car it takes 30 min each way. Rather the problem is that the bus service connections not timed to connect with each other, and are often unreliable meaning that a connection is missed. In her words:

"on an average day when I do it without the lift it's an hour and a half journey, so I could be leaving at 7 o'clock in the morning to arrive – or 6.30 to arrive just in time for 8.30 it depends what time the bus comes, and if they're late it just knocks time on, so it could be 6 pm."

The difficulty and duration of her commute is a disincentive to engaging in the additional activities which would enable her to progress at work. Helen previously worked via agencies which would find very short term work often in different locations. Since she did not have a car she explained that she often needed to turn down offers of work as the location would be inaccessible without a car. In summary, Helen's experience indicates how three aspects of mobility and housing systems combine to create transport-related welfare problems. So for her, an unexpected residential move resulted from a mis-match between social housing allocations and the reality of household make-up; her limited choice about where to live resulted from unaffordable housing; and her resulting travel difficulties were exacerbated by an adequate public transport system.

**Charlotte** (SHS, currently on sick leave, was c.s.u. and will be s.e. 30 s, car) and her family were forced to move unexpectedly and at a few weeks' notice as their private sector landlord had their home repossessed. Charlotte explained that when this happened:

"we registered with the council [for a SHS home] and I think we had to live with my grandma for about 8 months and then we got offered this [their current (SHS) home]."

Having been unexpectedly evicted, and while living with their grandparent, this participant and her family decided to seek a new home in an area where their everyday activities would be feasible if

they did have to give up their car at some point. They also decided, having experienced the insecurity and unpredictability of the PRS, to seek a SHS home which they felt would be more secure. For Charlotte, housing precarity was a direct result of PRS which does not offer security for tenants, Charlotte's lengthy wait to find a new home in an accessible area followed from scarcity in SHS and a wish to avoid repeating the experience of an insecure PRS.

**Theresa** (SHS, c.s.u. 30 s, no car) also had to leave a PRS home having broken up with her partner, and she and her child also then waited for suitable social housing to become available. During this period, Theresa said she

"was homeless for a month; I was living in a hotel and then I couldn't get anything with housing because I work full-time so that means you don't get help."

Following that she was in PRS for 18 months. However Theresa wanted social housing for its security of tenure and affordability. Theresa has friends who have been evicted from PRS and feared that she might face this type of eviction. She had no car but eventually found social housing in an area with sufficient public transport for her daily mobility. So for Theresa, relationship changes were the reason for having to move, but recognition of the insecurity of PRS coupled with scarcity of SHS meant a long wait, and homelessness, before she found suitable home.

**Michael** (SHS, z.c., 40 s, no car), is reluctant to take an opportunity of full time work rather than his current zero-hours contract, because doing so would involve giving up the social housing for which he waited a long time. Michael has a zero hours' contract with work offered in a range of locations often at very short notice:

"Sometimes they can just say, oh, no we don't have anything at the moment. And next thing your phone rings early in the morning and can you go cover this site and you know? And then sometimes they can ring you, like, nine o'clock at night."

Michael's employers do offer to pay expenses for taxis to these jobs, but Michael described waiting weeks to recover the cost of the fares, and this left him in financial difficulties. Michael's difficulties follow from precarious work, recognition that PRS is insecure and scarcity of SHS (such that if offered it will not be given up, even for secure employment).

**Thom** (PRS, c.s.u., 60 s, no car) moved into PRS following the breakdown of his relationship with his partner. When he had to move, his friends helped with accommodation which was important for affordability but meant very constrained choices about where to live, and (due to the circumstances of the friends) meant that Thom did not have security. Thom's housing is in a location where he feels isolated from friends. He described his home moves:

"I went to my brother's for a week and then a friend of mine, his [relative had died] so he said I could have the house... The friend said "I don't want any money, nor rent. Just look after it. Pay your gas bill, electric bill...." [After some months the friend] needed to sell it."

Another friend then rented a home to Thom, and Thom has been there for several years but described feeling uncertain about how long he would be able to remain there as his friend might want to sell the home. Thom has no car because of the costs involved. He finds his journey to work difficult because of unreliability of public transport on the route he needs to take from his home, and because he has some health problems. He had been getting lifts from a colleague, but that colleague had been made redundant. So for Thom, relationships changes meant he had to move, but unaffordability of PRS and scarcity of SHS meant very limited options about where to move to and means that his housing is insecure. The insecurity of a colleague's employment meant that Thom lost the lift to work he had been getting, and this coupled with inadequate public transport, added to Thom's travel

difficulties.

**Yasmin's** (PRS, c.s.u., 34, car) work had moved location twice in the time she has been there, and is now in a location she finds is only accessible by car. Yasmin is a single parent of a young child. She has a car but can only afford this because her father helps financially. As she put it:

“I am very lucky in the sense that my Dad did that, I'd have been lost without the car, just terribly lost.”

Commuting by car makes it possible for Yasmin to get to work and to collect her child from school, but as she explained this is still difficult:

“I ended up taking some time off, because I was getting so stressed... [by matters including travel], in rush hour traffic to get in and then...I was ringing up [the school] saying I was going to be late, I was sat in traffic.”

Yasmin explained how her current work, which she says has a reasonable wage, means she is able to pay the rent on her flat. Alternative work which might have a lesser commute, would not pay well enough to enable Yasmin to pay her rent. It should be noted that Yasmin's wage is not only too low to remove problems in meeting cost of the car, but also means Yasmin needs to limit heating in her flat in order to be able to afford the bills. Yasmin discussed alternative housing, noting that she has been waiting for many years for social housing, and explaining that moving from her current location would mean leaving the neighbourhood with everyone she knows: as she says:

“would I want to isolate myself when I already feel a little bit isolated being on my own as a single Mum”.

So for Yasmin, travel difficulties are created by her employer's decision to move location combined with difficulties in covering the costs of car travel to that new location and inadequate public transport. These financial difficulties are further exacerbated by high costs of PRS.

**Ash** (PRS, c.s.u., 20 s, no car) had three jobs in the three years since he graduated from university. One of these, involving a commute to a different city, created financial problems due to the cost of fares and as Ash said:

‘it did get to the point where I did have to borrow money to cover my fares every day.’

He had taken this job as it is full time whereas in his previous work he was not offered full time hours. Ash considers that:

‘I could get better paid jobs and I've had to not apply for jobs because I needed a car to travel around the different offices around the country’

He added that he would have progressed further by now if not held back by lack of transport. Consequently, he is planning to get a car. For Ash it is his employer's expectation that he will be able to travel for work, coupled with expense and limitations of public transport which have created financial difficulties and limited opportunity, and which now push him towards car ownership.

## 4.2. Summary of participants' experiences and priorities

### 4.2.1. Uncertainty in housing

Thirteen participants described forms of uncertainty and insecurity in relation to when to move home and where to move to. Eviction is the immediate factor resulting in both housing uncertainty and insecurity for four participants, including Charlotte and Helen (see above). The other two participants had both had homes repossessed, and following this both face ongoing residential uncertainty which feeds into travel uncertainty. Both participants have cars which enable them to manage this travel uncertainty, and while one also found driving enjoyable, both described their struggle to pay for car maintenance and fuel. For a

further two participants, housing uncertainty is caused by relationship breakdown coupled with eviction. One was Theresa (see above). The other explained that experience of eviction from a PRS home had contributed to relationship breakdown which then forced a further move. While her travel is complex, she has a car, enjoys driving and does not face travel problems. Relationship breakdown or escaping a dangerous relationship was also a cause of housing uncertainty for another two participants. Of these, one has a car which prevents travel difficulties, unlike Thom (see above) who faces difficulty meeting travel requirements. A further participant moved to avoid problems with neighbours and to a location less accessible for her work and her children's school. She had a vehicle but lack of affordability meant that she gave it up. Finally, a further four participants explained that their priority was to gain security in their housing and this outweighed considerations about housing location and travel. For one this means ongoing fear of eviction due to their insecure PRS tenancy and for the other three (including Michael – see above), this meant waiting for suitable social housing.

### 4.2.2. Uncertainty about employment location and travel to work

For five participants, commuting uncertainty was caused not by the job changing but by its location or timing changing. One is Yasmin (see above). Another, had in the past decided to give up a longstanding job because the location was changing so that it would only be accessible by car but would not have space for parking. Two others actually have easier commutes following employers' moves, but for one the prospect of the job moving again is causing worry that the commute will become unfeasible without a car - which she does not have. For the fifth, commuting mode had to change following regulatory changes which meant his working day (as a lorry driver) needed to begin in the early morning before public transport started running. For another (Thom - see above), someone else's redundancy led to the loss of a lift to work and subsequent commuting difficulty. For a further two, work travel is straightforward without a car, and for one, does not require any commute as she works from home. Yet both participants were uncertain about how long their existing work would continue and both expressed doubt about opportunities for new work which would not require a commute by car unless they acquired a car.

### 4.2.3. Day to day uncertainty about employment location and travel to work

Three participants have, or had, work which, by its nature involves travel to different locations each day, and all three use cars to get to work. Six participants had, or have, work which is either very short term contracts (four participants), or zero hours' contracts (two participants). For five of these people, the location and timing of work varied significantly, sometimes being unpredictable from day to day, and for the other just the timing changed. One relied on taxis for commuting. The other four had experience of having to turn down work due to inaccessibility without a car (at the time), and of these one had subsequently bought a car for work.

### 4.2.4. Planning to move

There is no suggestion that all participants live in conditions of uncertainty about whether or when to move home or work location. Yet several of those not facing uncertainty over employment or housing locations nevertheless face travel difficulties created in part by constrained options about where to live and work. For two participants the issue is that while housing is secure, moving to ease travel problems is not an option. One simply cannot afford to move. The other chose to move to a very inaccessible rural location making his normal commute a walk of six miles a day. His decision to move was taken to support family members in paying the rent for the rural home in which they now all live. For five other participants in relatively stable accommodation, the constraints are created by job opportunities. Each has taken work in locations difficult to access without a car. Four of these

people have, or plan to get a car to manage their difficult commute (one was Ash – see above), and the one other relies on taxis to get home.

Sixteen study participants (so a little more than a third) did not report housing or employment uncertainty or insecurity. For some, decisions about when and where to move were a matter of personal choice, albeit ones which did not always involve consideration of transport. Five participants had made decisions about where to live based on the appeal or familiarity of the neighbourhood and proximity to extended family. One reported regret that they had not considered accessibility before moving. Six other participants described the importance to them of accessibility and availability of transport when deciding where to live (of these, two were university students). Another discussed her decision to take up a particular job because of its easy accessibility on foot.

## 5. Discussion: divergence and convergence with transport planning

### 5.1. Material conditions and people's responses

Our analysis of people's responses is informed by, and is consistent with a structuration theoretical approach which recognises how activities and behaviour are influenced by the systems in which they occur (and in turn how systems are influenced by activities). We found that the forms of housing and employment precarity, the transport consequences and related impacts on people's lives, are varied and nuanced. Nevertheless we might consider them according to two categories: material factors and people's initial and ongoing actions and psychological responses. Material factors include having, rather than choosing, to move home or work, or being in a situation where there exists uncertainty about when or whether they will need to move home or employment location. The material conditions also include the mobility system as it functions for the participants. These material uncertainties can be caused by insecurity in housing or employment tenure, irregular work patterns and places of work, or employers' moving location, and relationship changes. Residential or employment location moves can be something done to people rather than something that they plan themselves. Eviction, repossession, employer relocation, job loss, and in some cases offers of social housing, can all mean that people move at a time and to a place over which they have limited control. Relationship breakdown can also require residential relocation, and while this might be something not unexpected by people affected, it is also often something unplanned, or unchosen, and (in the case of people needing to leave a dangerous relationship) it can be something for which people have little control over timing.

The consequences of having 'forced' moves – of home or employment location can create a range of lost opportunities and long lasting welfare reductions. For some, the welfare reduction is directly associated with difficulty in finding suitable housing itself (see below) and for others, this results from the travel problems following the move. Forms of mobility viable before the move may not still be viable afterwards. As we have seen, some participants found substantial difficulties in accessing employment after such a move although some found travel easier after they had to move. However this was more a matter of luck than design, and some of these participants faced the risk of further unchosen moves which could replace that 'luck' with travel difficulties. Those participants who had access to cars were less likely to report changes either to ease or difficulty of travel when subject to these forms of unchosen move. In the absence of a mobility system enabling people to make complex journeys without access to a private vehicle, the car acts as a buffer from the impacts of day to day travel uncertainty and unchosen residential or employment moves.

The strategies deployed to respond to these circumstances were similarly varied. Again, however we can identify two broad aspects of responses. For many in our interviews, a search for security of housing tenure was a dominant concern. Some people sought the security of

social housing, especially if they had been evicted through no fault of their own from private rented housing. Once in social housing, there can be reluctance to leave even if employment opportunities arise elsewhere. In two cases, this search for secure housing was coupled with a concern to find a home in a location where it would be feasible to manage without a car. Both achieved this, but only did so after prolonged difficulty – one was homeless for several weeks then in temporary housing for eight months, and the other lived with extended family for eighteen months. For others, housing which enabled people to sustain family and other relationships, beyond social housing was at the forefront of reported experiences. As we saw in the accounts of participants' experiences, this could require significant sacrifices by creating difficult commutes and then associated problems. For many, therefore, location choice was not optimised with respect to employment opportunities or commuting but housing security or other constraints. The car, for many becomes a necessity even when the expense of car ownership creates problems.

### 5.2. Implications for policy and practice: reducing lost welfare

Our findings show that there can be loss of welfare and opportunity created by uncertainty about having to move home or the location of employment coupled with the existing mobility system. The problems arise from the combination of practices and policy relating to housing, employment, and the transport system. This is consistent with, but moves beyond, earlier work on social exclusion which as discussed in [Section 2](#). To recall that (sometimes implicitly) accepts normative views that society should be concerned with the ways in which transport affects welfare and which (broadly) holds that travel needs and behaviours should be understood as influenced by the systems and circumstances rather than being treated primarily as a matter of individual choice. Our findings indicate a need to develop conceptualisations of the factors creating transport related social exclusion by considering (i) what housing and employment is available and the extent to which it is secure, (ii) that people may be making complex journeys due to having to move home or work, (iii) that faced with uncertainty, security of housing or private transport can be appealing or, in some circumstances necessary, and this in turn affects willingness to move or to change travel behaviour.

Secure tenancies, in the public or private sector could help reduce many of the problems experienced by participants. Further, and again in keeping with the existing research, our study points to the value of housing development which is in locations with good non-car accessibility to employment and services (e.g. [Lucas et al., 2016](#); [Preston and Rajé, 2007](#)). In relation to employment, the study emphasises difficulties faced by employees when employers decide to move, particularly when that move is to less accessible locations. In other words some of the cost of the move falls on employees (and on wider society if that leads either to their giving up work, or to relying on a car). There is therefore a case for the planning system to take account of these externalised costs through measures such as requirements for workplace travel plans.

The findings add to the case for reducing car dependence, but doing that through measures which focus on tackling mobility system provision rather than recourse to "individuals' behaviour and choices". This could have substantial implications for policy, planning and practice concerned with transport related social exclusion. As is well documented elsewhere, many transport measures aim to reduce environmental, social and economic burdens of transport by promoting travel behaviour change, especially encouraging shifts away from car use through economic and disincentives or campaigns (see e.g. [Marsden et al., 2014](#); [Shove, 2010](#); [Sloman et al., 2010](#)). The fairness of asking people to change mode is called into question by the difficulties and limited travel options presented by the mobility system coupled with insecurity and uncertainty in housing and employment. These uncertainties can mean people (i) have no feasible option other than to

move to homes, or work in places with poor accessibility, or (ii) have the effect of encouraging people to remain in housing which is secure even if it has poor accessibility, or (iii) encourage people to retain or acquire private cars to enable complex journeys. None of this speaks against attempts to reduce car use or reliance on cars. It is the existence of a mobility system with such poor prospects for non-car mobility, which is one of the reasons for the transport problems associated with housing and employment uncertainty. Practically, at one level, the findings simply add to the case for policy and planning which aims steer the land use and mobility to reduce the need to travel (and hence travel costs) through land use planning, and enable mobility without a private car through measures such as safe walking and cycling environments and provision of extensive public transport (e.g. Lucas et al., 2016; Mattioli, 2017; Mullen et al., 2014; Preston and Rajé, 2007). However they also go further. First they indicate a need to go beyond simple accessibility based transport needs mapping which focuses on the transport aspects, and instead to also consider the nature of the employment and housing context which sit at either ends of the journey. This would indicate a need to focus on removing severance: that is physical or other barriers people face in making a journey on foot or by bicycle (see for instance Ancaes et al., 2016). This would also extend to recognising the presence of some long and complex journeys described by our participants which, from the perspective of the dominant approaches to understanding travel behaviour, do not make sense as they are not undertaken for very well paid work (see Section 2).

From this may come insights into what kinds of services, ticketing and timings match the needs of travellers and for the networks of provision to be more agile in responding to changing demographics in different areas. In the UK this is not the responsibility of the local authorities nor the specialism or focus of the public transport operators. In other words, where public transport providers are from the private sector, their rationale is not provision of a comprehensive network of public transport covering lightly used routes or services (see for instance CBT, 2018). Yet it is coverage of these routes which is vital if people are to manage complex journeys, or journeys taking place outside of busy periods. Further there is a need to reassert a more adaptive form of integrated social planning for housing, transport and employment although such calls have previously been unheeded in more resource rich times so a transformation seems unlikely, at least in the UK context (see e.g. Stead, 2008). This would require commitment to improving welfare regardless of the sector to which that welfare is more directly related. It would also require collaboration between actors in different sectors (in housing, employment and welfare policy and transport) so that there is greater awareness of implications for welfare relating to one sector of changes in another sector, and therefore a better capability to steer changes to improve welfare (see for instance Van Slyke, 2009 for a discussion of collaborative governance).

Aside from implications for policy directly concerned with people's welfare and opportunity, the findings of this study may also have relevance for methods of explaining and predicting travel behaviour often used to inform transport planning (see the discussion in Section 2 on dominant approaches). Our findings contribute a new finding which adds to existing evidence of the limitations of behavioural models based around choice and trade-offs for long-term housing and employment, at least for the lower half of the income distribution studied here. It is clear that insecurity of housing and employment has a range of different causes and can unfold over time. This would suggest that much more could be understood about how people build up their understandings of the role of transport, housing and employment in their lives through life history biographies (e.g. Miles et al., 2013; Muggenburg et al., 2015). Different types of tenancy seem to have different potential impacts as do different employment prospects, features typically outwith most aggregate transport and land-use models. The integration of budgetary trade-offs and constraints into models also needs further exploration such as family loans and giving up heating for mobility costs.

We are not able, on the basis of small sample qualitative work, to

determine the new metrics which might be of interest in explaining location decisions. However further qualitative research in different locations, and development of quantitative research investigating these questions could enable these metrics to be developed. In relation to quantitative studies, one possibility is that there may be existing datasets which could be used for secondary analysis of these questions, and this is something the authors are exploring. A quantitative study designed to address these questions would ideally ask about experiences of moving home or employment locations and the control that people have in this, and would ask about travel behaviour, affordability of transport, and about activities not undertaken due to difficulties in travelling. There would be challenges in designing questions to gather this data, particularly as the reasons for uncertainty and precarity are multiple. So it would be expected that questions would remain, or even be raised by such a quantitative study. However this caveat might be best understood within pragmatist epistemology recognising that knowledge understood as partial.

## 6. Conclusion

Our findings show that unplanned or unpredictable changes in residential or employment location have effects on how people think about and use transport. As we have argued, the study findings cast doubt on existing conceptions of travel behaviour as influenced by trade-offs or travel preferences. At the level of the individuals and families affected the study shows how significant the impacts can be. These findings are new. This is, of course, a study involving a small number of people and only those with low to median incomes. However, this is an important proportion of the population, the majority of which were affected in some way by the material and psychological impacts of uncertainties relating to housing and employment location. As the literature and statistics indicate, the housing tenure and employment conditions associated with these forms of uncertainty are increasingly common, (e.g. DCLG, 2016, Annex Table 1.12; Lewchuck et al., 2014; Nau and Soener, 2017). Although people who do experience uncertainty may not be in this situation for all or even most of their lives, our findings indicate that the effects of experiencing uncertainty can have long standing influence on behaviour and decisions. We suggest that given the potential importance of this issue to understanding travel behaviour and city development as well as the substantial social consequences of neglecting it, this is a major area for further research and policy analysis.

Whilst we anticipate that these findings will be most relevant to the lower half of the income distribution where home ownership is less prevalent we would caution against assuming some arbitrary cut-off. Employment insecurity is anticipated to become more normal in some visions of the future world of work (Störmer, et al., 2014) and so understanding more about how anchored spatial choices are in the traditional home-work trade-off for home owners or higher income renters is also of relevance to transport planning. We also note the diversity of housing markets in different countries and believe there is much to be learnt about the extent to which different arrangements of housing, mobility and work diminish the issues raised here.

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