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Geographical Perspectives on Transport and Ageing

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Introduction

In terms of ageing, we are living in unprecedented times. People across the globe are living longer than ever before and societies are ageing at increasing rates. In low to middle income countries reductions in mortality at young ages have fuelled this growth. A person born today in Brazil, for example, can expect to live 20 years longer than someone born 50 years ago (WHO, 2015). For the first time life expectancy across the globe is over 60 years of age. In high Income countries, someone born now can expect to live up to around 80 years of age on average (ONS, 2015). There are not simply a growing number of older people, but also a growing number of older people as a total percentage of the population due to people living longer and declining birth rates in many countries. Across Europe, for example, people aged over 65 years will account for 29.5% of the population in 2060 compared to around 19% now (EUROSTAT, 2017). The share of those aged 80 years or above across Europe will almost triple by 2060 (EUROSTAT, 2017)

The macro level demographics and associated trends mask big differences within the ageing populations. There can be as much as 10 years difference in life expectancy within high income countries, for example in the UK someone born a baby boy born in Kensington and Chelsea has a life expectancy of 83.3 years, compared with a boy born in Glasgow who has a life expectancy of 10 years lower (73.0 years) (ONS, 2015). For newborn baby girls, life expectancy is highest in Chiltern at 86.7 years and 8 years lower Glasgow at 78.5 years (ONS, 2015; NRS, 2016). There is also considerable variation within cities, spatially and socially.

This volume brings together contributions from a broad range of human geographers, with different disciplinary perspectives of transport and ageing. This chapter outlines some of the key contemporary issues for an ageing society in terms of transport and mobility, highlights

the importance of considering transport and mobility for ageing populations and outlines the contribution that a geographical approach can offer to studies of transport and ageing.

Older people and (hyper) mobility

In many ways, we are living in a hypermobile society. Human have always been mobile, but the intensity and scale of contemporary mobility (Kwan and Schwanen, 2016) are greater than in the past. We are traversing greater distances to reach destinations for work, shopping, to access services and healthcare and for recreation and simply to stay connected to people. We live further away from work and are more mobile than previous generations in terms of moving between jobs. We end up with many more connections to dispersed communities we wish to stay in contact with. Older populations today are more mobile for longer periods of time and in many cases have a high degree of leisure mobility, for example, Andrews et al (2007) discuss commodification of active ageing and mobile leisure practices for active retirees.

At the same time, due to the balance shifting from infectious diseases to chronic health conditions there is suggestion that proportion of years of life spent in good health is falling (ONS, 2017). Long term health issues can reduce an individual's ability to be mobile. Despite increases in mobility, in many countries it is the oldest age group that face the biggest barriers to getting out and about. Older people can therefore face mobility deprivation, feel disconnected to society and be unable to do the things they want to simply because they are unable to get to these things. This disconnection can have wide-ranging physical and mental health implications. Reduced mobility can lead to other health problems such as obesity, heart conditions and increased falls risk.

Traversing large distances can be more difficult for us as we age. Physiology varies hugely between people, but declining eyesight, hearing, muscle strength and cognition can make

mobility harder to achieve for many older people. Older people are still much more likely than other age groups to spend more time close to home and in the local neighbourhood, especially when retiring from work (Baltes et al., 1999). In a hypermobile society, this home and neighbourhood area can feel quiet and neglected, as other age groups are out travelling to and from work and leisure, rather than engaging with the local area. Local neighbourhoods outside of city centres can be quiet places devoid of services and shops, a place that can feel quite empty for an older person. In low to middle income countries city centres are gradually becoming the preserve of the big business and the wealthy with ordinary families and older people moving away to the edges of city centres, dispersing social networks and connections and increasing distances needed to access services and shops. People who live in suburban areas which may have made sense given they offer more space for bringing up a family, tend to find themselves isolated in these 'commuter communities', with housing mismatched to needs as they age and often with little desire or financial resources to move (Howe, 2013).

Hence, motorised transport is more important to older people than ever before. The car has become central to this hyper-connectivity, affording the traversing of long distances without recourse to large physical exertion. In high income and a growing number of low to middle income countries, societies and built environments have become so organised around the car, that those without a vehicle can become socially excluded. A divide occurs between those who can benefit from private vehicle ownership and those that experience the wider negative externalities of the car and car-dependent societies, including pollution, severance of communities and crashes and associated casualties. As older people have to give up driving licences they become at risk of exclusion in car-centric societies.

Gattrell (2013) contends that mobilities scholars have not made much connection between mobility and wellbeing. Yet, when thinking about transport and ageing the links between mobility and wellbeing are quite pronounced. Being mobile in later life is linked to quality of

life (Schlag et al., 1996). Giving-up driving, in particular, is linked to decrease in wellbeing and an increase in mental and physical health problems. This is due both to a reduction in ability to get out and about but also related to psychological issues associated with freedom, status, norms and independence (Edwards et al., 2009; Fonda et al., 2001; Ling and Mannion, 1995; Marottoli et al., 2000; Marottoli et al., 1997; Mezuk and Rebok, 2008; Musselwhite and Haddad, 2010; Musselwhite and Shergold, 2013; Peel et al., 2002; Ragland et al., 2005; Windsor et al., 2007; Ziegler and Schwanen, 2011).

In higher income countries the use of the car has become ubiquitous across the lifecourse, resulting in a large increase in both the number of older drivers and the distances travelled. Compared with previous generations, older adults are much more likely to own a vehicle than previous generations, particularly women (see chapter by Minton and Clark). At the same time walking, cycling and non-urban bus use has generally been in decline across all ages although there are some signs that this is changing. The decline of public transport as a result of car-centric mobility corresponds in many cases with the geographical location of populations of older people, meaning that issues of transport related exclusion can be particularly significant for older adults in more rural areas without adequate public transport alternatives.

From the point of view of reducing isolation and loneliness and providing safe mobility options for older adults it is easy to see maintaining driving and private car use for as long as possible as a panacea. From this perspective emerging transport options such as autonomous vehicles are seen as being a perfect technological solution to mobility problems for older people, affording them high levels of mobility with minimum effort. How far this will be a reality is questionable. Such a perspective is at odds with policy agendas of sustainability and active ageing. The topic of autonomous vehicles is picked up in the chapters by Pangbourne, Fitt, and Phillips and McGee. Focussing more on the structural issues of car dependence

could mean that alternative modes of transport would provide similar levels of mobility. Transport infrastructure and supporting policies and practices should be designed with an ageing population in mind. In many countries, public transport use, especially bus use, increases in later life (Musselwhite, 2017a). However, a major barrier for older people using public transport is feeling unsafe, especially at night (Gilhooly et al., 2002). Accessibility issues are also an issue with step-free access and availability of seats high priorities for older people. Empathetic and friendly staff are vital; a bus driver driving off before the older person has sat down is a major concern and the presence of a friendly helpful, understanding staff can be an enabler for older people to use the service (Broome et al., 2010). Cycling is a mode that is quite often associated with younger people, yet it can provide a perfect connection between remaining physically active and traversing longer distance, particularly through increasing use of e-bikes for example. Improving cycle accessibility for older people needs further consideration as emphasised in the chapter by Van Cauwenberg, de Geus and Deforche. Increasing policy attention is being paid to the idea of ‘active ageing’ and the promotion of walking for health among older adults. However, the importance of individuals interactions with the built environment are important and reveal that walking as a transport practice is about more than travel from A to B, but hangs deeply upon the meanings and experiences in the environment. (see chapter by Curl, Tilley and van Cauwenberg).

Traditionally, transport planning has placed emphasis on the reduction of travel time and transport policy across many countries is intrinsically economic. As a result, transport policies often centre on commuting and travel for work, which results in transport policy centred on inter-urban transport at peak hours. Policies focussed on reducing the time taken, relieving congestion and making transport more efficient can lead to the hypermobility and urban sprawl we have discussed above and not relieve the problems at all. It is debateable

whether this is of benefit to individuals across different contexts and societies.. This is especially true in later life, where working is more likely to have ceased or be moved to part-time, where more local rather than inter-urban journeys take place and where a variety of modes might be used. There is much research to say that mobility and transport use can change and alter dramatically at key transition points (Avineri and Goodwin, 2010), including those more likely to be faced in later life, such as retirement from full time employment and the onset of acute or chronic conditions. To make transport policy more relevant to an ageing population, we need to understand mobility from a lifecourse perspective. There is a need to join up healthcare and social policy with transport policy, to help meet the accessibility demands of an ageing society and not just kowtow to economic notions. Understanding how older people travel during the day is also an issue as older people can be particularly limited in when they travel and where at certain times; fear of crime and safety concerns, problems with seeing in certain types of light, increased fatigue can all reduce the times of day an older person might go out. Vallée (2017) has recently termed this the daycourse of place – thinking about how places may be more or less accessibility at different times of day and this can be the case for older people who often strategise about when to visit certain places based on safety, light or busyness for example.

In an ageing society it is therefore important to consider what matters beyond the journey time. It has been found for example, that while journeys may take longer as people age, satisfaction with the length of journey does not (Curl, 2013). This is not to say that older people should adapt and cope with adverse circumstances such as taking longer, but that other factors are more important in how older people perceive and experience accessibility. Issues of urban design and provision of toilets or seating may become more important for example. Focussing on issues of access to important services such as healthcare facilities and

open spaces as well as social connectivity are more important than increasing or maintaining mobility in its own right.

The role of the built environment in influencing physical and mental health is well established (Grant et al, 2017). In particular for older adults, well designed, inclusive and pleasant urban environments containing greenspace can promote physical activity, supporting policy agendas around active ageing. It is important also to consider the way in which people interact with their environment to establish whether environments are supportive, or not, of active mobility for older adults (Curl et al, 2016; and chapter by Van Cauwenberg, de Geues and Deforche). While the built environment plays a critical role, assuming a deterministic relationship is problematic (Andrews et al, 2012).

Mobility, affect and aesthetics

We tend to think of satisfying accessibility needs through corporeal or literal mobility (Parkhurst et al., 2014). That is that mobility requires physical movement. Often policy and practice identifies solutions for maintaining levels of literal mobility for older people who may be experiencing declining physical mobility may have given-up driving. The deficit in literal mobility is often seen as problematic in later life and ways of improving literal mobility are identified (see Musselwhite and Haddad, 2017 for examples and reviews).

Technological moves towards partly or fully automated vehicles may support drivers who struggle with driver tasks, lengthening the time that people can rely on car based mobility for example.

Mobility also has social or affective dimensions. Mobility is not always means to an end, it can in itself be linked to individual's quality of life. For example, Clayton and Musselwhite (2013) found the kinaesthetic pleasure of mobility as experienced while cycling is in itself a

motivation for using that mode. The bus can provide a third space, for social interaction, people watching or simply watching the world go-by (Andrews, 2012; Musselwhite, 2017a). There is a feeling of satisfaction for completing a long or difficult drive among some older people that is missed when they use other passive transport options (Musselwhite and Haddad, 2010, 2017). In addition, then journey itself can be rewarding, travelling past green or blue space and even seeing familiar sights signifying home or place (Musselwhite, 2017b). The car can meet these affective needs easily, someone can simply “go out for a drive” or “take the long way home” to see a particular feature of the environment and these elements are really missed when someone gives-up driving (Musselwhite, 2017b, Musselwhite and Haddad, 2017). Gattrell (2013) has discussed the idea of therapeutic mobilities as an extension to the literature of therapeutic environments.

Conceptualising mobility and wellbeing in later life

Musselwhite and Haddad (2010) explain mobility for older people in terms of individual need, highlighting the importance of three different motivations for mobility in a hierarchical manner (see figure 1). At the base of the pyramid is mobility for utilitarian purposes – that is to be mobile in order to get from A to B as easily, cheaply and efficiently as possible. Once this can be satisfied, the need to be mobile in terms of affective or emotive motivations is the next level of importance, including how mobility provides a sense of independence, freedom and is related to roles and status. Finally, a top level of need is the motivation to be mobile for aesthetic purposes, related to both intrinsic factors of the journey itself, and to the discretionary nature of viewing the outside world. Mollenkopf et al (2011) addressed affective needs in more detail, explaining the importance of out of home mobility as an emotional experience, to note physical movement as a basic human need to stress that mobility should be seen an expression of personal autonomy and freedom and stimulation.

The absence of movement is equated with the end of life, and movement is an expression of the person's life force.

<Insert figure 1.1 about here>

Hjorthol (2012) related Allardt's (1975) model of wellbeing to transport in later life (see Figure 1.2). Allardt (1975) suggested three levels of need that have to be satisfied for wellbeing, having, loving and being. Having needs relate to financial stability, housing, employment, health and education. In this respect they are utilitarian in nature, similar to the bottom level of Musselwhite and Haddad's (2010) model. Loving needs are seen as relationships with others, especially close relationships to family and friends in particular. Being needs are related to self-esteem, reputation and also to leisure activities, equating to Musselwhite and Haddad's (2010) affective and aesthetic needs. Hjorthol (2012) suggests that having needs are well satisfied by transport, though there are gender differences, where males are more satisfied than females, suggesting they often hold more of the transport resource in a household. Loving and being needs are especially in demand but invariably met through current transport systems. Hjorthol (2012) suggests mobility often encompasses more than one, and often all three needs. Shopping, for example, covers two elements both having (the need to purchase goods) and loving (the social nature of shopping). In many cases shopping would often be combined with a social trip, for example, a visit to a cafe to interact and meet with others.

<Insert figure 1.2 about here >

Needs based approaches can be criticised for their rather individual and static nature. We, do we always know what we need, and are therefore unable to articulate needs in a study or indeed be explicitly motivated by them in a day-to-day stance. Requirements can also be needs generated or uncovered as we interact with the environment around us but not recalled

in a static interview for example (see chapter by Curl , Tilley and van Cauwenberg for the benefits of mobile methods in this respect). This can lead to approaches that bring in wider social processes that may interact with the individual, for example ecological approaches, where the individual is part of a wider social process and interacts with the environment around them. Webber et al (2010) devised a conical shaped model based on ascending levels from the individual, their room, then their home outwards through neighbourhoods and neighbouring areas to the world. Each layer has five determinants (cognitive, psychosocial, physical, environmental and financial), with gender, culture and biography (personal life history) viewed as cross-cutting influences. Webber et al (2010) stress that mobility is literally moving oneself (e.g., by walking, by using assistive devices, or by using transportation) within these environments from home, to neighbourhood, and regions beyond. Each of the five determinants affect that mobility in different ways, creating barriers and enablers to moving through the different layers. Musselwhite (2016) has devised an age friendly transport system approach utilising Bronfenbrenner's (1979, 1989, 2005) ecological model, to show how different elements of the environment interact with each other and impact upon the individual and are impacted upon by the individual. Musselwhite's (2016) model starts with the person in the centre, with concentric circles spreading outwards to laws, policy and plans at the outside, connected at the neighbourhood and public and community transport provision between them (see Figure 1.3). A major issue with ecological approaches is simply how complex they can be, with many interacting layers. Their complexity can make implementing interventions aimed at improving mobility for older people hard to identify where in the structure and in which layer interventions should be targeted. Nevertheless, ecological approaches useful picture of how differing factors interact with one another and it is important to recognise the interactions and impacts of multi-scalar factors. Socio-

ecological models have also become popular in health research as the broader social determinants of health are recognised from a health promotion perspective.

<Insert figure 1.3 about here>

Technology, ageing and mobility

Technology has a large impact on mobility across the lifecourse, and can become particularly pertinent as we age. Technology might be transport related, such as real-time travel information or autonomous cars or non-transport technologies which impact on mobility. For example, changes in shopping behaviours due to increase in use of cars and fridge-freezer technology, and internet shopping. Technological changes are almost always discussed in positive terms, through reducing wasted time, physical effort and improved efficiencies. Questionable as that may be, it is even further debatable as to whether technological advances improve mobility and accessibility, especially when considering older populations. For example, although out of town shopping can reduce overheads for retailers, potentially leading to cheaper goods to the customer, the external costs are passed on to society through increasing car-based travel and reducing the amount of shopping in city, town or village centres. Older people who may have restricted mobility may suffer from declining local services and shops as they agglomerate on motorway or road corridors inaccessible to those without a car themselves, increasing exclusion, loneliness and isolation. Without appropriate governance, electric vehicles and driverless cars are likely to further perpetuate, or at least not restrain hypermobility. Additional information, such as real-time bus information and travel information apps can be beneficial to older people, though older people are the group still most likely to value the importance of talking to people. They are more likely to trust information if it is given from authority figures, for example bus drivers and railway staff,

and like the staff to be friendly and approachable (Musselwhite, 2011, 2017a). Pangbourne's contribution to this volume covers the theme of technologies, mobility and ageing in more detail and Fitt takes a critical perspective on emerging transport technologies.

Changes in telehealth, telemedicine and Mobile e-health mean literal visits to the hospital and doctors can be reduced or in some case eliminated altogether. Access to healthcare varies considerably across different countries and regions. An extreme example is Africa, where huge inequalities exist in provision healthcare especially between rural and urban areas. The dispersed nature of populations and healthcare in Africa have resulted in the World Health Organisation promoting e-health projects aimed at crossing the physical accessibility to healthcare (see Porter, Tewodros and Gorman, chapter for examples).

Parkhurst et al's (2014) linear model of mobility places mobilities aided by technology in relation to literal or corporeal technology. They note literal mobility might only be one of the elements where mobility in later life functions, providing a continuum from linear to imaginative through potential and virtual domains. In a hypermobile world, mobility gets most attention in the literal or corporeal domain, where mobility equates to the moving of individuals across space. However, people are also related to their mobility through potential, virtual and imaginative mobility and these need attention in the literature. The pervasive nature of the perception that mobility can occur anytime and anywhere is encapsulated by potential mobility (Metz, 2000). The car sitting on the drive waiting to go out should the individual need it can be as important as actually doing the journey itself, termed by Nordbakke and Schwanen (2014) as motility. Literal mobility can be supported by or substituted with virtual mobility or accessibility, the ability to complete shopping online, chat to family and friends, view webcams or to have health appointments without literally having to move large distances, to be virtually present in places and even virtually co-present with others is easily satisfied with technology. Though the question remains what is missed from

not literally being immersed in the place or co-present with others that are not there in a virtual connection. We should also consider what is missed in terms of physical activity, which is important for health and wellbeing across the lifecourse, but can become particularly important for older adults. Finally, imaginative mobility encapsulates two different propositions, (1) connection to distant mobility through reminiscing and imagining the places visited and (2) connection to the outdoors through interacting with the world from a distance. Ziegler and Schwanen (2011) provide a similar taxonomy in their study of older people in County Durham. They propose five elements of mobility: (1) Mobility practices is literal mobility (2) mobility of the self, its the disposition to connect to the world; (3) attitudes to mobility and relationship of self to mobility; (4) imaginative mobility is where memory and imagination link mobility and the self through recollection or construction and; (5) electronic mobility, using internet, telephone and television to maintain mobility needs. Mobility practices equate with literal mobility in Parkhurst et al's (2014) model, showing the importance of literal and temporal practices to maintain daily life. Mobility of the self is similar to Metz (2000) and Parkhurst et al's (2014) potential for travel, but is linked more towards a will to remain connected socially than to a specific form of transport. Electronic and imaginary mobility clearly map to virtual and imaginative mobility proposed by Parkhurst et al (2014). Virtual and imaginative mobility are both explored in more detail in the chapter by Dowds et al.

Geographical perspectives

Transport geography has been called both peripheral (Hanson, 2000) and central (Shaw and Sidaway, 2011) to debates in human geography. The chapters in this book demonstrate that transport and mobilities are critical when considering ageing. In calling for human geographers to engage with transport more explicitly, Shaw and Sidaway (2011) argue that much geographical work implicitly relates to transport, but is undertaken by those who would

not call themselves transport geographers and as such transport is often considered as a given rather than scrutinised. Given that mobility and transport are central to many of the issues of ageing populations, we would argue that geographical gerontology is one such field where transport is implied and underlies the issues but is not given explicit consideration. For example, Andrews et al (2009) outline five key areas where geography and gerontology intersect: space and the macroscale; population ageing and movement; services, planning and policy; health and living environment, and; place and the micro scale. Transport intersects all of these domains, yet is not mentioned at all in the review and mobility is only mentioned in relation to migration. There is no mention of the importance of older adults' daily mobilities, despite this being core to many the areas of study mentioned. Andrews et al (2007) suggest that geographical gerontology has moved beyond concerns of health to consider social and cultural aspects of older people's lives. In a similar vein, transport geographers increased engagement with the mobilities literature means that greater attention is given to social and cultural aspects of travel. Given the broader convergence of research around transport and health, a volume dedicated to the geographies of transport and ageing is a timely contribution to contemporary debates in transport geography, geographical gerontology and human geography more broadly. Issues of transport and ageing relate to many other sub-disciplines within human geography, including but not limited to: geographies of health and wellbeing; emotional geographies; urban geography; rural geography; memory research. This is not therefore a transport geography or gerontological geography volume, but presents a broad range of human geographical perspectives on transport and ageing, which we believe are topics around which geographers from a range of sub-disciplines can converse and provide critical analysis on transport, new transport technologies and the health and wellbeing of ageing populations.

Although transport geography has been critiqued for its generalist and positivist approaches, the importance of context, situation and place has grown in recent years (Schwanen, 2017). It is this consideration of the social, temporal and spatial variation in transport and ageing which the chapter in this book contribute to. Much of the emergent research on the role of the built environment (including transport) and health and wellbeing takes a deterministic approach to the cause and effect (Andrews et al 2012; Davison and Curl, 2014; Schwanen, 2016). The need to move away from separating contextual and compositional influences on health and recognise diversity of relationships between people and place has been highlighted (Cummins et al, 2007).

We have divided this collection into sections. The chapter along with the following two chapters set the context for what is to follow. Minton and Clark analyse generational changes in car based mobility, paying attention to gender and income differences. Next, Pangbourne reviews issues relating to older adult's transport and technology, a theme which is drawn out in many of the following chapters. Although we have divided the following two sections into rural and urban geographies of ageing, it is important to be clear that this is a continuum. The 'rural' chapters focus on empirical work undertaken in rural areas in Tanzania (Porter, Tewodros and Gorman) and Scotland (Dowd's et al.) and both consider the role of virtual or imaginative mobilities. Next, three chapters focus on work undertaken in more urban environments. Van Cauwenberg, de Geus and Deforche discuss environmental and social factors influencing cycling; Munshi, Sankar and Kothari focus on the urban built environment and mobility in India and finally, Curl, Tilley and van Cauwenberg discuss approaches to researching urban environments through go-along interviews. In the final section two chapters explore the future of ageing and transport. First, Fitt takes a scenarios approach to discussing what implications autonomous vehicles might have for ageing populations and finally Phillips and McGee discuss policy context and policy implications.

Although we have divided into these sections, there are some clear themes running throughout the volume relating to technology, health and wellbeing, virtual mobility, co-production, safety and security, relationality, intergenerational intersectionality, gender, perception and meanings, power and autonomy. These themes highlight the contribution of geographical perspectives to understanding the diverse, heterogenous and complex issues of transport daily mobility in an ageing society.

Conclusion

Studying older people's transport and mobility using a geographical lens highlights the importance of conceptualising mobility as wider than the traditional practical, utilitarian and deterministic approach. While literal mobility is important, over concentration on it continues to fuel hypermobility; be reinforcing the needs for high levels of mobility to remain connected to society and to the things we want to do as we age. Transport has been described as both liberating and enslaving (Shaw and Sidaway, 2010) and we can see this in particular when discussing transport and ageing. While movement and mobility in itself is important for social connectedness, physical fitness and therefore for physical and mental wellbeing, hypermobility and the demands of needing to travel further create issues of isolation and exclusion for those who do not have the means or ability to travel. Instead of thinking about how we can continue to be mobile, more consideration needs to be given to thinking about how social, political and physical environments can allow ageing populations to maintain accessibility, while moving less (Shaw and Sidaway, 2011).

Older adults' daily mobilities involve affective, emotive and psychosocial components. It sits within wider social contexts, being part of imagined or virtual and technological societies. Understanding mobility suggests mobility itself is important but sometimes less is more and depth over breadth can be a rich and rewarding for older people. Re-imagining mobility in

terms of small, local, short movement in the neighbourhood reintroduces a need to look at how technology can support longer mobility and how we need to focus in on walking and cycling to support literal mobility. Planning for mobility for older people needs to take into account an ageing society. To fully embrace mobility in its geographical context then a change of research question and focus is often required, not to understand how we can prolong and maximise distances travelled but to look at improving and enriching local nuanced mobilities, looking to improve accessibility rather than simply adding more mobility.

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