

Transport-Related Social Exclusion amongst Older People in Rural Southwest England and Wales

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Abstract

Rural dwelling and older age are both associated with a higher risk of social exclusion, with accessibility identified as having an important facilitating role. The interactions between transport-related exclusion and older age, particularly in a rural context, are considered through analysis of quantitative and qualitative data collected from 900 older persons living in rural areas of Southwest England and Wales. Although few respondents reported feeling excluded within their communities, more reported difficulties in accessing specific necessary and discretionary activities, including specialist hospitals and cinemas. Analysis revealed that car availability is not a strong indicator of overall inclusion, although non-availability was important in limiting access to particular types of location. It is concluded that the relatively short travel distances required to access community activities was a key factor in the high levels of community inclusion. However, the car dependent nature of travel overall means that there is a rising risk of mobility-related exclusion in rural areas, particularly amongst the oldest old. Greater consideration needs to be given to more formalised lift-giving as a transport solution, along with greater attention to mobility needs by sector-specific service providers, such as the health sector.

Keywords: social exclusion; older people; mobility; transport

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1. Introduction: importance of transport in social exclusion mechanisms

The focus of this paper is the susceptibility to transport-related exclusion of older people (defined as those over the age of 60) who live in six rural areas of the UK, a state fairly typical of the developed, industrialised states in terms of its demography and socioeconomic characteristics. The relationships of age, rurality and exclusion are examined conceptually, through exploring some of the sociodemographic factors pertinent to this group, and then tested empirically.

The last two decades have seen the development of a greater understanding of the concept of social exclusion and of the relationship between exclusion and mobility. Central to this is the acknowledgement that such exclusion is not purely driven by, or solely associated with, a single factor such as poverty, and that instead it is multifaceted (Church et al., 2000). Church et al. identified seven specific aspects of exclusion: *physical, geographical, distance, economic, time-based, fear-based, and spatial*, all of which can be seen to have a mobility component. Gaffron et al. (2001) emphasised the importance of transport in facilitating social participation, followed by Kenyon et al.s' (2003a) development of the concept of multiple factors to explicitly include mobility as one of eight potential mechanisms of exclusion: *economic, societal, social network, organised political, personal political, personal, living space, temporal and mobility*. Not only was mobility now included, but it was seen to be a particularly important factor, as a consequence of the role that movement in space played in facilitating production, consumption and participation in social interaction. Thus mobility had the potential to affect the other drivers of exclusion: not having mobility could be seen as a denial of access to necessities such as employment, healthcare or education. Importantly, these authors also noted that the car was increasingly being seen as the most significant manifestation of mobility: the mode of transport which would allow social and economic

participation and inclusion. In a subsequent paper the same authors took this one stage further, and defined exclusion with an explicit reference to the role of mobility (as potentially the most important factor):

“[Exclusion is the] process by which people are prevented from participating in the economic, political and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or part to insufficient mobility in a society and environment built around the assumption of high mobility” (Kenyon et al., 2003b: 210).

Interest in the link between mobility, transport and exclusion amongst UK policymakers (e.g. Social Exclusion Unit, 2003) led to the introduction of an ‘accessibility planning’ requirement into the statutory transport plans prepared by most English local authorities. The accessibility planning approach required local authorities to undertake quantitative assessments of the travel time required to reach the nearest location of certain goods and services identified as essential. The approach could be criticised for being overly-deterministic and tending to focus on the average citizen; for example not taking into account the range in abilities of citizens to reach bus stops nor allowing for personal choice over the particular instance of an activity type that a citizen might want to reach, such as a particular brand of supermarket. The mid-2000s can now be seen as representing the high point in the UK of accessibility planning as a systematic tool to reduce inequality. Following the 2008 Local Transport Act the Local Transport Plan process was made more flexible to local choices in terms of timescale and content of the plans, and formal accessibility assessments were replaced with a much more general requirement to conduct an Equality Impact Assessment (Department for Transport - DfT, 2009). Similarly, the definition of exclusion used by the UK government department responsible for local authorities (Communities and Local Government - CLG) does not make explicit reference to the role of mobility, although its fundamental role can be surmised:

“... the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole” (Levitas et al., 2007: 9).

One further and important point to note in respect of the role of mobility in exclusion is the dynamic nature of the relationship. As society becomes more mobile, so there is a greater risk of exclusion for those who are less mobile (Kenyon, 2003c), as well as those who cannot keep up with growing levels of mobility within the wider population (Lucas, 2010). This ‘being left behind’ can result in reduced accessibility to the key services and facilities that people need, and the social participation they desire. As will be seen below, this view has particular importance for rural areas, and particularly for certain sub-groups of older people, if they are posited as potentially one of the less mobile groups in the population.

2. Interactions between mobility-related exclusion, older age and rurality

Nearly 20% of England’s population (some 10 million people) lives in rural areas, approximately half in small towns, and half in more dispersed settlements (Commission for Rural Communities - CRC, 2010). Less than a fifth of outlets for most services are located in those rural areas, though, suggesting that, other things being equal, rural-dwellers have to travel relatively far to access most services. CRC (2010) in its ‘State of the Countryside’ annual report found that for services such as hospitals and pharmacies the share of outlets in rural areas is just 11%, and for banks and dentists, 12-13%. Other services were more evenly distributed across space, with the supply of convenience stores and doctors’ surgeries matching overall the 20% of demand. Considering the number of citizens within certain

distances of facilities, CRC (2010) identified that while 80% of rural households are within 4 km of a doctor's surgery, only 70% are within that distance of a pharmacy, 60% a dentist, and only just over 50% within 8 km of a hospital. In respect of access to food shops, 60% are within 2 km of a convenience store and within 4 km of a supermarket, 75% within 4 km of petrol station, and 2 km of a post office. Whilst there has been a decline in numbers of outlets for various services in both urban and rural areas over the last decade, the equivalent figures for urban households are all in the 90-100% range. Whilst providing a useful summary comparison, however, these averages tell nothing about how far the large minorities of rural residents not living within the specified ranges need to travel.

In a small number of instances it was found that rural areas experience better provision than their urban counterparts, for example in respect of fuel filling stations and post offices. Historically, there have been both market and political pressures to ensure that services identified as essential are available within a maximum distance, independent of population density, and to some extent, even in a more market-oriented economic context, political and media pressure perhaps limits the rate and pace of centralisation. Innovation in service delivery has also in some cases resulted in services being retained or enhanced: CRC (2010) reports an increase in doctors' surgeries in rural areas through 'outreach' services, whilst the rise of automatic telling machines (ATM) has benefited rural areas. Overall, though, the analysis indicated a negative trend in accessibility for most services in rural areas. The consequence is that greater mobility is required of rural-dwellers to achieve access to most of these destinations: people in rural areas travel approximately 40% further than people in urban areas. Almost all of this extra distance travelled by rural residents is by car, either as a driver or as a passenger (CRC, 2010).

Although it is likely that the need to travel further is offset to some degree by higher average car speeds on less congested and regulated parts of the road network, the need to travel greater distances nonetheless has cost implications which may be suppressing some travel in rural areas; resulting in mobility restrictions for some rural residents. In an analysis of needs-based living costs, Smith et al. (2010) found that greater transport costs accounted for 60-100% of the excess expenditure by rural residents over urban equivalents. Although people in some social groups living in rural towns did not face higher living costs than urban comparators, due to car ownership being considered essential in these lower-density contexts, those living in more dispersed settlements could experience unavoidable living costs that were 20% higher. Referring to the 'Living Costs and Food Survey'³ conducted by the UK Office for National Statistics, the CRC also notes that people across income groups in rural areas spend more on transport (motoring costs, public transport and taxi fares) than their counterparts in urban areas, with those in more dispersed settlements typically spending approximately 20-30% more than those in urban areas. For those in the lowest income quartile, the weekly spending on transport can be almost double that of urban areas. The report also finds there is a much greater propensity for rural people to own and run cars, and in many rural areas (especially in the south of England), there are very high proportions of households with cars over five years old, potentially less efficient to run than more recent models, but cheaper to purchase.

In addition to the greater travel time and money costs of rural living, transport-linked quality of life effects in terms of health outcomes - both physical and mental - can also be identified. For example, there is evidence that people in rural areas suffer poorer outcomes than people in urban areas for diseases such as cancer and diabetes, with people seeking diagnosis later in

³ The Living Costs and Food Survey (LCF) collects information on spending patterns and the cost of living that reflects household budgets across the UK. The primary uses of the survey are to provide information about spending patterns for the Consumer Price Indices, and about food consumption and nutrition.

their illnesses, partly as a result of mobility constraints (Deaville, 2001). In respect of mental health, having a role outside the home and family (requiring some degree of mobility) is seen to protect against isolation, depression and dementia for older people (McCormick, 2009), whilst Victor et al. (2005) identify 'lack of transport' as one factor leading to such isolation. Inadequate mobility can also be seen to have wider impacts beyond individuals, potentially also affecting their communities. For example, people aged 65-74 are the group in society most likely to be involved in voluntary activities (CLG, 2010), but mobility deficits could impair their ability to engage and take part. Yet participation in such activity is seen to produce many social (and economic) benefits for a community, such as greater social cohesion and reduced exclusion. It may help create a stronger sense of identity and 'place', an effect which it is suggested can be stronger in rural locations (Moseley et al., 2007), and provide individuals and their community with greater capacity to "overcome adversity" (Stanley et al., 2010).

The greater vulnerability of rural areas in accessibility terms combined with the evidence of the growing remoteness of services in the UK may result in greater demands on rural-dwellers' mobility. Coupled with this trend is the fact that the demographic profile of rural populations is also ageing. The UN (2009) has noted that in the more developed countries, such as the UK, the over-60s already make up one-fifth of the population, and by 2050 this may be one-third. In Europe specifically, the forecast is for older people (those 60 and over) to be 35% of the population in 2050. The proportion of older people in rural areas in these states has also been growing at a faster rate than in urban areas, up from 17% in 1975, to 23% in 2005, compared to 15% and 19% in urban areas. In 1975, Sweden was the only developed country with more than 25% of its rural population aged 60 and over, but by 2005 ten countries, including the UK, had reached this level. CRC (2010) found that the median age of rural England is older than for the country as a whole; 44.4 years in rural areas and 38.5 in

urban areas in 2006 (CRC, 2010), both as a consequence of there being a larger proportion of older people, but also a smaller proportion of those in the 16 to 29 age group. Indeed, in many of the less densely populated rural areas in England it is now the 60 to 74 year-old age group that is the most populous. It is though the oldest-old whose number is growing at the fastest rate nationally, with those over 85 forecast to increase from 1.3 million in 2008 to 3.3 million in 2033 (ONS, 2009).

In considering the implications of an ageing rural population, it could be argued that, for many, the need for greater and growing mobility is limited as a problem by access to cars. However, the rising economic cost of car use may not be affordable for all. Incomes are often inflexible for older people; for example if they are pension-related. Moreover, as a result of physiological change, the physiological capacity to move the body and operate machines will often be subject to some decline, affecting capabilities to walk, drive personal vehicles and access public transport. Hence, the remainder of this paper will focus on older rural residents' abilities to access the necessities in life, such as health services, shops, or even cultural facilities, and their inclusion in their immediate local communities through participation in social activities.

3. Methodology

The data underpinning the analyses reported in this paper are drawn from quantitative and qualitative data collection carried out in Southwest England and Wales in 2009-2010. 920 people over the age of 60 completed a quantitative survey in six different rural locations, with thirty-eight of them then taking part in semi-structured interviews lasting about an hour. The data-collection was carried out to help understand community connectivity, including satisfaction with community involvement, and access to practical necessities and social

opportunity for older people in rural areas. The six rural areas studied represented a gradient of three levels of rurality adopted by the UK Government’s Department for the Environment, Food and Rural Affairs (DEFRA) as described below in Table 1.

Table 1: Classification of study areas

Area type	DEFRA Rural Classification*	Study Areas
A	‘Rural-80’. Districts that have at least 80% of their population in rural settlements and large market towns.	North Cornwall (England) Dyfed (Wales)
B	‘Rural-50’. Districts that have only between 50 and 80 percent of their population living in rural settlements or large market towns.	North Dorset (England) Powys (Wales)
C	‘Significant rural’. Districts that have more than the national average of 26% of the population living in rural settlements	Gloucestershire (England) Monmouthshire (Wales)

*DEFRA (2010)

The quantitative survey sampling followed a stratified random-sampling approach, and broadly reflected the national age-structure for over 60s in rural areas in Southwest England and in Wales, with a small bias towards women in the gender split. Participants were contacted at their residences, face-to-face, with the interviewer-completed survey lasting around 30 minutes. Respondents were presented with a series of statements on the subject of ‘belonging’ in their communities, which they were asked to agree or disagree with. One of these statements explicitly referenced exclusion, stating ‘*I often feel excluded within my own community*’. Separately, people were asked to respond ‘yes’ or ‘no’ to the statement that they were ‘*as involved as you would like to be in your community*’. The survey also asked a number of more specific questions about community involvement and participation, including the types of activities undertaken, and how far respondents typically needed to travel in order to take part in such activities. Barriers to involvement were also examined through

respondents being asked to identify the severity of each as experienced. One of the eight barriers offered to respondents was a 'lack of access to transport'. The final area of questioning pertinent to this paper was to gain an understanding of the level of problems experienced by people in reaching a range of services and facilities – many of which might be considered 'necessities' of life, such as food shops or health services.

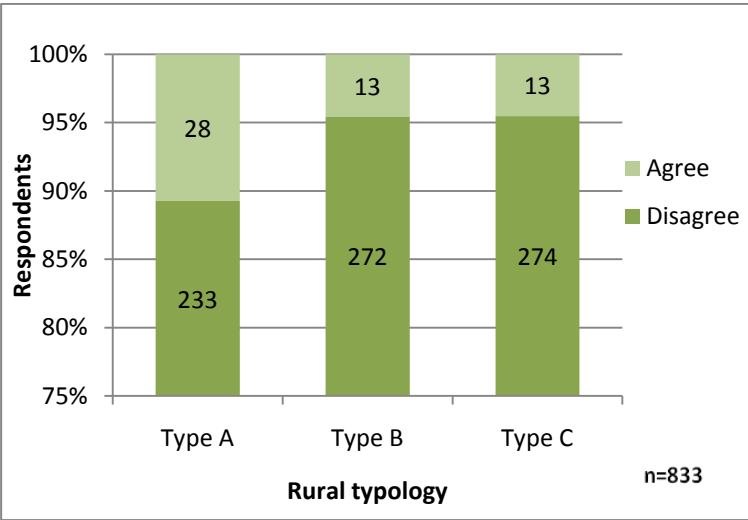
The qualitative interviewees were selected from the quantitative sample according to willingness to participate in the follow-up and according to reported use of a range of mobility options. Four members of the qualitative sample had agreed with the statement in the quantitative survey that they were often excluded in their community and eight expressed a high degree of difficulty in accessing at least one of the twenty 'necessities'. The interviews covered a wide range of issues, but with a focus on the role of transport, both in supporting older people's quality of life, but also their participation in the local community.

4. Findings: Incidence of Mobility-related Exclusion

4.1 Incidence of self-reported exclusion

For participants of the quantitative survey 'community' was simply identified as 'the community in which you live' and was not further defined. It is assumed that for most respondents that this was interpreted as meaning the immediate spatial community based on the nearest village or rural town. In response to the statement '*I often feel excluded within my community*', a simple majority '*disagreed*', but 51 older people (6%) did agree that they were excluded, and another 53 people responded that they '*didn't know*'. Considering the influence of degree of rurality on self-reported exclusion, Figure 1 shows a difference between the two Type A study areas (in which 10% of people reported they were excluded) and the other two types of area (in which less than 5% agreed). The difference was statistically significant (X^2 15.236, df 2, $p > .001$).

Figure 1: Self-reported exclusion by degree of rurality



There were no statistically significant differences between the age groups 80+, 70-79 and 60-69 in the acknowledgement of exclusion. Notably, access to a car in the household also did not have a statistically significant relationship. A slight but significantly higher percentage of people (8% as opposed to 4.5%) reported exclusion when they did not have home access to the internet (X^2 6.361, df 2, $p > .05$).

4.2 Satisfaction with involvement and participation

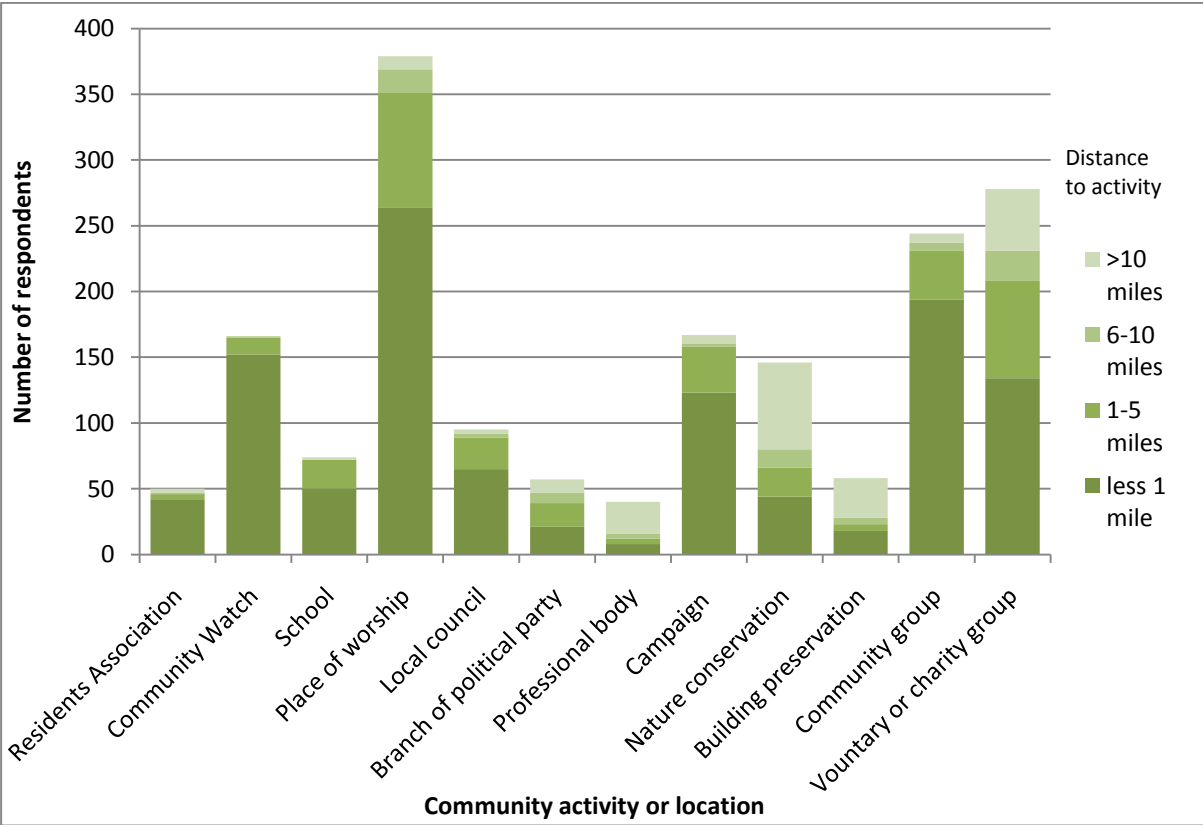
The clear majority of respondents (83%) reported satisfaction with their levels of community involvement, but 17% (over one hundred and fifty people) declared that they were not. There is a caveat to this latter finding though: the survey did not identify if this unmet involvement resulted from problems in reaching activities or was due to a lack of available activities in which to participate. The results were very similar across all three types of rural area, with no statistically significant differences. There was a statistically significant age effect (X^2 18.302, df 3, $p > .001$), with nearly 25% of those over the age of 80 expressing that they were not as involved as they would like to be, compared to around 15% for those in their 60s and 70s. It was also the case that whilst only 16% of those with access to a car were not as involved as they would like to be, 27% of those without access were not (X^2 8.032, df 1 $p > .01$).

'Participation' was introduced in the survey both in terms of participation in twelve kinds of event organised by a range of political, voluntary, educational, residents', religious and social groups (identified by the x-axis labels in Figure 2) and in terms of specific engagement actions such as signing a petition or contacting a councillor. The importance of transport to involvement in community activities was considered. Some 78% of the respondents stated that transport was not a barrier to participation (n = 697, as the response rate was lower for this survey item). Of those that reported that transport was a barrier, 10% of respondents reported a '*moderate limit to participation*', a further 5% a '*severe limit to participation*' and 7% that it '*stops me getting involved*' in community activity. Several of the other barriers presented to respondents were given greater weight than transport as the causes of reduced or restricted participation, including lack of interest and lack of time. For transport as a barrier, there was no significant difference between responses from different rural area typologies, although as in the case of involvement, there was a statistically significant difference in responses by age group (X^2 88.269, df 9, $p > .001$): nearly 45% of those over 80 reported that they were experiencing at least some limit to their participation as a result of a lack of transport, compared to just 20% of those in their 70s, and 15% of those in their 60s. In respect of being 'prevented' from being involved, this affected over 15% of the 80+ age group compared to only 5% for other age groups. There was also a strong relationship between access to a car and transport being a barrier to participation (X^2 153.566, df 3, $p > .001$).

4.3 Distances travelled for organised community activities

Survey respondents selected from four distance bands (Figure 2) how far they travelled to take part in the twelve organised activities, with the distance information left blank if they did not engage in that activity.

Figure 2: Involvement in community activities and distance travelled to be involved



Activities involving, or based at, places of worship were the most common, followed by voluntary or community activities. Those related to nature and building conservation or professional bodies are engaged in at a lower frequency, and predominantly take place further afield. Overall, though, it was notable that most reported community activity was taking place at a relatively short distance from respondents’ homes: 63% of the reported activities were taking place within approximately 1.5 km and 83% within approximately 8 km.

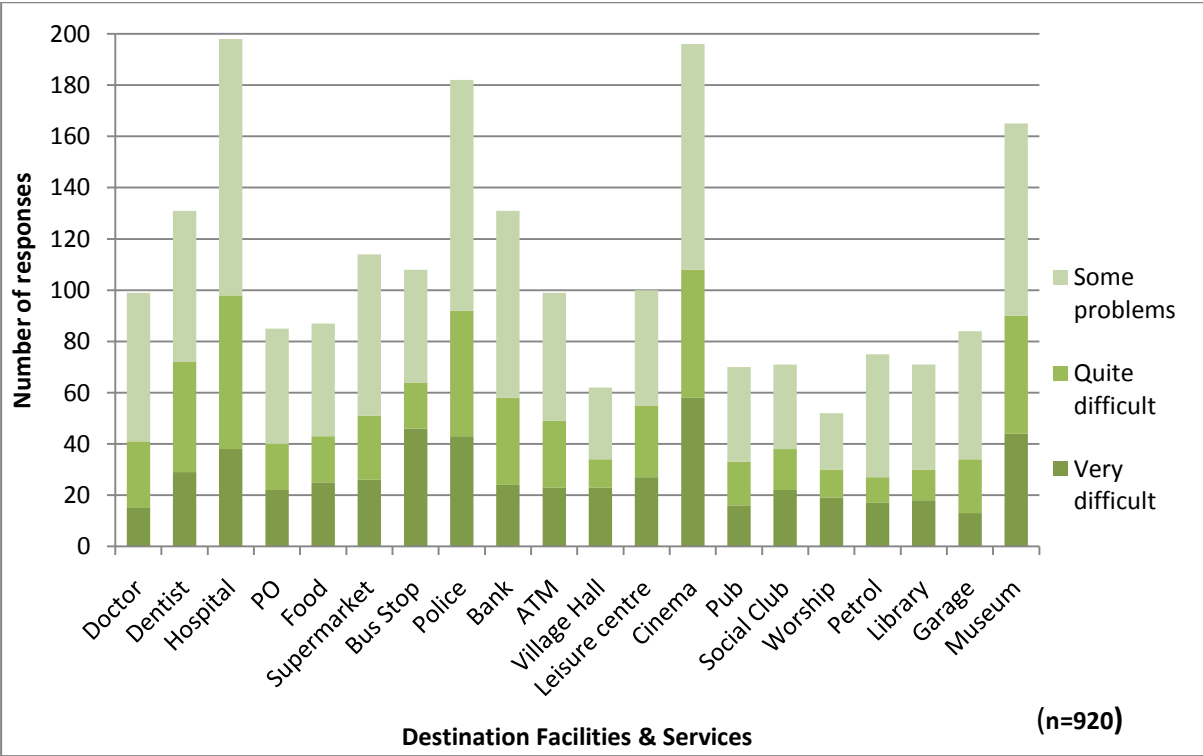
4.4 Access to ‘necessities’

Turning to consider data from the more ‘traditional’ transport-exclusion approach, survey participants were asked to indicate the level of difficulty they experienced in accessing a range of facilities and services, such as shops, health services, financial institutions and

cultural activities. Although the question sought to capture actual experience, it may also have recorded some perceived rather than experienced difficulty.

Some four hundred people responded that they had ‘some problems’ in accessing at least one type of destination, with one hundred and fifty-nine individuals reporting ‘very difficult’ against at least one of the twenty destinations. Twelve people had some degree of difficulty against all twenty destinations. The responses are presented in Figure 3 below.

Figure 3: Reported difficulty in accessing services and facilities



Over 20% of the survey participants reported experiencing problems in accessing a hospital, a topic that was also evident in the qualitative interviews. Even though some of the areas had a small, local hospital, the access problem could relate to the treatment of more serious conditions, such as heart disease or cancer, ailments which have a higher incidence with age, and often require access to specialist equipment and treatment in larger hospitals:

It would be nice to have hospitals closer. I did worry when I first had the heart thing that I might die in an ambulance with somebody thumping my chest on the way... (Male, Dyfed, aged in 60s)

Nearly as many people reported problems in accessing the police, and almost 15% of the sample (one hundred and thirty people) had problems with a bank or a dentist. There was also a strong response in relation to access to cultural resources and facilities, with ‘cinema’ also recording nearly two hundred responses, and ‘museum’ over one hundred and fifty. This was also reflected in the interviews, although, as seen in the following quote, some respondents had attempted to overcome some of the barriers:

...because I don't like driving far, we have recently joined something called Culture Vultures which is a local organisation which runs trips from Monmouth, but we'd have to get to Monmouth to go on those wouldn't we? (Female, Monmouthshire, aged in 70s)

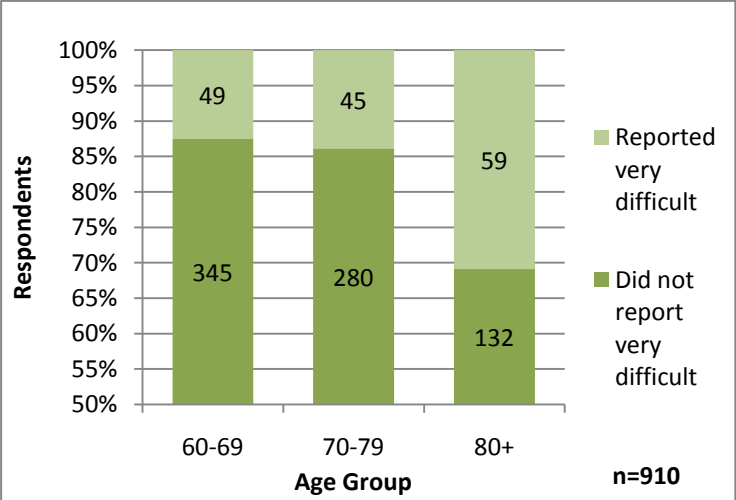
Although it was only a few miles to Monmouth, this would involve driving, and potentially driving at night, something which this particular interviewee was not comfortable with. Thus she and her partially-disabled husband were likely to be prevented from engaging with this activity.

Access to places of worship and village halls were the least problematic of the 20 locations identified, apparently reflecting the fact that churches have been historically ubiquitous and persist in most rural communities, even if with more limited formal services than in the past. In line with the relatively wide availability noted in Section 2, Figure 3 confirms that access to a post office was not particularly problematic. Lastly, given the importance of transport

services for accessing other locations, it was notable that accessing bus stops presented an intermediate level of difficulty.

There was no statistically significant association between rural typology and reported difficulties in accessing activities. In respect of age, though, over 30% of the 80+ group reported that it was ‘*very difficult*’ to access at least one service or facility but less than 15% of the other age groups (see Figure 4 below; $X^2 = 41.670$, $df3$, $p < .001$).

Figure 4: Proportions of respondents identifying at least one location as ‘very difficult’ to access



4.5 Relative importance of age, car availability and degree of rurality to accessibility

Hitherto, statistically significant differences have been identified in Section 4.1 with respect to deep rural living and degree to which exclusion was reported, but no significant age or car availability effect was found, whilst Sections 4.2 and 4.4 outline significant differences between both age group and car availability with respect to dissatisfaction with level of

participation and difficulty in reaching essential services, but here no rurality effect emerged. In order to understand better the relative importance and independence of these variables a series of ordinal regression tests were carried out. The analyses (presented in Table 2) evaluate the importance of the predictor variables in relation to self-reported problems in accessing the twenty 'necessary' destinations (ranging from 'no problems' to 'very difficult') as the dependent variable.

As noted in Section 4.4, the responses to the survey in fact reflect both the perceived need to reach the locations as well as difficulty in reaching them. Nonetheless, weak but significant associations were found for the influence of 'age' (included in the model as a continuous variable) in explaining a greater likelihood of reporting difficulties in reaching six of the twenty destinations. Similarly, living in the most rural of the three typologies in the study was also a factor in explaining why people might report problems for some destinations, with this link being significant in eight instances. It is though access to a car which is most strongly implicated as an explanation for why people report more problems in relation to accessing the twenty destinations in Table 2. In this instance, the relationship was significant in all cases. Overall, the R^2 values for the ordinal regression tests suggest that the model explains between 5-12% of the observed effect. There are a number of other factors that might improve the model, for example 'health status', which were beyond the scope of the present paper.

Examining the location-specific findings arising from the regression model, the destinations that were significant in respect of age included 'doctors', 'food shop', 'bus stop', 'financial services' and 'place of worship'. Arguably, these are the necessities of life which do not diminish with increasing age, and thus potentially health issues and reducing access to a car may emphasise that reaching them has become a problem. The destination that age is most likely to explain problems with was 'bus stop', again perhaps reflecting the need to use public bus services in older age.

Table 2: Ordinal regression for variables age, car access, and rurality in explaining reported difficulty in reaching locations

Destination	Age	No access to a car	Living in Type A rural area
Garage (for car repairs)	.008	1.251***	.298**
Petrol Station	.005	1.241***	.251*
Cinema	.011	1.125***	.044
Museum	.000	1.016***	.281**
Social Club	-.008	1.005***	.186
Leisure centre	.007	0.896***	.109
Place of worship	.019*	0.834***	.063
Public House	.007	0.817***	.3**
Cashpoint (ATM)	.013*	0.777***	.137
Supermarket	.012	0.771***	.122
Community centre	.004	0.769***	-.128
Police Station	.006	0.74***	.030
Post Office	.012	0.739***	.376***
Doctors	.013*	0.701***	.218*
Library / Mobile Library	.006	0.647***	-.033
Dentists	.009	0.638***	.349**
Food shop	.016*	0.634***	.244*
Bank (or Building society)	.014*	0.634***	.170
Hospital	.007	0.565***	.164
Bus Stop	.018**	0.487**	.140

*** is $p < 0.001$, ** is $p < 0.01$, * is $p < 0.05$

Living in the most rural area was most implicated as an explanation for reporting problems in accessing a post office, which may reflect the historic limits to the network or perhaps its rationalisation in recent years. Similarly the results for access to ‘public house’, ‘dentists’ and

‘garages’ probably reflect these being essentially private-sector services subject to the economics of operating in more dispersed areas (dentists have increasingly operated in the private sector in the UK in recent years). As noted in Section 4.4, as most rural communities still have some form of church or chapel, it is not surprising that being in a remote rural area does not, for many, result in problems with access to a place of worship. The remainder of the destinations exhibit broadly similar coefficient scores and significance values, confirming perhaps that the car is the *de facto* mode of access in rural areas, for most older people on most occasions.

5. Discussion: Overcoming mobility exclusion

5.1 Rural mobility exclusion revisited

The empirical findings and analyses have confirmed the importance of mobility as a mechanism in social exclusion. In respect of self-identification of overall exclusion within the community, those affected are confirmed as a small minority of around one in twenty. For this broad measure, encapsulating all conceptual mechanisms identified in Section 2, degree of rurality did emerge as a contributory factor. However, considering the role of accessibility within exclusion, the effect of degree of rurality was not strong. The differences between rural area types in the ease of accessing social activities and necessary activities were not significant overall, although living in the most rural areas possibly does play a small role in explaining greater difficulty of access to specific necessary activities.

For participation in community activities, responses from the survey suggested a significant problem for almost one-in-six respondents. One reason for transport options not being an important barrier for most people accessing social activities was the relatively short distances being travelled; rather shorter than the indicative average distances reported by CRC (2010) that rural residents live from essential facilities. Moreover for access to ‘necessities’, nearly

half of the sample reported some degree of problem in accessing one or more service or facility, but the destinations which stood out as creating access difficulties were the more specialised, remote activities – some essential and some discretionary – rather than local community destinations. Hence, mobility deficits are more likely to lead to exclusion from specific aspects of societal activity rather than the local community overall. Indeed, the relatively consistent response across the rural types in respect of community involvement and activity suggests a degree of community ‘self-sufficiency’ in social terms. However, as overall social exclusion was the one measure showing a rurality effect, there may be a perceptual dimension to exclusion arising from living in remote rural contexts, which might be summarised as ‘not knowing what you are not missing’.

The mirroring of the age and car access findings together with the results from the statistical model indicate that age is both a direct and indirect factor. A direct mechanism is that health and physical capability tend to be lower for the 80+ group so they are likely to be less able to make use of active travel modes, including walking to a bus stop, and thus require door-to-door motor vehicle transport even for short journeys within their communities. At present this group is numerically smaller than the other age cohorts, but as noted above is forecast to grow strongly in coming decades.

An indirect mechanism is that car availability facilitates ease of access for many, but the oldest old age group enjoy lower car availability. It remains a moot point how far a cohort effect is relevant here (Shergold and Parkhurst, 2008): whilst many of the current oldest old have never possessed driving licences, most current older motorists in any case end their driving careers prior to 80 (Rabbitt et al., 1996), and safety regulation and economic factors are likely to constrain the growth of the 80+ driver group. As discussed in Section 2, rural people face higher mobility costs, which is for some a factor in exclusion. Rising operating

costs, notably that of fuel, mean that in the UK along with many other countries, motoring costs were at an all-time high at the beginning of the 2010s. For many older people the car is an essential expenditure and other areas of spending would be sacrificed before motoring costs as illustrated in the following interview quote:

We shall probably cut back on other things, I don't know what? To me, motoring and things like heating are essentials that you can't really avoid.” (Male, Dorset, Aged in 60s).

And for those without cars available, hiring taxis will also be an occasional if expensive necessity:

I was taken ill in October and I had to get a taxi, because the ambulance wasn't available I had to have a taxi to Abergavenny to the hospital for further tests, and it was £20 for a single journey. It is only 15 miles, you know. (Female, Monmouthshire, Aged in 70s).

5.2 Enhanced access to transport options

A potentially more affordable option is public transport; a solution traditionally deployed in the form of buses running on fixed routes and timetables. In fact, combating social exclusion was a key justification for providing free bus travel for UK citizens aged over 60, and substantial increases in bus use have resulted amongst this group, in part reflecting the removal of cost barriers, as a proportion of pass users would either not use the bus or not travel at all if required to pay (Andrews et al., 2011). However, an issue raised by a number of interviewees was that this policy can only be effective where bus services are available reasonably near the home, at a suitable time, and going to an appropriate destination, which is not the case for many rural localities. Even when such services do exist, there are often issues with the time available at the destination; in extreme cases the final ‘return’ bus from a potential location may leave before passengers can arrive on an inbound bus. In recent years more flexible forms of public transport such as demand-responsive transport (DRT) have also

been introduced into rural areas. DRT was available in the Cornwall study area and part of the Dyfed study area (i.e., both the Type A areas). In these instances, both services (CorLink in Cornwall and Bwcabus in Dyfed) were initiated or facilitated by external funding; the European Union in the case of the Bwcabus service. Such services can prove to be expensive to maintain unless they can achieve satisfactory levels of patronage (Enoch et al., 2004). It is also the case that the very flexibility of such a service can sometimes prove to be a disadvantage, causing uncertainty about journey times for those that need assured arrivals for appointments, or employment, as cited by an interviewee in North Cornwall:

..I tried to use it to go to work, I work one afternoon a week... and there is a bus that can get there, just about 1 o'clock which is when I start, but not if it goes via St Teth – because then I am half an hour late. I don't mind going via St Teth on the way home, but not on my way to work. It is such a shame I can't use it. I can't guarantee it will get me there. It is a fine service if you haven't got a specific time to get somewhere, or there is ample time no matter which way you go. So you can't really use it for appointments unless you have got ample time to spare. (Female, Aged in 60s, Cornwall)

For some older people though, the advantages are that the service will come to the door (or nearby), and then deliver them to their destination (if truly flexible), although only during service hours, and on service days. In practical terms, there are restrictions on the area in which such services operate, and thus not resolving the issue of accessing the more specialised and centralised healthcare facilities often required by older people. Service operating hours may also preclude DRT from being an appropriate solution for involvement in community activities, particularly if those activities are happening in the evening or at weekends. For example both of the services mentioned above operate from seven in the morning to seven at night from Monday to Saturday, thus giving no coverage later in the evenings or on a Sunday.

Other forms of flexible pre-booked transport operating in some of the study areas were ‘dial-a-ride’ (DAR), generally provided by the public sector for travellers meeting mobility impairment criteria, and community transport (CT), which relies in whole or part on voluntary driver and dispatch staff. For some interviewees, though, these were not seen as modes of transport appropriate for those that wish to retain independence. Comments were made about such services being for ‘older people’, or the ‘less able’, linked to the attitude of not needing (or even wanting) to understand what was available and how to use it until such time as it might become a necessary form of transport for the interviewee. As a consequence, services such as these are perhaps poorly used in rural communities for day-to-day travel needs. As in the case of DRT, DAR and CT are also reliant on charitable and public-sector funding. Limits to funding and volunteer labour generally present barriers to these services becoming a more comprehensive solution. This is perhaps illustrated by an interviewee in Dyfed, talking about the complexities of accessing a cultural and social event:

It's a major operation for some things: we are going with friends to see Mamma Mia at Cardiff when it comes... and we are making plans on how we're going to conduct the expedition to get down there and to come back. (Male, Dyfed, Aged in 60s)

The distance involved and the time of day that the journey would take place might both present barriers to using public transport. Problems such as these are not new though, and there have been other proposals to address some of them. One alternative suggested was the use of ‘shared taxis’, as a form of smaller-scale DRT (CfIT 2008), offering a more flexible, personal, and sustainable rural transport option. To an extent this is similar to options already used for access to healthcare, with patients being collected and driven to hospitals to receive treatment. However, whilst providers of such services are obviously keen to maximise the

utility and financial efficiency of such services, this can have drawbacks, as highlighted by an interviewee in Powys:

Now you can book a hospital car service but if you are having chemotherapy and you're picked up at something like half past seven in the morning because you've got two other passengers, three other passengers they've got to pick up and it's from here to Cheltenham. So you could go to Hereford, you could go all round, then you go in and you cannot come home until the last person's had their treatment and that can be very very [long wait]... if you've had chemo, its evil. (Female, Powys, Aged in 60s)

Informally arranged lifts are an important transport 'service' used by many people in rural areas, but one which is generally not given a high profile in transport policy. However, it was apparent from the interviews that whilst many people appreciated the benefit of lifts, particularly those who were less able to walk any great distance, accepting lifts was also not without its negative aspects, such as the loss of independence through having to adopt dates and times dictated by the lift-giver, or the privacy issues felt by older people when asking for lifts to the doctor or to a hospital, for instance. In many cases people rely on their families as lift-givers, which depending on the particular social relationships can either reduce or exacerbate such problems. Given the financial and practical constraints on extending the reach of public transport, though, it is argued that there needs to be greater policy attention on leveraging the benefits that lifts might offer over-and-above the personal, informal approaches used by most people. Formalised lift-sharing services offered to the general public and to employees have had considerable success but are generally aimed at younger age groups. As illustrated above, there are also some more formal models such as the hospital car scheme, and lift-based transport under the auspices of the community transport provider in one of the Welsh study areas. The authors have also experienced a more informal approach adopted by a

rural doctors' practice in Gloucestershire, where administration staff actively encouraged their more remote, and sometimes car-less, patients to travel together to reach the practice.

Notwithstanding the issues above, such experiences may be applicable to assisting older people in reaching some of the other destination types discussed in this paper.

Lastly it is noted that, given the close proximity of many of the facilities and activities that rural people want to reach, for those that are physically able the active modes of walking and cycling are options for some journeys, and the exercise gained from using those modes has the positive side-effect of maintaining fitness and physical capabilities. Barriers in the walking and cycling environments, though, such as a lack of pavements, cycle facilities, and street lighting, combined with exposure to high motor-vehicle speeds were reported by some interviewees as inhibiting the use of these modes.

6. Conclusions

Despite policy concerns about the quality of accessibility in rural areas, and the multiple risks that older rural citizens face, exacerbated in some cases by declining health and economic resources, a relatively low incidence of self-reported overall social exclusion was found amongst older citizens in the six rural areas. The multi-faceted nature of social exclusion is supported by the fact that the overwhelming majority of those that described themselves as 'often excluded' had access to a car – although this does not imply it is always available, or that the older person can personally drive it or afford to use it. Indeed, those with car-oriented lifestyles and living in car-dependent locations are likely to be particularly at risk of exclusion if the car becomes less available.

Where exclusion and accessibility problems were reported, not having access to a car was the most important explanatory variable of the three examined in the research. Living in the most rural of the areas studied was also a more minor factor in explaining social exclusion and also resulted in greater accessibility problems for a small number of necessary and discretionary travel purposes. Although some significant findings were identified for age as an explanatory factor, this mainly had relevance as an indirect influence on the availability of cars.

Health status and economic resources are also relevant in limiting access to transport options, but these were not considered as an explanatory variable in the current paper. As driving licence-holding becomes more extensive in the over-80 age group then health status is likely in relative terms to become a more important constraint on car availability. Similarly, the rising costs of car use may prove a limiting factor for more older citizens.

Greater transport-related exclusion potential was identified for access to non-discretionary services and facilities than for involvement in more discretionary community activity across all three rural types. This reflected the finding that the communities seemed relatively self-contained in respect of community activities, which tend to be local and flexible about space needs, often taking place in multi-purpose buildings such as church halls, whereas more specialised necessary services still tended to require dedicated premises, and have been subject to reduction and centralisation. As much of the community involvement was relatively local, with the majority happening within 1.6 km of older people's homes, then for some the use of active travel modes potentially offers a means to reduce both mobility-related exclusion and economic-related exclusion whilst enhancing health and fitness. However, improved built environment conditions for walkers and cyclists are necessary if they are to become more important for utility travel in rural areas.

Although only a small minority regarded themselves as socially excluded, the distances involved and range of transport options available in rural areas to access the locations of essential services and some discretionary leisure services led to a large number of respondents identifying accessibility problems. These barriers create potential for exclusion from specific aspects of societal activity. Some 45% of the people studied suggested that they had experienced different degrees of difficulty accessing at least one of the twenty destinations described in the survey. In respect of particular facilities such as hospitals or police stations, this amounted to 20% of the sample, although for access to some other essential services (i.e. doctors, post offices) difficulties were fewer.

Policy options to avoid growing social exclusion amongst rural elders are constrained by the network limitations and inefficiency of traditional public transport systems in low density rural areas. Innovations with more flexible and demand-responsive solutions drawing in part on volunteer labour have remained low-scale and are also subject to fiscal constraints. In practice many older people in rural areas without a car available rely on informal lifts from friends, family and neighbours. Potential is seen for greater formalisation and organisation of these important transport assets. Greater consideration should also be given by the managers of necessary services, such as health services, as to how users will achieve efficient and effective access. Currently a citizen may be faced at one extreme with a potentially-duplicating range of DRT, CT and DAR services (although perhaps none optimised for the specific task), and at the other, with having to organise (and pay for) a long access journey without assistance.

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References

Andrews, G., Parkhurst, G., Shaw, J. and Susilo, Y., 2011. The Grey Escape : How and why are older people really using their free bus pass? Universities Transport Study Group (UTSG) 43rd annual conference. Milton Keynes, England.

Commission for Integrated Transport (CfIT). 2008. A New Approach to Rural Public Transport. Commission for Integrated Transport, London.

Church, A., Frost, M. and Sullivan, K., 2000. Transport and social Exclusion in London. Transport Policy 7, pp. 195-205.

Commission for Rural Communities (CRC), 2010. State of the Countryside 2010.

Commission for Rural Communities. Cheltenham, England.

Communities and Local Government (CLG), 2010. 2008-09 Citizenship Survey - Volunteering and Charitable Giving Topic Report. CLG, London.

Department for the Environment, Food and Rural Affairs (DEFRA), 2009. Defra Classification of Local Authorities in England: Updated Technical Guide. Defra, London.

Department for Transport (DfT), 2009. Guidance on Local Transport Plans. DfT, London.

Deaville, J.A., 2001. The Nature of Rural General Practice in the UK (Preliminary Research). A joint report from the Institute of Rural Health and the General Practitioners Committee of the British Medical Association. The Institute of Rural Health. Newtown, Powys.

Enoch, M., Potter, S., Parkhurst, G., and Smith, M., 2004. INTERMODE: Innovations in Demand Responsive Transport. Report to UK Department for Transport and Greater Manchester Passenger Transport Executive. DfT, London.

Gaffron, P., Hine, J. and Mitchell, F., 2001. The Role of Transport in Social Exclusion in Urban Scotland - Literature Review, Central Research Unit, Scottish Executive.

Kenyon, S., Rafferty, J. and Lyons, G., 2003a. Social exclusion and transport in the UK: a role for virtual accessibility in the alleviation of mobility-related social exclusion? *Journal of Social Policy* 32, pp. 317-338.

Kenyon, S., Lyons G. and Rafferty, J., 2003b. Transport and social exclusion: investigating the possibility of promoting social exclusion through virtual mobility. *Journal of Transport Geography* 10, pp. 207-219.

Kenyon, S., 2003. Understanding social exclusion and social inclusion. *Municipal Engineer*, 156 (2), pp. 97–104.

Levitas, R., Pantazis, C., Fahmy, E., Gordon, D., Lloyd E. and Patsios, D., 2007. The multi-dimensional analysis of social exclusion. Department of Sociology and School for Social Policy, Townsend Centre for the International Study of Poverty and Bristol Institute for Public Affairs, University of Bristol, Bristol.

Lucas, K., 2010. Transport and Social Exclusion: Where Are We Now? World Conference on Transport Research (WCTR) 12th annual conference, Lisbon, Portugal.

McCormick, J., Clifton, J., Sachrajda, A., Cherti, M. and McDowell, E., 2009. Getting On: Well-being in later life. Institute for Public Policy Research (IPPR), London.

Moseley, M. and Pahl, R. E., 2007. Social Capital in Rural Places: a Report to Defra. Rural Evidence Research Centre, Birkbeck College, University of London, London.

Office for National Statistics (ONS), 2009. National population projections. *Statistical Bulletin*, 2008-based. [Online] <http://www.statistics.gov.uk/pdftdir/pproj1009.pdf> [Accessed 06/02/2011].

Rabbitt, P., Carmichael, A., Jones, S., Holland, C., 1996. When and Why Older Drivers Give Up Driving, Summary Report. Age and Cognitive Performance Research Centre, The University of Manchester, on Behalf of The AA Foundation for Road Safety, Basingstoke, Hants.

Shergold, I. and Parkhurst, G., 2010. Operationalising 'sustainable mobility': The case of transport policy for older citizens in rural areas. *Journal of Transport Geography*, 18, pp. 336-339.

Smith, N., Davis, A. and Hirsch, D., 2010. A Minimum Income Standard for Rural Households. Report to the Commission for Rural Communities and Joseph Roundtree Foundation. Joseph Roundtree Foundation, York.

Social Exclusion Unit (SEU), 2003. Making the Connections: Final report on Transport and Social Exclusion. Office of the Deputy Prime Minister. HMSO, London.

Stanley, J., Stanley, J., Vella-Brodrick, D. and Currie, G., 2010. The place of transport in facilitating social exclusion via the mediating influence of social capital. *Research in Transportation Economics*, 29, pp. 280-286.

UN Department of Economic and Social Affairs (Population Division), 2009. World Population Ageing. United Nations, New York.

Victor, C.R., Scambler, S.J., Bowling, A. and Bond, J., 2005. The prevalence of, and risk factors for, loneliness in later life: a survey of older people in Great Britain. *Ageing and Society*, 25, pp. 357-375.