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## **Improving accessibility for older people – investing in a valuable asset**

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### **Abstract:**

This paper explores the contribution of older people to society, the role of mobility in the quality of life of older people, and whether making it easier for older people to travel would enable them to increase their contribution. The paper commences by considering evidence on the economic value of older people to society. This shows that older people make a net contribution through expenditure in shops, employment, voluntary work, childcare and taxation which exceeds their cost to the taxpayer. The assumptions underlying the calculations are examined and found to be robust. The patterns of travel of older people are examined and found to be consistent with the estimates of the economic contribution of older people. Mobility provides many intrinsic benefits for older people, facilitating independence, reducing social isolation and physical activity. Evidence from the examples of the ability to drive and providing free bus travel is considered. Then the contribution of older people to society in future is examined and how travel contributes to this. It is shown that changes in older people's mobility would affect their contribution to society. Ways in which the mobility of older people could be increased are identified.

**Key words:** accessibility; mobility; older people; society; concessionary travel

## 1. Introduction

Many older people feel undervalued by society according to a recent report published by the Royal Voluntary Service based on a study designed to improve older people's well being and increase their involvement in society (Hoben et al., 2013). Various causes were found including negative perceptions and labelling of older people. The traditional services being provided to older people project an image that discourages their use by some potential users, particularly those who do not wish to be identified as old or those who wish to mix with people of all ages. These findings reflect common attitudes in society, with older people seen as a burden on society, receiving money and not contributing much.

The purpose of this paper is to consider the contributions of older people to society and whether it can be increased by improving accessibility. Because the ageing process is continuous, with many people finding their abilities to travel deteriorating gradually over time rather than going through a sudden transition as happens with some disabilities, it is not appropriate to define the older population exactly. Sources of evidence about older people use various cut-off points so various figures will be used in this paper.

## 2. The contribution of older people to society

This topic is very timely because older people are becoming a larger proportion of society as longevity increases. As Table 1 shows, one hundred years ago, 5.2% of the population in England and Wales was aged 65 or over. By 2011 this had increased to 16.5%. Over the same period, the number of people aged 40 to 64 also grew while the number of younger people decreased. If these trends continue, there will be a growing elderly population and a decreasing population in the age groups that have traditionally been economically active. For these reasons, in common with many countries, Britain is increasing the age at which people receive their state pensions. This means that more people will be retaining their jobs beyond the age at which people retired in the past. Some people may welcome this as an opportunity to continue earning income and enjoying the workplace culture while others may resent having to work beyond an age at which those of previous generations could enjoy a more leisurely lifestyle. Either way, there needs to be adequate transport: either to ensure that they can reach work or to enable them to have fulfilling lives to address the issues identified by Hoben et al. (2013) mentioned at the beginning of Section 1.

**Table 1. Population by broad age groups, 1911-2011, England and Wales (%)**

Age	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
0-14	30.6	27.7	23.8	23.0	22.1	23.0	23.7	20.5	19.0	18.8	17.6
15-39	41.8	40.0	40.4	37.7	35.0	32.9	32.6	36.3	36.2	34.5	33.2
40-64	22.3	26.2	28.3	30.1	31.8	32.3	30.3	28.2	28.9	30.8	32.7
65+	5.2	6.0	7.4	9.2	10.9	11.9	13.3	15.0	15.9	15.9	16.5

Source: Office for National Statistics (2011)

All members of society, including older ones, have inherent value, for example, in terms of creativity and relationships. An important element is the economic contribution to society. The value of this for people aged 65 and over in the United Kingdom has been estimated in a study commissioned by the WRVS (2011) (now the Royal Voluntary Service). An economic model was constructed using the following headings for people aged 65 and older:

- Costs to society:
  - State pension payments;
  - Age-related welfare payments;
  - Age-related health care.
- Contributions to society:
  - Expenditure including the wider value through multiplier effects;

- Social care;
- Childcare;
- Volunteering;
- Bequests to voluntary sector organisations;
- Gifts and donations;
- Savings for grandchildren and asset transfers to family members;
- Employment taxes paid by employees;
- Capital gains tax;
- Inheritance tax;
- Taxes on expenditure;
- Other taxes.

Some of the contributions to society involve travel. Employment taxes are paid on earned income and so are associated with travel to work. Expenditure and the taxes on it, plus the multiplier effects through the economy, are associated with travel to shops and leisure facilities. The report distinguishes between formal and informal volunteering. The former is done on behalf of voluntary sector and community-based organisations and is associated with travel to the various locations where the voluntary work is performed such as hospitals and charity shops. The latter is effort expended on behalf of friends or neighbours, not involving any third-party organisations, and so is likely to involve travel to their friends' homes or other locations where shared activities occur. Older people often provide childcare for their grandchildren, sometimes enabling the children's parents to be employed by escorting the grandchildren to and from school and looking after them whilst their parents are working. This generates trips between the grandparents' homes and the grandchildren's schools and homes. Social care probably generates few trips because it generally means an elderly person looking after a spouse or partner at home.

The WRVS (2011) report estimated the total contribution of older people to society in monetary units. Table 2 shows the costs and the contributions, with the contributions that involve travel shown explicitly. It can be seen that older people contribute more to society than they receive from it with a ratio of contributions to costs of 1.29 to 1. This is not necessarily what would be expected so it is worth considering the assumptions made in estimating the figures.

**Table 2. The costs and contributions of older people in the UK in 2010 in £million (at 2007 prices)**

<b>Costs</b>	<b>£m</b>	<b>Contributions</b>	<b>£m</b>
Pensions	68,205	Expenditure including multiplier effects	75,944
Age-related welfare payments	23,127	Volunteering	10,594
Age-related health care	44,954	Childcare	2,730
		Other non-tax contributions	41,588
		Employment taxes	15,965
		Taxes on expenditure	16,939
		Other taxes	12,131
<b>Total</b>	<b>136,286</b>	<b>Total</b>	<b>175,891</b>
		<b>Net financial contribution to society</b>	<b>39,605</b>
		<b>Ratio of contributions to costs</b>	<b>1.29:1</b>

Source: WRVS (2011)

The costs of pensions, welfare payments and health care are based on statistics produced by the British Government, with assumptions made about the proportions of total welfare payments and health care spent on older people. The former is based on figures issued by the British Government department responsible for welfare payments (Department of Work and Pensions), and the latter on figures produced by OECD (Organisation for Economic Co-operation and Development), and so are likely to be reliable.

The expenditure figures are based on the statistics in Family Spending based on the Living Costs and Food Survey (Office for National Statistics, 2013a) which includes the age of the reference person in a household, so the expenditure by households where the reference person was 65 or over was used. Some people over the age of 65 may live in households where the reference person is younger than this, and some younger people may live in households with a reference person aged 65 or over, but this seems unlikely to cause a large error. The appropriate taxation rates were applied to the figures to estimate the taxes on expenditure. The value of voluntary work by older people was estimated from a survey of 2,100 people aged 65 and over carried out by the WRVS from which the time spent on voluntary work was estimated. The voluntary activities were grouped according to value, ranging from basic services such as cleaning and gardening to higher value services such as organising events and attending committees, and assumed shadow prices applied. The lowest figure was the national minimum wage and the highest about four times this. Since many older people have years of experience and could, if employed, earn more than this, these figures seem to be fairly conservative. However, the Chief Economist at Age UK (2014) has also considered the value of voluntary work by older people, in this case those aged 50 and over, and estimated a lower figure of £5,787 million because fewer older people were estimated to volunteer.

The figure for childcare is based on figures from Grandparents Plus (2010), and because 70% of grandparents are aged 65 and over, the total figure was multiplied by 70%. A more recent figure from Grandparents Plus (2013) suggests that the total value of childcare by grandparents has increased in real terms since then and is now worth £7.3 billion in 2013

prices, which suggests that the figure of £2.73 billion (in 2007 prices) shown in Table 2 may be rather low. Two other points need to be made: the hourly wage rate used in Grandparents Plus (2013) was only £4.14 an hour, which is well below the national minimum wage, making the figure of £7.3 billion rather low. On the other hand, the report also suggests that younger grandmothers below the age of 65 are more likely to be providing childcare than older grandparents so the figure of 70% of childcare by grandparents being by those aged 65 and over used in WRVS (2011) may be rather high.

The other large element of contributions by older people is caring, which was valued at £34,219 million by WRVS (2011). It is included under 'Other non-tax contributions' in Table 2 because it does not include a large element of travel since most will be done at home. The value was calculated by using figures for the proportion of older people providing social care from the Census of Population, applying these to the numbers of people aged over 65 and then applying a shadow price, which was an updated figure from that used in the report by Carers UK (2007).

The other elements of the contributions by older people in the WRVS (2011) report are all relatively small, so if they are erroneous they would not have much impact on the overall result.

Another issue in considering whether Table 2 is valid, is whether any significant items have been ignored. One element that has not been included is the cost of concessionary travel passes (CTPs) which provide free bus travel for everybody above the female state pension age. This costs about £1 billion a year (Department for Transport, 2013b), but the evidence suggests that it produces benefits in terms of improvements to health, social inclusion, access to opportunities such as childcare and voluntary work, and reduction in traffic congestion which are likely to be worth more than this (Mackett, 2014a,b). Many of the benefits accrue to older people but many are to wider society, so if the costs and benefits to society of the scheme were included in Table 2, it would not change the overall result significantly because the total cost at about £1 billion is relatively small compared with the costs shown in Table 2. Another, potentially much larger, element that has not been included is the value of the contribution of older people to the economy through employment, other than the tax paid.

The basic statistics used to estimate Table 2 by WRVS (2011) are based on figures issued by the Government and so are likely to be sound. The most contentious issue is the value put on the time spent by older people in voluntary work, childcare and social care. The highest figure used is £25 an hour for a small number of voluntary activities, but it seems very likely that the type of person who could do these would be capable of earning a fairly high salary. Most of the activities apart from the basic voluntary work are assumed to have a value of about £15 an hour.

Overall, it can be argued that the figures shown in Table 2 are reasonable, and so it can be concluded that older people contribute more to society than they receive from it. The benefit-cost ratio of 1.29 to 1 is not as high as that used to justify investment in projects in Britain, but that is because resources for large projects are scarce and so only those generating the highest benefit-cost ratios are invested in. The argument here is that older people contribute more than they receive and the discussion above suggests that the figures are fairly robust, with the contributions in tax and expenditure by older people totalling £120,979 million, which is fairly close to the total cost figure. It would need huge errors in the other figures to put the value of the contributions below that of the costs.

The analysis here has all been in a British context, but the concepts would also be applicable in some other countries. The proportion of the population that is aged 65 and over has increased in 29 countries in Europe (Giannakouris, 2008) with most of them expected to have a larger share of the population aged 65 or over than Britain in 2030. Eleven countries out of 30 in OECD (2011) have already passed legislation to increase the state pension age for both men and women and a further three to increase it for women. The largest elements

in Table 2 are the three cost elements, expenditure and 'other non-tax contributions' which is mainly caring for other people, usually spouses. Whilst the magnitude of individual elements will vary across countries, most of them will apply to countries in Europe and probably others such as the USA and Australia, so it is likely that the basis arguments in this paper will apply elsewhere. The countries with higher levels of costs of older people are likely to be the countries with high taxation and so higher contributions, and vice versa.

### 3. Travel by older people

Table 3 shows the number of trips made each year by older people, and for comparison, those in the age group generally below retirement age and the whole population using data from the National Travel Survey for 2012 which was based on a random sample of 15,048 private households (Department for Transport, 2013a). Because of the Equality Act 2010 which includes age discrimination amongst its provisions, the concept of a fixed retirement age has largely disappeared with an individual's age of retirement a matter of negotiation between the employer and the employee.

**Table 3. Average number of trips each year per head by age and purpose in Great Britain, 2012**

Trip purpose	All ages	Age 50-59	Age 60-69	Age 70+
Commuting	146	227	94	10
Business	31	68	28	1
Education	64	1	1	-
Escort education	52	28	16	8
Shopping	189	234	293	283
Other escort	87	81	72	38
Personal business	94	110	136	131
Leisure/social	248	240	288	221
Other including just walk	43	61	61	41
All purposes	954	1,050	987	733

Source: Department for Transport (2013a)

Because of the difficulties caused by the 'fuzziness' of retirement ages, it is not possible to make an exact comparison between those who have retired and those who have not, but it is possible to discern some differences between older people and others. It can be seen that the number of commuting trips decreases with age, but that some people aged 70 or over still make commuting trips. The decline in business trips between the 50-59 cohort and the 60-69 cohort is not as steep as that for commuting. This may reflect some trips by older people who are self-employed. It may also include some trips being made to undertake voluntary work, particularly formal volunteering. Very few education trips are made by older people. 'Education escort' means taking children to school. Since it is unlikely that many people aged 60 or over have children young enough to need to be escorted to school, most of these trips will be grandparents taking their grandchildren to or from school or older people offering childcare to neighbours or others. The popularity of shopping as an activity for older people can be seen, reflecting the expenditure of money in the local economy modelled in the WRVS (2011) study. It can be seen that as people age pass the age of 60 they make more shopping trips, with even those age 70 or over making more trips than average. 'Other escort' means making a journey to take someone else for the benefit of that other person, but excluding taking children to school. This includes trips to take grandchildren to places other than school or other forms of voluntary work such as taking elderly neighbours to hospital or day-care facilities. 'Personal business' includes trips to the

bank or post office and may include trips involving expenditure. It could also include some trips to carry out voluntary work. It can be seen that older people make more personal business trips than average or those slightly younger. 'Leisure/social' trips include visiting and meeting friends and going out on trips to places of interest, entertainment and sport, many of which will involve expenditure. For this category, people aged 60-69 make more trips than average and those aged 50-59. The oldest category, those aged 70 or over, make fewer trips than those aged 60-69, probably reflecting decreasing mobility. The final category, which includes just going out for a walk, is popular with those aged 60-69, but with a decrease for the oldest category, again probably reflecting decreasing mobility.

Some of the travel behaviour by older people may be due to habits acquired earlier in life. Comparison of the trips made by those aged 60 to 69 in 2012 when they were 50 to 59 in 2002 with those made by people aged 50 to 59 in 2012, shows some small differences (Department for Transport, 2013a). In 2002, people of that age made more shopping, personal business and leisure/social trips and fewer business, education escort and other escort trips than people of that age in 2012. This suggests that some of the high levels of shopping, personal business and leisure/social trips by older people in 2012 may be partly due to habits acquired in the past. In future, older people may be making more business and escort trips than at present. Both of these seem likely as more older people continue to be employed and carry out more voluntary duties as grandparents and good neighbours.

One reason older people make fewer trips than younger people is because some of them find travelling difficult, as shown in Table 4. It can be seen that mobility difficulties increase with age, with only 4% of younger people having such difficulties, which increases to 17% for those aged 60-69 and to 39% for those aged 70 and over. It should be noted that most older people do not have mobility difficulties.

**Table 4. Adults with mobility difficulties by age, 2012**

	All aged 16+	16-49	50-59	60-69	70+
% of all adults who have a mobility difficulty	11	4	10	17	39
Trips per year by people with a mobility difficulty	634	725	735	748	517
Trips per year by people with no mobility difficulty	1,021	1,024	1,088	1,036	871
Trips per year by all people	976	1,013	1,050	986	733

Source: Department for Transport (2013a)

This raises the question of whether older people would like to travel more, and what prevents them from doing so. The Department for Transport (2001) commissioned a study which considered the travel needs of older people including the barriers to activities, including ones associated with travelling, as indicated in Table 5. Out of a total of 1445 people aged 60 and over who were interviewed, 36% indicated that they would like to do more. The most popular activities that the respondents wished to participate in were visiting friends and families, some of which may have involved voluntary activities. Most of the other activities mentioned would have involved spending money in the local economy (food shopping, other shopping and visiting the Post Office). Participation in leisure and sporting activities may have involved spending money or participating in physical activity which could improve their health. Other activities that were mentioned by fewer than 20 people were going to the doctor, going to hospital, going to a bank or building society and going to work, mentioned by 8, 9, 12 and 14 people respectively out of the sample. The direct transport barriers mentioned included the cost of travel, difficulties boarding and leaving vehicles, unreliability of the service, problems parking and being confusing to use. The non-travel factors included the cost of the activity, lack of someone to participate with, lack of time, and



the need to look after dependents, the home or pet. In only three cases out of nine (food shopping, other shopping and visiting the Post Office) were the mobility, sensory or health factors perceived to be the barrier for the greatest number of people whereas the direct travel or journey factors affect the highest number of people in four cases. In fact, it is often the interaction between people's capabilities and the environment that create the barriers. Bearing in mind the evidence in Table 4 that most older people do not have a mobility difficult, it is clear that the main barriers to mobility for many older people are not associated with their abilities but with the transport system and other aspects of the environment.

**Table 5. Barriers to participation in activities by older people aged 60 and over**

	Would like to do more %	Principle barrier		
		Direct travel or journey %	Mobility, sensory or health %	Non-travel %
Visit family	12	58	18	24
Visit friends homes	10	46	27	25
Meet friends elsewhere	10	46	21	33
Leisure/sport	8	15	24	57
Other shopping	7	37	43	21
Food shopping	6	33	50	16
Day centre visit	2	25	30	45
Post Office	2	40	42	19
Visit others in hospital	1	65	23	13

Source: Department for Transport (2001)

It has been implied above that making it easier for older people to travel means that they could contribute more to society. There is evidence that shows that making bus travel free for all older people has had this effect. Concessionary travel, that is discounted or free bus travel, has been offered to older and disabled people in Britain for a number of years. 9 million passes were issued in England on the grounds of age in 2011/12. The literature on this topic has been reviewed for evidence on the impacts (Mackett, 2013, 2014a)

One third of the bus trips in England are now made free because of concessionary travel passes (CTPs). Nearly 80% of those eligible for a CTP on the grounds of age have one. This has increased from 58% in 2002 when the statutory scheme requiring local authorities to offer a minimum of half-price local bus travel was introduced. Over recent years, older people have increased their frequency of bus use. Prior to the introduction of free local bus travel nationally in 2006, about 30% of those aged 60 or over used the bus at least once a week. This rose to 40% in 2010. Conversely, the proportion that never travel on a bus fell from about 46% to 32%, suggesting that offering CTPs has induced some older people who did not travel by bus to do so.

Overall, the figures in Table 3 suggest that, as people enter retirement they make more leisure/social and shopping trips, and make a number of trips escorting others, including children, probably grandchildren, to various destinations. As they age, people make fewer trips, but the proportion that are for shopping, personal business and leisure/social increases. These figures seem to be consistent with the picture indicated by the WRVS (2011) report with older people spending money on retailing and services, and undertaking voluntary work and childcare, with some of them still employed, contributing to the national economy and paying income-related taxes.

#### **4. The benefits of mobility for older people**

Being able to travel contributes to the quality of life of older people. Gabriel and Bowling (2004) carried out interviews with 999 older people in private households in Britain and found that the respondents regarded being able to walk and having good mobility as important to them as it helped them to retain independence which they saw as an important element of a good quality of life and enabled them to avoid dependence on others.

One important element of mobility is being able to drive a car. Whelan et al (2006) reviewed the literature on the elderly and mobility and argue that driving represents a symbol of freedom, independence and self-reliance, and having some control of their life while poor mobility places a substantial burden on the individual, family, community and society. Musselwhite and Haddad (2010) have shown that giving up driving is linked to a reduction in quality of life. They found that mobility is important in meeting essential utilitarian needs, but also enhancing social networks and social interaction, providing independence, denoting status, and exercising cognitive skills. Musselwhite and Haddad (2010) examined the travel needs of older people by conducting focus groups with current older drivers and interviews with 57 older drivers and ex-drivers. They found that ceasing to drive caused many changes in travel behaviour, including anxiety about being able to go shopping, to hospital, and to attend doctors' surgeries, with respondents mentioning feelings of depression and annoyance, particularly amongst those who gave up driving following advice from others or a driving incident. Isolation and exclusion from society were mentioned as resulting feelings.

The availability of the concessionary travel pass (CTP) for buses in Britain has also improved the quality of life of older people. Andrews (2011) in his surveys in SW England found 74% of respondents stating that having a pass had improved their quality of life. Rye and Mykura (2009) found 60% of their respondents in Edinburgh saying the same thing. Green et al (2014) found that the pass was experienced as life-enhancing by almost all the respondents in their survey. Whitley and Prince (2005), in their study in Gospel Oak in North London, found that many respondents remarked that the local transport system allowed them to visit family and friends, access appropriate services and to attend community activities, particularly those entitled to a CTP. Some of them praised the pass as it enabled them to maintain their social and economic involvement in society.

Making it easier for older people to travel means that they can reach a wider range of services: Hirst and Harrop (2011) found that 74% of the respondents in their survey in Manchester said that their concessionary travel passes had enabled them to participate in new activities or visit new places, and that 35% of these newly generated trips were for leisure and social reasons including visits to family and friends. Kelly (2011) used data from the English Longitudinal Study of Ageing (ELSA) to examine the impact of offering CTPs to older people on access to services (Post Offices and general practitioners (GPs)). She found a 6.1% increase in the probability of reporting that access to Post Offices was very easy and a 3.9% increase for access to GPs. The ability of older people to travel independently can save public expenditure. In Manchester, the number of journeys on Ring & Ride fell by 4% because some users of CTPs transferred to normal bus services with free fares, so the number of requests refused due to limited capacity fell from 15,600 in April-September 2005 to 12,400 in April to September 2006 (Ling and Howcroft, 2007).

Mobility can contribute to physical activity and so to health. Choi et al (2013) looked at 1926 British elderly women over 7 years and found that regular physical activity including walking and cycling helped to prevent a decline in the health-related aspects of the quality of life.

In a survey reported in Transport Scotland (2009) respondents were asked to rate the statement 'Scotland-wide free bus travel for older and disabled people has given me a more active lifestyle' on a scale of one to ten. About 70% rated the statement agreed with the statement to a greater or lesser extent. The respondents also noted that there were mental health benefits from being out more and interacting with other people. A few respondents said that they would feel 'housebound' if they could not use their passes. Some of those who

did not use their passes regularly expressed the view that having the pass helped to prevent them feeling trapped at home. Even those who did not use their passes regularly expressed the view that having the pass helped to prevent them feeling trapped at home.

Green et al (2014) found that the concessionary travel pass was a major and non-stigmatising defence against social isolation, particularly for those who lived alone.

Once they have obtained a pass most people travel more by bus. About 20% of the trips being made using passes would have been made by car if the pass had not been available. Using reasonable assumptions, it seems that the use of CTPs reduces the number of vehicle trips by car in Britain by about 1% (Mackett, 2014a).

PTEG (2013), which represents the Passenger Transport Executives (PTEs) in the metropolitan areas (the large cities outside London such as Birmingham and Manchester), has estimated the benefits and costs of the concessionary travel scheme in England in these areas. The greatest proportion of benefits was found to accrue to users, particularly those who would have travelled without the concession. The total benefits to older people consisting of the welfare gains to new and existing travellers and half the health benefits came to £309 million. The benefits to society including decongestion, economic impacts, welfare gains to other bus users because of improved bus services and half the health benefits came to £68 million. (The health benefits of £8 million were assumed to be split equally between users and society). The total costs were £254 million made up of reimbursement to bus operators for revenue foregone and for providing extra capacity. This means that the overall ratio of benefits to costs was 1.5 to 1. However, many of the benefits to society that the scheme has produced (Mackett, 2014a) were not included in the analysis. As noted in Section 2, the costs of the scheme are small relative to the main costs and contributions to society of older people shown in Table 2.

The evidence suggests that the CTP has achieved its objectives (Mackett, 2014b). However, this does not mean that providing free bus travel for older people was the best way to spend £1 billion a year. Other policy areas such as investing in hospitals and schools might have provided better value for money, but public investment is rarely decided on the basis of rational analysis across different policy areas. The introduction of the scheme was a political decision (Mackett, 2014b). It may well not be the best way to improve the lives of older people, particularly because of the huge inequalities in the services that can be obtained with the pass: in London pass holders have free travel on buses and the Underground (metro) all day long. In some rural areas there are no buses, so some people have no local opportunities to use their passes. Some analysts have raised issues about the equity implications. Oxera (2009) points out that, while the evidence suggests that providing concessionary travel has helped to reduce social exclusion, the benefits it provides to those on higher incomes and with access to cars, means that the scheme is targeted too widely and therefore may not provide value for money. Last (2010) in his analysis of smartcard data in Lancashire, found that about half the passholders made no trips with their passes in the five-week period being studied and that 2.4% of passholders accounted for 25% of local concessionary bus trips. He argues that a large amount of public money is associated with travel by a very small proportion of the targeted population and that this is probably partly due to the variability in the availability of high quality bus services.

## **5. The contribution of older people to society in future**

The WRVS (2011) report forecasts the contribution of older people in the year 2030, as shown in Table 6. It can be seen that the net financial contribution to society has increased from £39,605 million to £74,862 million and the ratio of contributions to costs from 1.29 to 1 to 1.35 to 1. Three factors have driven the increase: demographic change, the abolition of a default retirement age, leading to increased incomes, and an increase in Healthy Life Expectancy (HLE). The population forecasts are based on population projections by the Office for National Statistics (ONS) and the Department for Communities and Local

Government which predict the proportion of the population aged 65 and over will increase to 25.7% in 2030. This continues the trend shown in Table 1, but represents acceleration in the proportion of the population who are older, reflecting not only increasing longevity but also a decline in the birth rate (Office for National Statistics, 2014). The abolition of a default retirement age means that many older people will continue to be employed, and so earn more money which means increased expenditure and increased tax on expenditure and incomes. The increase in HLE means that while expenditure on health for older people is expected to increase, it is expected to increase at a lower rate than the population increase (and, at a forecast real increase of 43% from 2010 to 2030, much lower than the forecast increase in income tax paid by older people over the same period of 113%). The increase in the number of older people working would reduce the opportunity for some people to volunteer, but WRVS (2011) assumed that this would be offset by the increase in HLE meaning that people could continue voluntary work to later in life.

The biggest driving force behind the forecast increase in the contribution of older people to society is the demographic change. Even if the elderly population grew a slower rate than expected, the net contribution would increase, but at a slower rate (but would still be above the figure in Table 2) because, short of a national catastrophe, the number older people is going to continue to increase, the number of older people in paid employment is likely to increase and HLE is expected to increase. Conversely, if the trends accelerate more than expected, the contributions of older people will be even higher.

**Table 6. The costs and contributions of older people in the UK in 2030 in £million (at 2007 prices)**

<b>Costs</b>	<b>£m</b>	<b>Contributions</b>	<b>£m</b>
Pensions	112,851	Expenditure including multiplier effects	127,279
Age-related welfare payments	39,199	Volunteering	14,535
Age-related health care	64,159	Childcare	4,473
		Other non-tax contributions	62,762
		Employment taxes	33,113
		Taxes on expenditure	29,111
		Other taxes	19,795
<b>Total</b>	<b>216,208</b>	<b>Total</b>	<b>291,070</b>
		<b>Net financial contribution to society</b>	<b>74,862</b>
		<b>Ratio of contributions to costs</b>	<b>1.35</b>

Source: WRVS (2011)

In order to analyse the effects of different levels of transport accessibility on the contribution of older people to the economy it is necessary to use proportion of the contribution that is dependent on travel. Table 7 shows the contributions that result from travel.

**Table 7. Estimates of the contributions to the economy dependent on travel by older people in 2030**

<b>Contributions</b>	<b>£m</b>	<b>% of contribution requiring travel by older people</b>	<b>Contribution resulting from travel, £m</b>
Expenditure including multiplier effects	127,279	90	114,551
Volunteering	14,535	100	14,535
Childcare	4,473	50	2,237
Other non-tax contributions	62,762	0	0
Employment taxes	33,113	96	31,788
Taxes on expenditure	29,111	92	26,782
Other taxes	19,795	0	0
<b>Total</b>	<b>291,070</b>		<b>189,893</b>

The percentages of the contribution that require travel have been estimated using a variety of sources. Most expenditure in shops would require travel, but nowadays many people purchase goods and services using the internet. Statistics on internet usage (Office for National Statistics, 2013a) show that older people carry out less internet shopping than other people. A weighted average of the expenditure on various goods and services by older people over the internet that might have been spent in shops was calculated using the percentage of each type of expenditure spent over the internet and the various types of expenditure by older people in Family Spending (Office for National Statistics, 2013b), giving a figure of 5.3%. However, it is also possible to purchase goods and services in other ways including using the telephone and by post, for example for renewal of insurance on a home or car. There are no statistics available on this type of shopping but it may well similar in scale to internet shopping for older people so a figure of 10% has been assumed for this type of shopping that does not involve travelling, leaving 90% to be spent by travelling. Most goods attract Value Added Tax (VAT) tax, but food does not. However, fuel duty is also charged on petrol and diesel and can only be bought by travelling. For these reasons the amount spent that involves travelling is assumed to be slightly less at 92%. The report by WRVS (2011) lists all the volunteering activities that were used to calculate the contribution of older people and all of them involve travel, with the possible exception of tutoring, so a figure of 99% has been assumed here. Information on the amount of travel involved in childcare is difficult to obtain because the grandparents could travel to the home of the grandchildren or the grandchildren could travel to the home of their grandparents, and it would take a very large, complex survey to obtain sound data on this, so a simple assumption of 50% of the value being related to the travel by grandparents has been assumed. Employment taxes will accrue at the workplace. According to the National Travel Survey 2012 (Department for Transport, 2013a), 4% of workers over the age of 65 work at home, so a figure of 96% has been used for the amount of the contribution that requires travel. It is accepted that these figures are approximations, so sensitivity analysis has been carried out, as shown in Table 8.

**Table 8. Sensitivity of the contribution of older people to the amount of travel**

	Percentage change in contribution resulting from travel				
	-20%	-10%	-	+10%	+20%
Total financial contribution to society £ million	253,090	272,079	291,070	310,058	329,047
Net financial contribution to society £ million	36,882	55,871	74,862	93,850	112,839
Ratio of contributions to costs	1.17	1.26	1.35	1.43	1.52

It can be seen that the economic contribution to society of older people is dependent on travel. Improvements to older people's mobility that enable them to contribute 10% more would increase their contribution by £18,988 million, which is a huge sum. It should be acknowledged that the percentages of each contribution that are dependent on travel are based on limited evidence, but even if the percentages were smaller, there would still be a significant contribution to the economy by older people, because the biggest element is expenditure in shops and that is unlikely to diminish greatly because many older people have time available and visit shops as part of their regular routine and social life.

This raises the question of how older people's mobility could be increased. There are various possibilities:

- The advent more autonomous cars, eventually resulting in driverless cars, should mean that fewer older people will lose the ability to travel independently by car because technology will compensate for the deterioration in perceptive faculties (sight, hearing, and so on).
- More flexible smart ticketing for public transport so that season tickets that allow for part-time work would encourage more older people to continue in employment.
- It is possible for older people to buy a Senior Railcard that offer discounts on off-peak rail travel. The train operators sell it as a commercial venture because they believe that the revenue from extra trips more than compensates for the reduced revenue per trip. Allowing older people to use their CTPs to buy cheap rail tickets would let those who make insufficient rail trips to justify the cost of the present railcard, to obtain a discount, and so make more rail trips.
- Providing more buses, particularly in areas where the service level is low, would greatly assist older people, but this is unlikely to happen because of the costs involved. However, a mixture of buses, community transport, taxis and lift-giving, brokered locally, with good publicity and reliable services, would increase mobility amongst older people, particularly in rural areas.
- Providing more benches, more public toilets and better street lighting would make walking easier and more attractive for older people.

## 6. Conclusions

This paper has argued that there is evidence that older people feel undervalued by society, but that, in fact, they make a net economic contribution to society by spending in local shops and through taxation, by carrying out voluntary work and childcare. It has been shown that the travel patterns of older people are consistent with these contributions to society, suggesting that barriers to travel may be hindering older people from making even larger contributions. The assumptions underlying the calculation of the contributions have been examined and found to be robust.

It has been found that mobility provides many benefits to older people, including increasing independence, reducing isolation and improving health. The contribution of older people to society is expected to increase because of increased longevity and Healthy Life Expectation and the removal of compulsory retirement which means that more will be in employment, thus increasing their incomes. Improving accessibility for older people would mean that more of them would be mobile and so increase their contributions to society.

Overall, it has been shown that mobility is both intrinsically good for older people and facilitates much of their contribution to society. Thus, it has been shown that improving accessibility for older people would be a good investment in a valuable asset.

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