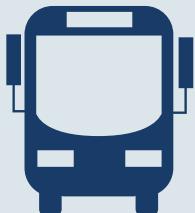




The Future of Transport in an Ageing Society

June
2015

George Holley-Moore and Helen Creighton



Supported by

Executive Summary

This project from ILC-UK and Age UK sets out the key transport challenges that are arising from the UK's ageing population. Using analysis from the English Longitudinal Study of Ageing (ELSA), as well as evidence from transport experts at a stakeholder's workshop, this report argues that the current transport system is failing to meet the needs of too many older people.

The issues

1. Older drivers

- Older people need to be supported in driving safely for longer, with viable alternative transport options available for those who are unable to drive.
- Driving remains the most common form of transport for older people in the UK, with 68% of households where someone is aged 70+ having their own car.
- Research by Age UK shows that health problems are more likely than age alone to lead to giving up driving. Only 1% of people surveyed aged 60+ would give up driving because of their age, while 43% would stop driving due to health concerns¹.

2. Transport to health services

- 1.45 million of those 65 and over in England find it difficult to travel to hospital, whilst 630,000 of those 65 and over find it difficult or very difficult to travel to their GP². It is the oldest old who find it the hardest - less than half of people over 80 find it easy to travel to a hospital.
- It is the people with the worst health and the lowest incomes who struggle the most to travel to health services.
- Of the people who find it 'very difficult' to travel to their GP, 71% are in fair or poor health. This contrasts with people who find it 'very easy', of whom just 22% are in fair or poor health.
- The average weekly household income of those who find it easiest to access their GP is £526, compared with an average income of £313 for those who find it most difficult.

3. Making public transport convenient

- Public transport is not meeting the needs of many older people. The most frequent reasons for not using public transport among those 65 and over are that it's not convenient and does not go where you want.
- Women, those with lower incomes, and those without a car were less likely to state that public transport was inconvenient – perhaps because they have no choice.

4. Active transport

- Encouraging older people to engage in active travel such as cycling or walking could have health benefits and reduce isolation.
- Only 8% of men over 65 and 3% of women over 65 ever cycle³. This is low compared to rates of older people cycling in other European countries.
- Road crossings do not give older people adequate time to cross safely⁴. Pelican crossings assume that pedestrians walk at a pace of at least 1.2 metres per second (2.7 miles per hour) but 76 % of men and 85 % of women over 65 walk more slowly than this.



5. Rural transport

- Older people in rural areas don't have sufficient access to public transport. Just 20% of those aged 70-74 living in rural areas use public transport weekly, compared to 38% of those who live in an urban setting.
- 18% of those over 65 living in rural areas don't use public transport because none is available, compared to 2% of those living in urban areas.

The opportunities for improvement

This report explores a variety of ways in which transport options could be improved for older people. With a new Parliament now in session, the next five years have the potential to offer important improvements to transport services. Three key opportunities for improvement run throughout this report: opportunities presented by improvements in technology, opportunities from increased local decision making and opportunities from volunteering.

Local decision making

- Devolution of central Government powers to local communities could mean more flexible transport services which better reflect the needs of older people. Strong local leadership could also better deliver safe, accessible, and reliable transport to meet the needs of older people.
- The Buses Bill could help promote integrated transport.
- The Welsh Active Travel Act, requiring local authorities to continuously improve facilities and routes for pedestrians and cyclists, could be a model to promote higher rates of active travel.
- Age friendly infrastructure is fundamental to developing innovative transport solutions. This requires an integrated approach to the planning and design of road networks, cycle lanes, safe crossings, level pavements, and the location of amenities and services.

Technological Improvements

- If designed to meet the needs of older people, the increasing use of assistive technology in cars, telematics in determining insurance premiums, and potentially driverless cars, could enable older people to continue driving safely for longer.
- The development of new platforms, such as mobile phone apps, to support the "social economy" could facilitate greater peer to peer transport provision.
- Wider use of live departure boards and audio-visual announcements on buses could increase older people's confidence in using public transport.

Volunteering

- Volunteer run schemes could encourage older people to choose active forms of travel by making cycling and walking into sociable activities.
- Community car sharing schemes with volunteer drivers are very important for supporting mobility in rural areas and should be extended.
- Volunteers could make busy transport hubs easier to navigate.



Achieving change

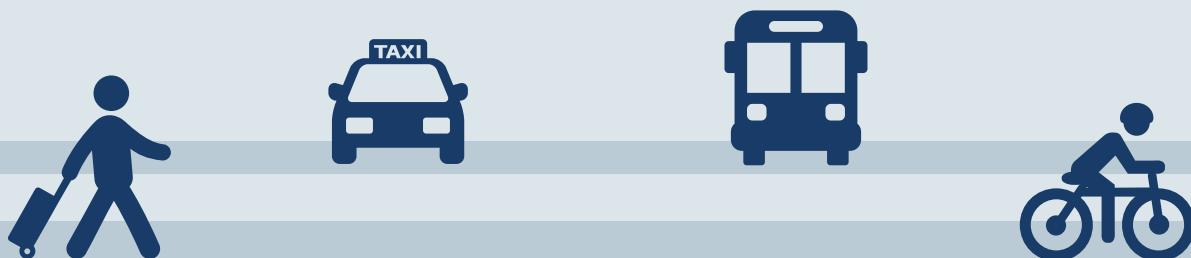
We hope that these opportunities will be seized by Government, transport providers and the voluntary sector alike so that by 2020 we have a sustainable transport system to meet the needs of our ageing population.

Local Government should encourage the pooling and sharing of resources to help fill gaps in local transport provision, working together with the voluntary sector.

Older people's access to healthcare must be improved by better linking of health and transport services.

Public transport providers should design their services with older transport users in mind, using technological improvements and customer insight to improve their experiences.

When using new technology and design processes insurers and car manufacturers must ensure they take older people's needs into account.



Contents

Introduction.....	6
Why is travel good for older people?	8
The current picture of transport use amongst older people in the UK.....	9
Older drivers.....	13
Travel to health appointments and services.....	15
Making public transport convenient.....	18
Active transport.....	21
Rural transport.....	24
Conclusion.....	26
Appendix 1: Attendees of the workshop ‘The Future of Transport in an Ageing Society’, April 2015.....	28
Endnotes.....	29

Introduction

The UK's population is ageing. There are currently 11 million people aged 65 or over⁵, and this figure is projected to rise by almost 50% over the next 17 years⁶. Moreover there are already 2.97 million people aged over 80⁷ and close to half a million aged over 90⁸. By 2030 it is expected that this will rise to 5.3 million over 80 and 1.2 million over 90⁹. Such demographic change will require a rethinking of current transport strategies, with new challenges set to arise such as an increasing number of older drivers on the road and more people with dementia using public transport. An ageing population will still need to get from A to B; solutions need to be discussed now in order to meet these challenges.

New approaches are needed to ensure that growing numbers of older people are able to remain active and mobile during later life. To this end ILC-UK is working with Age UK to try to set the agenda for a future age-friendly transport policy.

Using data on transport usage from the English Longitudinal Study of Ageing (ELSA) and evidence from the ILC Global Alliance conference in October 2014 we identified five key areas of focus.

1. Older drivers
2. Transport to and from health services
3. The convenience of public transport
4. Active transport
5. Transport in rural communities

Through this ILC-UK and Age UK project, *The Future of Transport in an Ageing Society*, we wanted to highlight the many transport challenges faced by older people, and discover where the opportunities for improvement lie. This report gathers ideas from policy makers, academics, the transport industry and older people themselves on possible approaches to common transport issues. It is our hope that by bringing all the relevant stakeholders round the same table we have developed ideas that are not only workable and easily implemented, but which could make an enormous difference to the daily lives of older people living in the UK.

Throughout this project attempts have been made to focus on sustainable and affordable solutions. In the current political climate of cuts in public spending any proposals must be realistic.

Transport policy in the UK today

Government is investing significant resources into improving transport. However the focus of investment is seemingly on the large infrastructure projects at the expense of community level improvements. These include improving rail connections and upgrading roads in the North of England to build the ‘Northern powerhouse’, spending £50bn on HS2 and starting construction on the Crossrail 2 rail project¹⁰. Other significant investments promised are £15bn on extensive road improvements, £200 million on making cycling safer and a freeze on fuel duty.

These large infrastructure projects are undoubtedly important, as a healthy economy and the increased tax revenues that can come with them can be used to improve services, including local transport services. But many older people, most of whom don’t work and many of whom live in rural areas, will not enjoy the benefits of these investments. This Government has also promised a further £30bn in budgetary cuts, with a significant part of these falling on local authorities. Given that local authorities are responsible for discounted travel schemes (with some central government reimbursement), road safety and subsidised public transport, these cuts would affect older people’s ability to travel conveniently, affordably and safely. Further, local authority cuts to transport services are highest for the most deprived areas and lowest for the two least deprived areas. There has been almost a 20% fall in spending per head in the most deprived county councils in England, compared with an approximately 8% fall for the least deprived areas¹¹.

The new Government’s Cities and Local Government Devolution Bill will allow cities with elected mayors to take control of key powers including transport. A Buses Bill, which was also announced in the Queen’s Speech, will give ‘the option for combined authority areas with directly elected mayors to be responsible for the running of their local bus services’. Devolved public transport powers could allow adaptation to local need.

The concept of ‘Total Transport’ brings together transport services currently commissioned by different central and local government departments and provided by different operators. This would include all forms of transport such as inter-hospital link services, social services transport for older people and transport for children with special needs to and between schools. In January 2015, the Department for Transport announced that there would be a £4 million fund to run ‘Total Transport’ pilots. Currently, various transport services are paid for by different government departments; amalgamating these services could enable transport budgets to be used more efficiently, especially when coupled with devolution of transport powers. Indeed, these pilots could pave the way for other regions to benefit from a Transport for London-style system.

Approach

Using data from the English Longitudinal Study of Ageing this report explores the travel patterns of older people and the difficulties they face using public transport. Initially an event was held as part of the ILC Global Alliance conference, in October 2014, which included representatives from 16 countries sharing knowledge and transport innovations from across the globe. This insight was discussed with the Age Action Alliance Transport Working Group, before being shared in April 2015 at an ILC-UK futures workshop that formed part of the ILC-UK and Age UK project. The workshop brought together academics, transport providers, policy makers and older people. The ideas from the workshop form the basis of this report, which highlights the key opportunities to improve public transport over the course of the new Parliament. This report is organised around 5 key areas: older drivers, transport to health appointments, making public transport convenient, active transport and rural transport.

Why is travel important for older people?

There is a growing bank of evidence to suggest that travel can have a range of positive outcomes, for older people themselves and the wider community and economy. We are keeping the concept of ‘travel’ deliberately broad; it can involve anything from a train journey of hundreds of miles to a 10 minute walk to the shops.

Mobility is beneficial to wellbeing

Access to reliable, affordable and safe transport is important for older people to maintain contact with friends and family who may live some distance away, helping to avoid loneliness and isolation which can both adversely affect wellbeing. There is a connection between travel and quality of life; when older people are unable to travel, it is often due to illness, low income or isolation¹².

Evidence also shows that the journey itself, rather than the end result, can be beneficial to wellbeing. Travelling, importantly as part of the general public rather than separately, can reduce isolation and increase opportunities for interaction¹³. It is beneficial for wellbeing to have the opportunity to travel when you want to, rather than simply when you need to¹⁴.

For those who drive, stopping driving can be a major life event, bringing about loss of identity and for some the first tangible outcome of ageing¹⁵. Accessible and good quality alternative transport options are important to help facilitate older people through this major life transition.

Mobility is beneficial to physical health

Loneliness and the subsequent decline in wellbeing can adversely affect physical health¹⁶. As well as being beneficial to wellbeing, evidence suggests that people who travel more regularly are more active, enjoying the health benefits associated with more active lifestyles¹⁷. Furthermore, increased longevity increases challenges to healthcare budgets; an active, healthy older population could play a part in reducing some of these costs.

Mobility is beneficial to the wider community

The majority of older people will value accessible transport in the same way as 16 or 40 year olds; to see friends, or go shopping or possibly commuting to work. Good transport is important for everyone, and as the proportion of older people in our population continues to increase, this transport must not be exclusive to the young or the able-bodied.

Analysis from KPMG and Greener Journeys has shown that concessionary travel for older and disabled people in Britain provides value for money, and helps contribute to the wider economy. For each £1 spent on concessionary travel, £2.87 is generated in benefits. Of these benefits, 50% go to the older person themselves, 20% to other bus passengers and other road users who share the road, and the remaining 30% to the wider economic community¹⁸. Easier and more accessible transport can also increase the opportunities for older people to volunteer. With the value of older volunteers expected to be worth £15.7 billion by 2033, this is a significant opportunity¹⁹.

There is an unfortunate paradox in which at the time of your life when you are largely free from employment or child care, and have more free time to travel, physical and cognitive ability may be declining, making travel more difficult. Getting transport ‘right’ for older people brings with it many positives to wider society; increased numbers of people can travel to volunteer, to shop and spend.

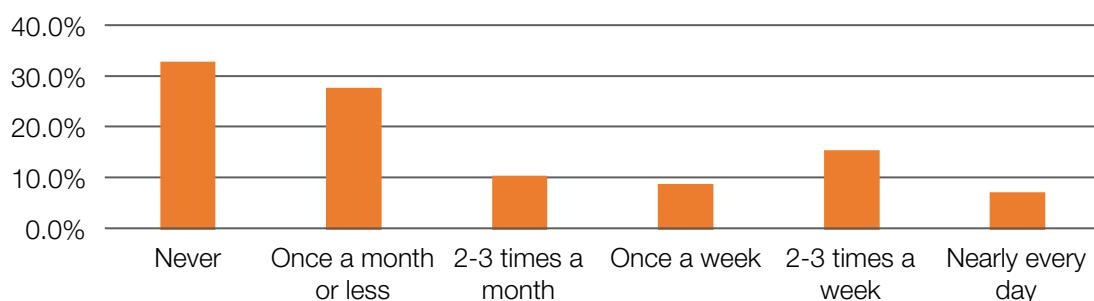
The current picture of public transport use in England today

This chapter includes analysis from the English Longitudinal Study of Ageing (ELSA) to assess whether the transport needs of older people are being met, and how this has changed over time. It finds:

- 32% of those 65 and over never use public transport, whilst another 27% use it once a month or less.
- The proportion of older people who regularly use public transport is highest amongst the 70-74 age group, before declining with age.

How often do older people use public transport?

Fig1: Frequency of use of public transport by people aged 65+

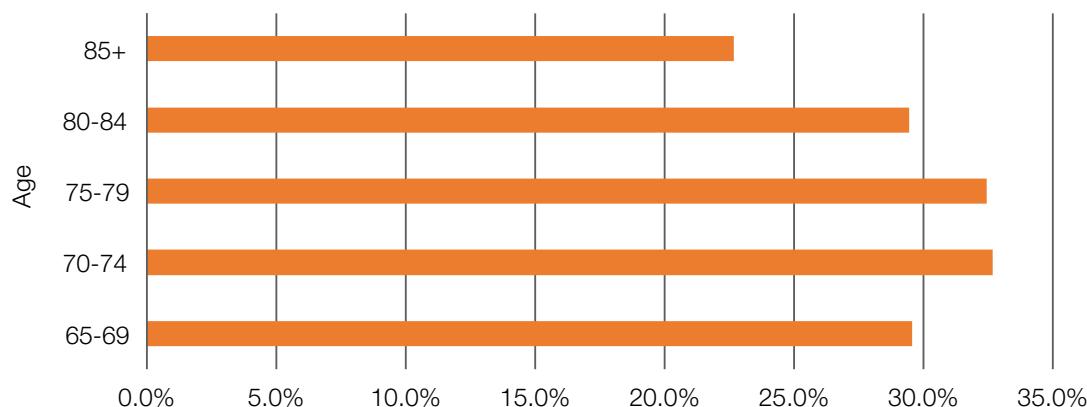


Source: English Longitudinal Study of Ageing wave 6, 2012-13

The graph above indicates that public transport is failing to meet the needs of the majority of older people in England. Despite concessionary bus passes offering free bus travel to those over the State Pension Age, as well as free travel on other forms of transport for older people living in London, 32% of people in England aged over 65 never use public transport, whilst another 27% use it once a month or less.

It is safe to assume that a significant number of these people who never or rarely use public transport will have access to a car, and drive instead. However this explanation will not account for everyone; the data indicate that concessionary travel is not benefiting a large proportion of older people in England.

Fig2: Proportion of over 65s using public transport at least once a week (excluding those who never use public transport)



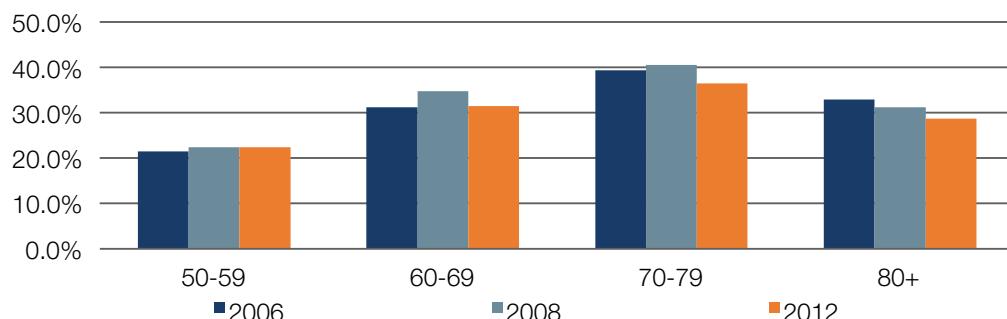
Source: English Longitudinal Study of Ageing wave 6, 2012-13

After excluding those who never use public transport, the above graph breaks down those who use public transport at least once a week by age. Again, the lower number of older people aged 65-69 who regularly use public transport is likely due to this age group still driving; regular use of public transport is more prevalent between the ages of 70 and 80.

The analysis shows a sharp drop in regular public transport use past the age of 85. Whilst the prevalence of health conditions increases in older age, meaning for some over 85s that using public transport becomes more difficult, the distinct drop in use of public transport use after the age of 85 indicates that current public transport provision is failing our ‘oldest old’.

How does public transport use differ between genders?

Fig3: Proportion of women over 50 using public transport at least once a week

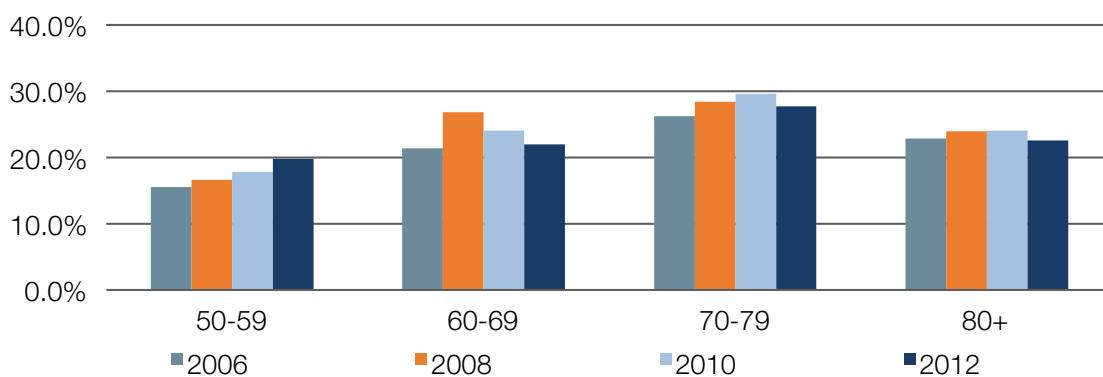


Source: English Longitudinal Study of Ageing

Looking at how use of public transport has changed since 2006, the analysis paints a mixed picture. In terms of older women who use public transport at least once a week, excluding the 80 and over age group, little has changed between 2006 and 2012.

A noticeable trend is the steady decrease between 2006 and 2012 of women over 80 regularly using public transport. One explanation of this is the increasing likelihood of women holding a driving licence; the National Travel Survey shows that the number of women over 70 with a driving licence increased by 20% between 1995 and 2010²⁰. With more older women having access to a car, the numbers regularly using public transport would be expected to decline.

Fig4: Proportion of men over 50 using public transport at least once a week



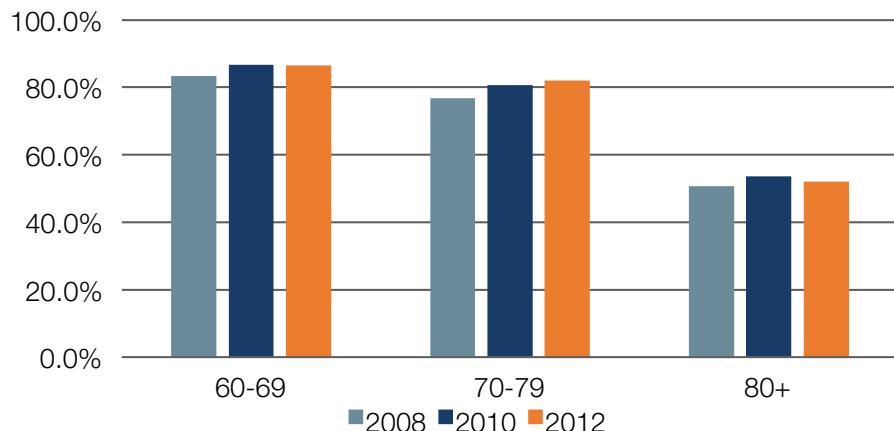
Source: English Longitudinal Study of Ageing

Public transport use is lower among men than women, with less than 30% of men in their 70s using public transport at least once a week while 35% of women in the same age bracket use it at least weekly. However in recent years the proportion of men aged 50-59 who use public transport steadily increased, from 15% in 2006 to 20% in 2012. This is much closer to the corresponding figure of 22% for women in the same age group. As with older women, the proportion of older men regularly using public transport increases with age, before declining at 80 and above.

Ease of travelling to amenities

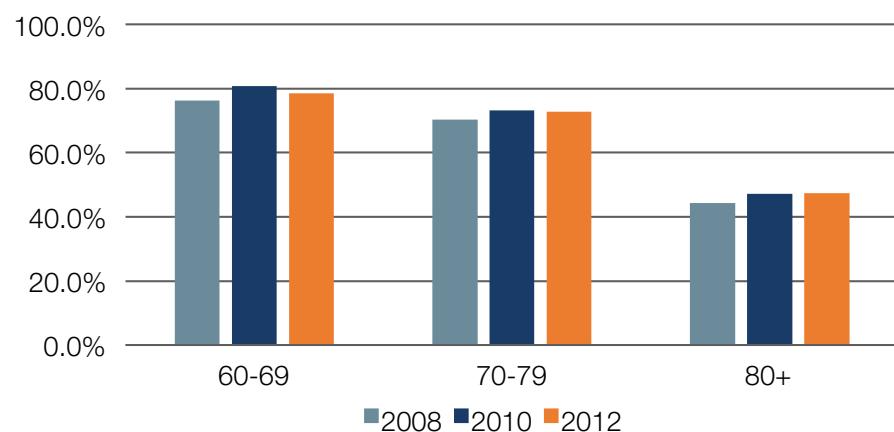
Accessible, affordable and convenient transport is important to enable older people to access vital services, whether it is the bank, hospital or post office. An analysis of ELSA below shows how little ease of travelling to these services, broken down by age, has changed over time. The marked increase in difficulty for those aged 80+ has remained.

Fig5: Proportion of older people who can travel to the bank easily



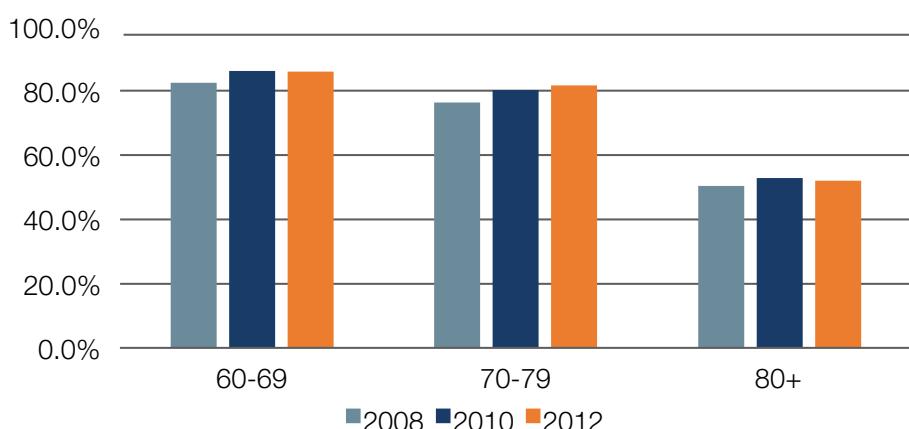
Source: English Longitudinal Study of Ageing

Fig6: Proportion of older people who can travel to the hospital easily



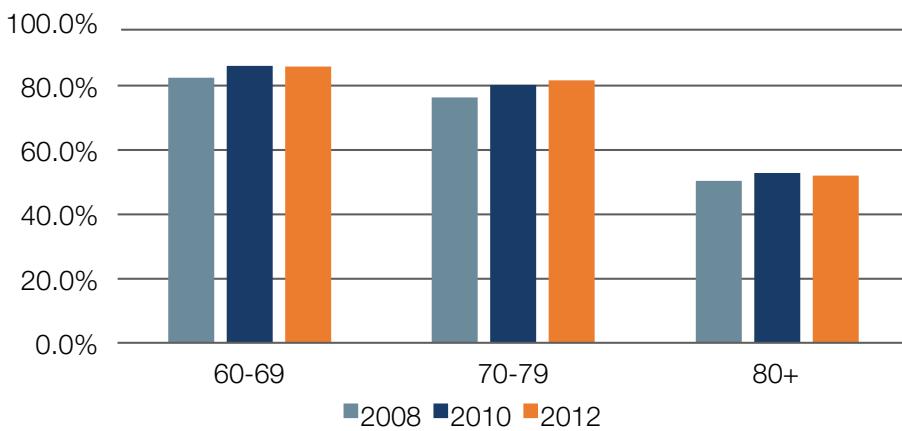
Source: English Longitudinal Study of Ageing

Fig7: Proportion of older people who can travel to the Post Office easily



Source: English Longitudinal Study of Ageing

Fig8: Proportion of older people who can travel to the supermarket easily



Source: English Longitudinal Study of Ageing

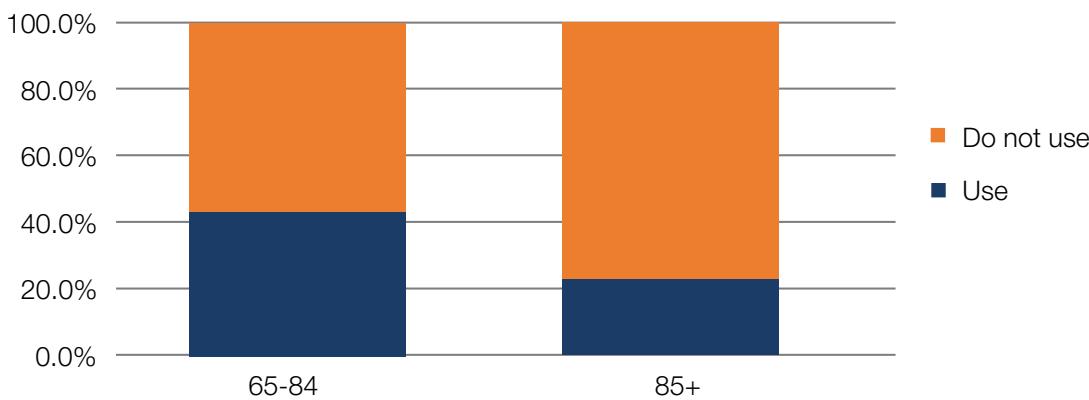
Access to key amenities, including banks, supermarkets, post offices and hospitals, has improved slightly in recent years. However the improvements have been relatively small and a significant minority still do not find it easy to make essential trips. Furthermore the marked increase in difficulty in making essential trips for those aged 80+ has remained. For example in 2012 48% of people aged 80 and over in England, which is more than 620,000 people, found it difficult to travel to their nearest supermarket.

Moreover the small improvements illustrated in the graphs above could partly stem from the fact that a growing number of older people have access to cars. The percentage of women aged 70+ with a driving licence rose 6% between 2005 and 2010, and the corresponding figure for men was 5%. Travel may be easier as a result of greater car use, rather than as a result of improvements in public transport.

Is public transport meeting the needs of those who need it most?

Whilst driving is the preferred mode of transport for many older people, many who do not have access to a private car rely on public transport. Below we look at whether the transport needs of those who need public transport the most (people whose only means of transport is public transport and also have difficulty walking quarter of a mile) are being met.

Fig9: Use of public transport by people whose only means of transport other than walking is public transport and who have difficulty walking a quarter of a mile.



Source: English Longitudinal Study of Ageing wave 6, 2012-13

Approximately 35,000 people aged 65-84 in England are restricted to using public transport and have difficulty walking even a short distance, yet more than half (approximately 20,500 people) do not use public transport. Among the over 85s, even more people - 50,000 - are restricted to using public transport and have difficulty walking a short distance and even more, 80% (approximately 40,000 people), do not use it. This again indicates that current public transport provision is not meeting the needs of those who need it most.

Older Drivers

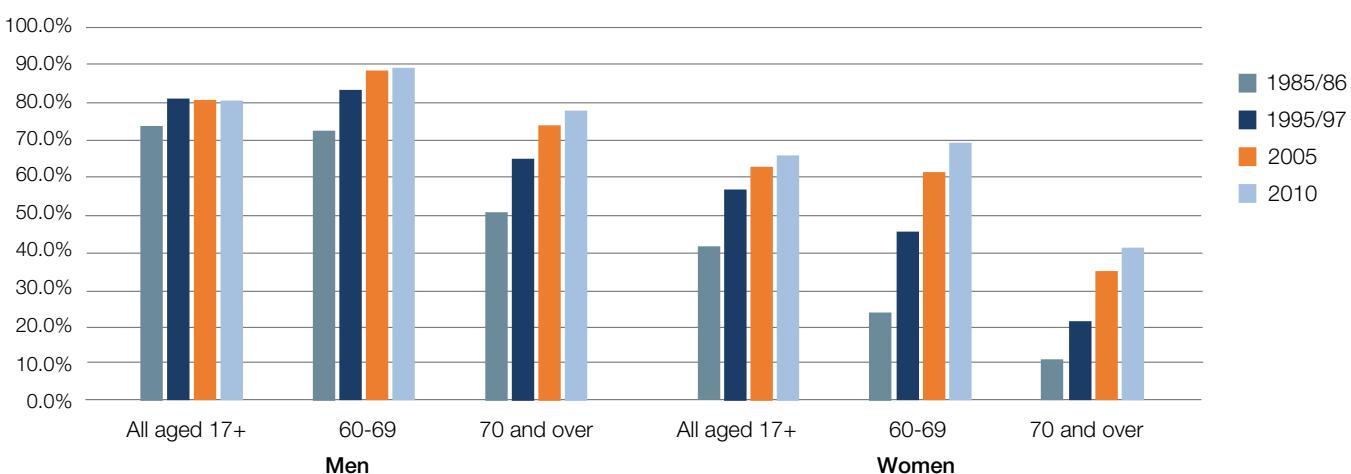
- Driving remains the most common form of transport for older people in the UK, with 68% of households where someone is aged over 70 having their own car.
- There has been a significant increase in recent years of older female drivers.
- An age-based approach to premiums among some insurers continues to penalise older drivers.

Whilst a decent public transport system is undoubtedly important to allow older people to travel, the majority of older households have a car. In England 86% of adults aged 60 to 69 have access to a car in their households, whilst for 70 and over this figure, although lower, is still 68%²¹.

Driving a car remains the most common mode of transport for people aged 70 and older, with people over 70 making on average 315 trips per year driving a car; the next most common is travelling as a passenger in a car (an average of 162 trips per year), followed by walking (140 trips)²².

Travelling by car is convenient, involves less walking (which is important for older people with limited mobility) and, particularly in rural areas, can be the only means of travelling to vital amenities. An important trend is the increase in recent years of older women driving. Between 1995 and 2010, the proportion of women aged 60-69 and 70+ with a driving licence increased by 23% and 20% respectively²³.

Fig 10: Full car driving licence holders by age and gender



Source: The National Travel Survey

Barriers to older people continuing driving

Assumptions surrounding the safety and quality of older people's driving continue in the UK, with older drivers often thought of as less safe than younger drivers²⁴. Older drivers are in fact less likely to be involved in minor accidents than younger drivers; although they are proportionally more likely to be a fatality in a road accident, this is due to increased frailty rather than 'bad driving'²⁵.

An age-based perception of, and approach to, driving safety is currently unfairly penalising many older drivers. A significant part of this is older drivers being refused a quote for car insurance from some companies based on their age. In 2012 Which? found that although people in their early 80s are less likely to make a claim, the insurance quotes they received were 50 to 74 % higher than people in their early 40s. Furthermore while the average claims submitted by drivers aged between 76 and 80 cost 12% less than those submitted by drivers aged 41 to 45, the quotes they received were 9% to 23% higher²⁶. In 2014 Which? reported that 'a 61 to 65-year-old pays almost twice as much in premiums for their level of risk (claims frequency multiplied by claims cost) than an 18-21-year-old'²⁷.

This age-based approach is also at odds with older people's self-evaluation of their driving safety, with age not a significant factor in older people's decisions to stop driving. A survey from Age UK

found that just 1% of drivers over 60 would give up driving because of their age, whilst 43% would give up due to health concerns and 37% due to problems with vision²⁸. This indicates that a health-based approach, rather than an age-based approach, would have a greater impact in helping older people make the important life transition of stopping driving.

Technology offers opportunities to improve the situation for older drivers...

Increased use of telematics to provide insurance premiums

Some car insurance providers now use telematics, or BlackBox insurance, to calculate insurance premiums. A device is installed in the driver's car that measures driving risk based on braking speed, cornering, and acceleration amongst other things²⁹. Whilst previously the cost of this technology meant that it may not have been profitable for companies to install these devices in the cars of older drivers, insurers such as Aviva now offer this technology as a free smartphone app³⁰. An insurance calculation based on driving ability, rather than more arbitrary age limits, could mean that safe older drivers would be less likely to be unfairly penalised.

Partially-assisted driving vehicles

Advances in technology in recent years mean that it is becoming more common for new cars to be installed with features such as rear-view cameras for reversing, blind-spot warning systems and even auto-parking technology. For older drivers with limited upper-body mobility, this can aid their independence through adding longevity to their driving years whilst keeping the driver and other road users safe.

Driverless cars

Whilst a few years ago the idea of driverless cars would be firmly in the realms of science fiction, the rapid advancement of technology means that driverless cars are now a real possibility; and they are likely to be on the roads in years, rather than decades. The UK Government is committed to leading development of driverless car technology, recently authorising their testing on public roads³¹. In the context of an ageing society, this development, although at relatively early stages, has potential to benefit older people in the UK.

For example, people with limited mobility or disabilities may not have to stop driving; people in rural areas and people who have difficulty in travelling to bus stops and train stations could have the freedom to travel. Driverless cars can also address the problem of excessive insurance premiums for older drivers; KPMG have predicted that car insurance costs could halve by 2020 with the increased presence of driverless vehicles³².



The Ford Approach

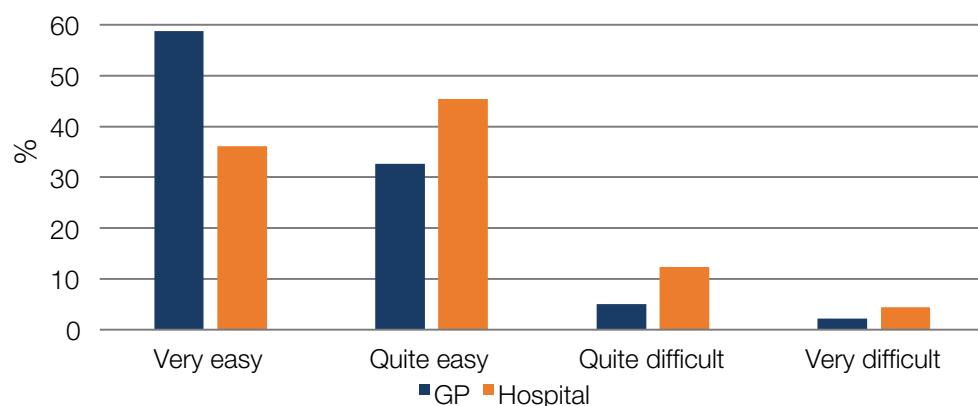
The Ford Focus was designed with the needs of older drivers specifically in mind. Designers were encouraged to wear the 'Third Age Suit'³³, a suit which stimulated the effects of ageing. It stiffened joints, added bulk around the torso and added visual impairments such as cataracts. Consequently the Focus has a wider front door and higher seats, to make it easier to get in and out, than the Ford Escort. It has more headroom and the dashboard controls are bigger. Given that the number of older drivers is set to increase in coming years, other manufacturers would do well to follow Ford's example, recognising this key consumer group.

Travel to health appointments and services

- 1.45 million of those 65 and over in England find it difficult to travel to hospital.
- Those who find it difficult are often the oldest, in the poorest health and on the lowest incomes.

A significant minority of older people find it quite difficult or very difficult to make medical visits. Over 16% of those aged over 65 reported that it was quite difficult or very difficult for them to go to a hospital, or that they couldn't attend at all. 7% reported the same to be true for GP access. These numbers are not insignificant; 1.45 million of those 65 and over find it quite difficult or very difficult to travel to a hospital, whilst 630,000 of those 65 and over find it difficult or very difficult to travel to their GP³⁴.

Fig11: Ease of medical visits for the over 65s



Source: English Longitudinal Study of Ageing wave 6, 2012-13

The profile of these people who find it most difficult to access health services is concerning. Those who find it difficult to attend their GP are the oldest, in the poorest health and are on the lowest incomes. Among those who find it very difficult to travel to their GP, the average age is 80, less than 30% are in good health and weekly income averages £313.

Ease of travelling to see GP among those 65 and over				
	Average age	Proportion in fair or poor health	Average weekly household income	Proportion with a free bus pass
Very easy	72.4	22.0%	£526	87.6%
Quite easy	74.4	36.2%	£470	85.9%
Quite difficult	77.7	60.7%	£355	82.6%
Very difficult	80.0	71.1%	£313	69.1%
Unable to go	85.5	68.6%	£336	48.0%

Source: The English Longitudinal Study of Ageing wave 6, 2012-13 and author's calculations

There is a similar pattern when we look at the individuals who find it hard to travel to hospital – those who are the most likely to need easy access to medical services find it the most difficult.

Ease of travelling to hospital among those 65 and over

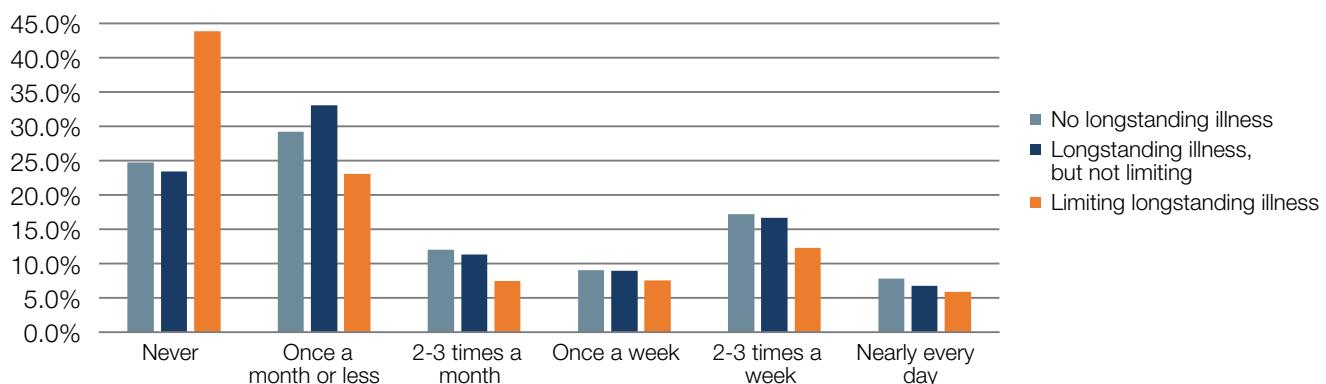
	Average age	Proportion in fair or poor health	Average weekly household income	Proportion with a free bus pass
Very easy	72.3	21.8%	£543	86.3%
Quite easy	73.6	29.6%	£486	87.7%
Quite difficult	75.5	44.2%	£416	86.3%
Very difficult	78.0	60.3%	£345	72.4%
Unable to go	85.7	69.0%	£375	46.4%

Source: The English Longitudinal Study of Ageing wave 6, 2012-13 and author's calculations

While they are perhaps unsurprising, these statistics are none the less concerning. Older people are more likely to have a long term health condition, which will be monitored by their GP, and regular appointments are essential to ensure that such conditions are well managed³⁵. Good access to primary care can reduce the use of A&E departments and prevent emergency hospital admissions by reducing acute care needs³⁶. Indeed, analysis by the National Audit Office found 'an inverse relationship between the ability of patients to access their GP quickly and how frequently a patient is likely to use A&E services'³⁷.

ELSA data also show that those with longstanding illnesses are the least likely to use public transport. 8% of older people in the study reported that they don't use public transport due to problems with mobility while 10% reported that their health prevents them from using public transport.

Fig 12: Public Transport use and longstanding illness among the over 65s



Source: English Longitudinal Study of Ageing wave 6, 2012-13



Transport and dementia

Dementia alone doesn't necessarily prevent people from driving but the Alzheimer's Society reports that people tend to stop driving within three years of their first dementia symptoms³⁸. Driving is a complex task and individuals may have difficulty planning and remembering routes, anticipating and reacting to other road users, and understanding and acting upon road signs and obstacles. Train operators will provide some assistance to passengers with dementia if it is booked in advance and some bus companies have started to offer their staff dementia training³⁹. However, transport can be difficult for people with dementia to navigate alone. Travellers with dementia may have difficulty with routes, dealing with money, or interacting with other passengers.

How can the transport needs of sick, frail or disabled older people be better met?

Improving confidence and support

A standardisation across the country of transport assistance cards

Many transport operators and local authorities issue transport assistance cards, which record details of an individual's needs so that the individual can show the card privately to the driver or other travel staff as a means of asking for extra assistance. The cards can alert staff to passengers who may be hard of hearing, partially sighted, at risk of falls, or who may have a hidden disability. They can also alert staff to passengers with dementia.

Currently these cards are not standardised across transport operators or across local authorities, yet journeys may combine using different forms of public transport across two or more local authority areas. Standardisation and promotion of card schemes could improve many people's confidence when using public transport and avoid the need to carry a range of assistance cards for different types of transport and different areas.

Going further, another solution could be to include an assistance symbol on any concessionary travel card, again reducing the number of cards people need to carry.

Under either of these ideas, it's essential that schemes do not stigmatise people with disabilities or conditions such as dementia.

Dementia awareness training for transport staff

Dementia and its affects are often misunderstood, with the Alzheimer's Society reporting widespread stigma surrounding the disease⁴⁰. A lack of awareness, among both passengers and transport staff, of the issues surrounding dementia can make transport difficult. For example, there is the possibility that transport staff, unaware of the symptoms of some forms of dementia, may mistake some symptoms such as confusion and agitation as being due to alcohol use⁴¹. Some transport providers, such as First Group and Transport for London, already run dementia training for their staff to enable them to better understand the needs of passengers with dementia⁴². Other transport providers should follow the lead of these organisations.

Local decision making presents an opportunity to provide more flexible transport

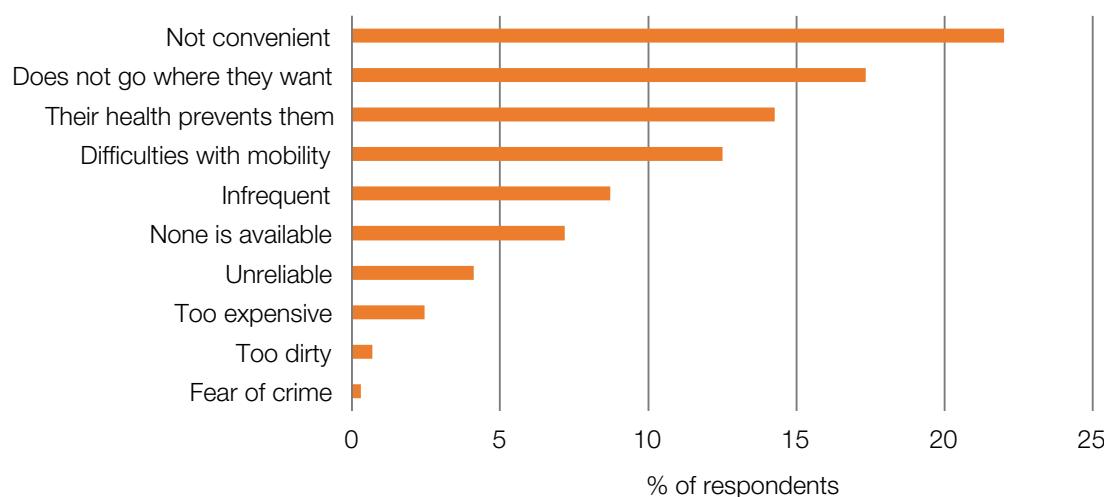
The new Government's Cities and Local Government Devolution Bill will allow cities with elected metro mayors to take control of key powers including transport. A Buses Bill, which was also announced in the Queen's Speech, will give 'the option for combined authority areas with directly elected mayors to be responsible for the running of their local bus services'. Devolved public transport powers will allow adaptation to local need and could be used to deliver improvements for older people.

Making public transport convenient

- The most frequent reasons for not using public transport among those 65 and over is that it's not convenient and does not go where they want.
- These reasons were given particularly among men, people who worked people who were in good health, those who earned a higher income and those with access to a car.

When asked why they don't use public transport, the answer given by the majority of older people in the ELSA survey centred on convenience, or rather lack of it. 17% answered that they did not use public transport because "it does not go where they want to go" and 22% because "it is not convenient". It is difficult to ascertain whether the reasons for these responses lie in lack of information about local transport routes or in people's perceptions of public transport. However, the data do suggest that public transport is failing older people.

Fig 13: Reasons for not using public transport given by those over 65



Source: English Longitudinal Study of Ageing wave 6, 2012-13

Poor routes and lack of convenience were cited as reasons for not using public transport particularly among men, among people who worked, among people who were educated, among people in good health, and among those who earned higher incomes and had access to a car. We think it likely that the last point is the most important – given easy access to a car, it is very likely that public transport will seem inconvenient by comparison.

However, analysis of ELSA data on those over 70 indicates that among older age groups, having access to a car is no longer a key explanatory factor in understanding people's response that public transport is inconvenient. This could be because people over 70 are less likely to drive and are more likely to have mobility problems. Accessible and good quality alternative transport options are important to help this group continue to travel.

How can we make public transport more attractive?

Technology offers the opportunity to improve confidence in public transport...

Expansion of real time audio and visual information on buses

A number of bus services provide audio and visual information, telling passengers when they arrive at different stops. This helps prevent people missing their stop, enabling them to prepare to get off the bus in good time, and reassures passengers they are on the correct service. Expanding this to all buses would be beneficial to all bus users but particularly those likely to find the information the most useful – e.g. people with sight or hearing impairment

Expansion of live departure boards at bus stops

Similarly, some bus stops are now equipped with live arrivals information. This gives passengers confidence that a service is running, even if it is late. For most buses it is already possible to get live departure information on the internet or via text, however as 29% of people aged 65-74 report never having used the internet⁴³ many older people cannot take advantage of this service.

Volunteers and changing social norms provide an opportunity to make public transport more accessible...

Building social norms around helping other people on public transport could greatly enhance the confidence of all public transport users. The existing use of signs about giving up seats for others could be extended to additional forms of help in navigating public transport. Travellers who are happy to help others could be given brightly coloured name badges for example, generating a culture where it is acceptable to ask for, and acceptable to offer, help.

Transport community service

Volunteers could be stationed at bus and train stations to provide “a little bit of help” – this exists at places like Victoria rail station in London – but they could be expanded to other bus and train stations. Volunteers would help people carry bags/help people get onto trains, give advice etc. They could also travel with vulnerable passengers who were taking short journeys, making sure they had support getting on and off transport. By way of recompense, depending on how many hours they volunteered for, individuals could be given travel vouchers valid on buses and trains.

Technology offers the opportunity to support a gradual transition from cars to public transport...

As their health deteriorates many older people have to give up driving as noted earlier in this report. This can be a very difficult transition point, with individuals who have always relied on their car suddenly needing a public transport system they may know very little about. Policies to encourage and support people to start using public transport well before they have to give up driving could help many older people manage the transition.

Increased use of journey planners

Online journey planners can be very helpful for people who are not regular public transport users. However, such tools are not directly available to people – including older people - without internet access, or who are not confident in using the internet. The development of alternative ways of accessing such services, perhaps over the phone, would make them more inclusive.

Highlight the true costs of driving

When people drive they may not consider the full cost of their journey. To tackle this, satnavs in cars could record the cost of each journey to the driver, factoring in fuel, insurance, tax and depreciation, and calculate the carbon footprint of the journey. Satnavs could also compare the cost and carbon footprint of the journey to the same (or similar) journey on public transport. Of course, car travel may be the only option for any particular journey made by older people. However, knowing the cost of a car journey could make people think twice about using the car for journeys that they could make on foot where possible, and comparative information on costs and carbon footprint for car travel and public transport may support the transition from the former to the latter when people give up driving.

The Buses Bill offers an opportunity to improve bus routes...

Announced in the Queen's Speech, the Buses Bill, will give ‘the option for combined authority areas with directly elected mayors to be responsible for the running of their local bus services’. This should promote integrated and convenient bus systems which are more attractive to potential public transport users.



Is it essential that the bus pass is free?

There has been a statutory bus concession for older and disabled people since 2001. When first introduced it provided for a minimum half-fare concession for older and disabled people travelling on buses within their local authority area of residence. This was extended to a full fare concession in 2008, making bus travel free. In 2013/14 there were over 1 billion journeys made by older and disabled people on English buses alone⁴⁴, at a cost of around £1.2 billion.

The idea has been floated that perhaps the full concession should be revoked, with older passengers being asked to pay a nominal fare towards their travel. This would then free up funds in transport budgets to invest in extra services. We would urge caution in this regard. Research on the impact of introducing free travel has found that when the concession increased from half to full fare, the use of public transport increased substantially⁴⁵. Moreover, there was a significant increase in the number of people making use of the concessionary scheme, with the number of passes issued in some districts rising by between 70 and 100 percent⁴⁶. New pass holders have been shown to be more likely to be in possession of a car and driving licence than existing pass holders⁴⁷, implying that the full fare concession could be an important strategy in transitioning from car usage.

Furthermore work by Greener Journeys analysing ‘the costs and benefits arising from concessionary travel for older and disabled people shows that the scheme delivers excellent value for money with each £1 spent generating at least £2.87 in benefits’⁴⁸.

Using the research by Greener Journeys and KPMG, ILC-UK has, using ONS population projections, projected the future cost benefit of concessionary travel to Great Britain. Excluding those who receive concessionary travel below state pension age, the total net benefit to the individual receiving the concessionary travel, other passengers and the wider community is predicted to be £83.41 billion between 2015 and 2037⁴⁹. Of this total, the net benefit to other passengers and the wider community will be £19.4 billion. This is a clear indication of the importance of concessionary travel, not only to enable older people to remain mobile, but also for the wider community and economy.

⁴⁴ 2037 being the furthest date in the future for which the ONS has published detailed population projections.

Active transport

Active transport is defined as physical activity undertaken as a means of transport, and not purely as a form of recreation. It includes walking, cycling, skating, skateboarding and any incidental activity associated with the use of public transport.

- Only 8% of men over 65 and 3% of women over 65 ever cycle. This is low compared to rates of older people cycling in other European countries.
- Pelican crossings assume that pedestrians walk at a pace of at least 1.2 metres per second (2.7 miles per hour). However, 76 % of men and 85 % of women over 65 walk more slowly than this, meaning road crossings do not give them adequate time to cross safely⁵⁰.
- Improving the built environment can encourage older people to walk, cycle and exercise.

Physical activity among older people has been linked to better cognitive performance⁵¹, reductions in morbidity and mortality⁵² and increased mental wellbeing⁵³. Encouraging active travel among older people could therefore not only extend people's transport options, but could also confer health benefits. Moreover, active travel is generally low cost and environmentally friendly. However, a lack of information on active transport options for older people who want to remain active and poor infrastructure in the built environment both represent challenges to supporting active transport.

Walking

Physical exercise becomes more difficult with age - leg muscle strength can be up to 40% weaker in people aged 80 compared to those aged 30⁵⁴ and the vestibular system, which is essential for balance, loses 40% of sensory cells by the age of 70⁵⁵. This makes walking more difficult and can increase the risk of falls, making travelling on foot less appealing. It also means that older pedestrians walk more slowly than others which can cause problems at road crossings. Pelican crossings assume that pedestrians walk at a pace of at least 1.2 metres per second (2.7 miles per hour); however research by L. Asher et al (2012) found that this is an unrealistic expectation for many older people. For pedestrians over 65, who were able to walk unaided, 76 % of men and 85 % of women walk more slowly than this, meaning that road crossings do not give them adequate time to cross safely⁵⁶.

Older people can also be put off walking due to a lack of public benches and toilets. Benches are essential to allow people with short stamina to take a break and easily accessible toilets are needed to increase confidence when taking longer trips. However there was a 40% drop in the number of public toilets across the UK between 2003 and 2013⁵⁷.

Cycling

The Active People Survey (2012-13) conducted by Sport England showed that cycling levels are around 22-27% for men aged 16-54 and around 11-14% for women of the same age range in England. Yet just 15% of men aged 55–64 years ever cycle, and only 8% of men over 65 years. The corresponding figures for women are just 7% and 3%, respectively⁵⁸. Encouraging higher rates of cycling in our older population can lead to significant health benefits; a study by King's College London on a group of cyclists aged 55 to 79 found these cyclists had levels of physiological function that are comparable to people much younger⁵⁹.

In other European countries cycling rates among older people are much higher. In Germany 12% of journeys made by people over 65 are made on a bike and in Holland people over 65 make 24% of their trips by bike⁶⁰. This implies that the problem is not that older people cannot cycle, but that the current cycle infrastructure in the UK does not encourage them to do so.

Electric bikes are an option for older people who want to continue or take up cycling in later life. These can be pedalled like a normal bike, or the rider can power it through the small electric motor. Electric bikes are popular in many countries, with 300,000 sold in Germany each year and 175,000

selling in the Netherlands; in the UK however, only 20,000 are sold⁶¹. For older people, electric bikes can help in keeping active for those people whose core strength and fitness declines with age.



An example from Europe

After seeing cycling rates fall sharply between 1950 and 1975, there was a concerted effort in Denmark, Germany and the Netherlands to make cycling safer, more accessible and more attractive to the general population⁶². A combination of legislation, societal influencers and public spending transformed cycling rates in these European countries. Governments invested in infrastructure to create decent and safe cycle lanes, and created legislation to improve right-of-way for cyclists; planning regulation also favoured mixed-use urban development which meant that the average trip is generally shorter than in the US or UK, making it easier to cycle⁶³. Financially, driving was made more expensive and inconvenient in cities and towns, again encouraging the use of two wheels rather than four⁶⁴.



Independent travel for those with mobility issues: The Mobility Scooter

12% of those aged 60-69, and 31% of those aged 70 and over, have a mobility difficulty of some description⁶⁵. A mobility difficulty may mean that an individual finds it hard to go out on foot, hard to use buses or hard to get in and out of a car. A mobility scooter can be of great value to people with mobility problems and can be of significant help in maintaining their independence.

Unfortunately there is still a stigma around the use of mobility scooters, with users often facing hostility from pedestrians and road users who feel they are an inconvenience⁶⁶. We are concerned there is a danger that mobility scooter users are subject to the same stereotyping as older drivers. In fact, statistics for accidents involving mobility scooters in 2013 showed only 156 reported incidents (compared to 115 for ridden horses)⁶⁷. Mobility scooter users can also face difficulty storing their vehicles, their bulk meaning that they are difficult to store inside a house. Their size mean that mobility scooters can also be hard to get on to buses and trains. New models of mobility scooter, which are both more power efficient and more stylish in their design, present an opportunity to overcome these barriers.

How can we promote active travel among older people?

Social prescriptions

The ‘social prescription’ model may have the potential to encourage, or ‘nudge’, older people to continue with, or take up, active travel. Some primary care providers (for example GPs) now issue social prescriptions that recommend, advise and ‘prescribe’ individuals to connect with charities, advice centres and activity groups that offer services to help improve health and wellbeing. Social prescriptions can link primary care providers and their patients with “non-medical sources of support within the community”, which could include walking or cycling groups for older people⁶⁸.

Improving the built environment

As described above, evidence from Europe shows that improving the built environment can encourage participation in active travel. Encouraging mixed-use development, with residential buildings, leisure facilities and shops all being in the same geographical area can provide a safer and more convenient built environment in which older people can walk or cycle.

In addition, more should be done to follow the World Health Organisations Age Friendly Cities Agenda. Manchester has already been recognised as the world's first Age Friendly City and other cities around England should follow their lead. Key changes would include: increasing the number of public toilets, improving public seating, ensuring pavements are in good repair and lengthening the time given to cross at road crossings.

Active Travel Act

Since 2013, the Active Travel (Wales) Act has required local authorities continuously to improve facilities and routes for pedestrians and cyclists and to prepare maps identifying current and potential future routes for their use. It also specifies that new road schemes (including road improvement schemes) must consider the needs of pedestrians and cyclists at design stage. The Act should be extended to cover the whole of the UK.

Technology offers opportunities with better electric bikes...

Electric bicycles, which provide the rider with extra support on longer journeys or when travelling up hills, could enable more older people to take up cycling, especially those who live in undulating rather than flat areas. Technological improvements mean that such bikes now have better battery power, are more stylishly designed and are less heavy. However, people may not be aware of the benefits they offer and they are more expensive than regular bikes. Retailers could offer trial or hire services so that individuals might try them out to appreciate their benefits before they invest in one.

Volunteering presents opportunities to make active travel more sociable...

'Community connectors', or champions, could volunteer to provide information and encourage other older people in the community to choose active travel. Connectors could, for example, organise group walks, or organise cycle buddy schemes, learn to ride schemes for adults and bike maintenance workshops.

The rural transport conundrum

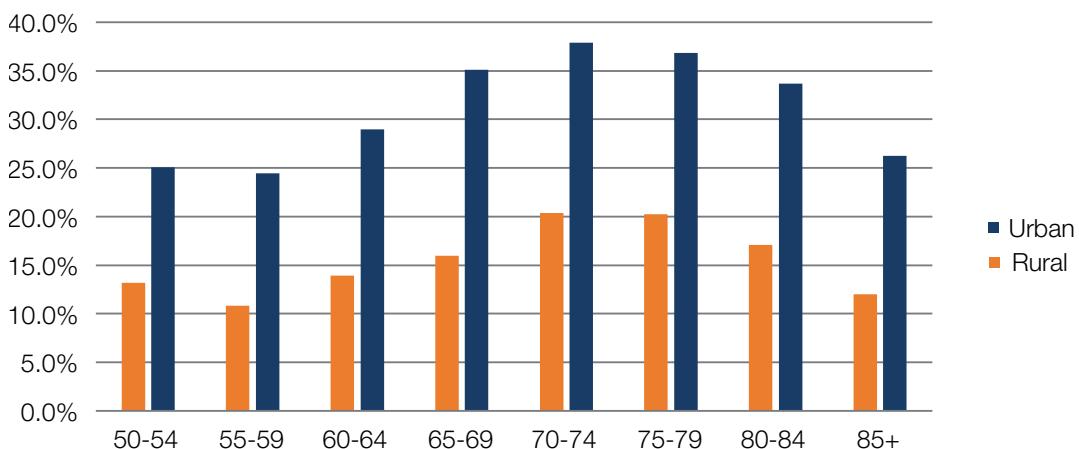
- 38% of those aged 70-74 who live in an urban area use public transport at least once a week compared to 20% of those in the same age group living in rural areas.

The latest census data, from 2011, showed us that rural residents had a median age of 45, compared to a median age of 37 in urban residents⁶⁹. Rural populations are also expected to age faster than urban populations. By 2028 the over 85 age group is set to increase by 186% in rural areas, compared to just 149% in the UK as a whole⁷⁰.

Use of public transport is significantly lower in rural areas than in urban areas across all age groups. Low population density in rural areas already means that providing cost-effective, regular and convenient public transport is challenging; the reduced spending power of local authorities due to cuts in funding from central government makes this conundrum rather more difficult. The Bus Service Operator Grant (BSOG), the scheme that refunds a percentage of the fuel duty local bus service operators pay in the UK, has now been devolved to local authorities⁷¹. Whilst this provides opportunities, the Government has only promised to ring-fence this grant until 2017 so there is a danger that this grant may be further reduced, making operating bus routes in rural areas less financially viable⁷².

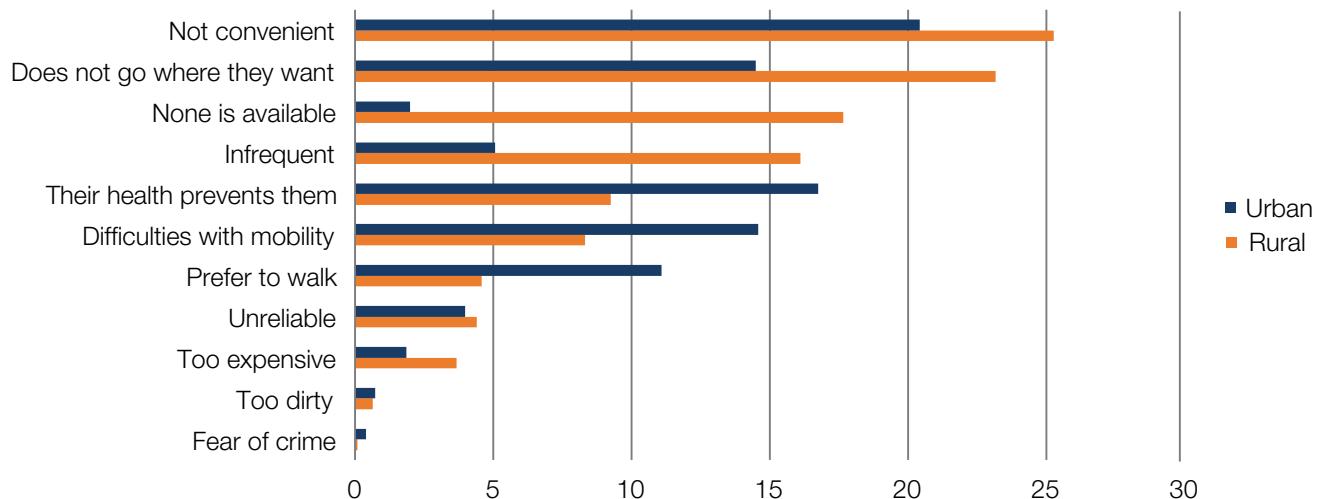
Rural areas would, in the past, often have amenities such as shops and post offices in the local vicinity. However, a 2008 report from the Department of Communities and Local Government found that nearly half of all neighbourhoods have lost important amenities in the previous four years, with rural areas hit especially hard⁷³. Rural life now is heavily dependent on access to a car, a challenge for many older people.

Fig 14: Proportion of people aged 50 and over using public transport at least once per week



Source: English Longitudinal Study of Ageing wave 6, 2012-13

Fig 15: Reasons cited for not using public transport among the over 65s



Source: English Longitudinal Study of Ageing wave 6, 2012-13

Not using public transport seems more likely to be an individual choice for people living in urban areas with people likely to say that they do not use it because they do not need to or because they prefer to walk. Conversely, in rural areas public transport is poor. People living in rural areas do not use public transport because it is less convenient, infrequent, does not go where they wish or is simply not available.

How can we improve transport in rural areas?

Community car sharing schemes present an opportunity to help both old and young in rural communities...

The potential exists in rural communities of a mutually beneficial trade – older people who no longer feel confident driving could donate their car to a younger person in need of a new vehicle. This would then entitle them to transport vouchers for lifts in donated cars. Schemes already exist whereby it is possible to donate a vehicle for it to be used by a charity, with the car either being sold to generate revenue for the organisation or with the car being used to support the operations of the organisation. Furthermore transport vouchers are already available in some areas for people who cannot use public transport. A programme which brought both these ideas together, where people donated their car to be used to provide transport in their community in return for vouchers to use such a service, could benefit both old and young people in rural communities.

A combination of volunteering and technology has the potential to make lift sharing more efficient and more widely available...

Lift sharing is already common in rural communities, either informally among neighbours or more formally through link schemes. Online lift sharing platforms and mobile phone apps have the potential to open up such schemes to a greater number of volunteer drivers and to make it easier for people to see what lifts are available. An app or website which allowed people to post offers of lifts, and for others to either request lifts or respond to the offers already posted, could streamline lift sharing. Such an app could benefit any member of a rural community without easy access to cars, not just older people. As with any digitised solution, such a scheme would exclude older people without access to the internet; however, the benefit of an online system would be that it could be easily accessed remotely by relatives or friends who could use it to book transport for older people.

Conclusion

This report has investigated the transport difficulties faced by older people, exploring the issues surrounding driving in later life, use of public transport and engaging in active travel. As things stand we argue that public transport is failing to meet the needs of older people - in particular it is failing to meet the needs of the over 80s, those in poor health, those with low incomes and those living in rural areas.

With a new Parliament now in session the next five years could see important improvements to transport services. Three key opportunities for improvement run throughout this report: opportunities presented by improvements in technology, opportunities from increased local decision making and opportunities from volunteering.

Local decision making

- Devolution of central Government powers to local communities could mean more flexible transport services which better reflect the needs of older people. Strong local leadership could also better deliver safe, accessible, and reliable transport to meet the needs of older people.
- The Buses Bill could help promote integrated transport.
- The Welsh Active Travel Act, requiring local authorities to continuously improve facilities and routes for pedestrians and cyclists, could be a model to promote higher rates of active travel.
- Age friendly infrastructure is fundamental to developing innovative transport solutions. This requires an integrated approach to the planning and design of road networks, cycle lanes, safe crossings, level pavements, and the location of amenities and services.

Technological Improvements

- If designed to meet the needs of older people, the increasing use of assistive technology in cars, telematics in determining insurance premiums, and potentially driverless cars, could enable older people to continue driving safely for longer.
- The development of new platforms, such as mobile phone apps, to support the “social economy” could facilitate greater peer to peer transport provision.
- Wider use of live departure boards and audio-visual announcements on buses could increase older people’s confidence in using public transport.

Volunteering

- Volunteer run schemes could encourage older people to choose active forms of travel by making cycling and walking into sociable activities.
- Community car sharing schemes with volunteer drivers are very important for supporting mobility in rural areas and should be extended.
- Volunteers could make busy transport hubs easier to navigate.



Achieving change

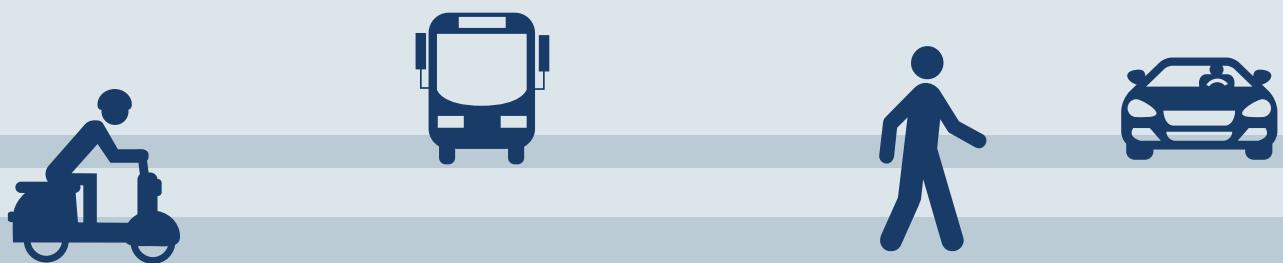
We hope that these opportunities will be seized by Government, transport providers and the voluntary sector alike so that by 2020 we have a sustainable transport system to meet the needs of our ageing population.

Local Government should encourage the pooling and sharing of resources to help fill gaps in local transport provision, working together with the voluntary sector.

Older people's access to healthcare must be improved by better linking of health and transport services.

Public transport providers should design their services with older transport users in mind, using technological improvements and customer insight to improve their experiences.

When using new technology and design processes insurers and car manufacturers must ensure they take older people's needs into account.



Appendix 1: Attendees of the workshop ‘The Future of Transport in an Ageing Society’, April 2015

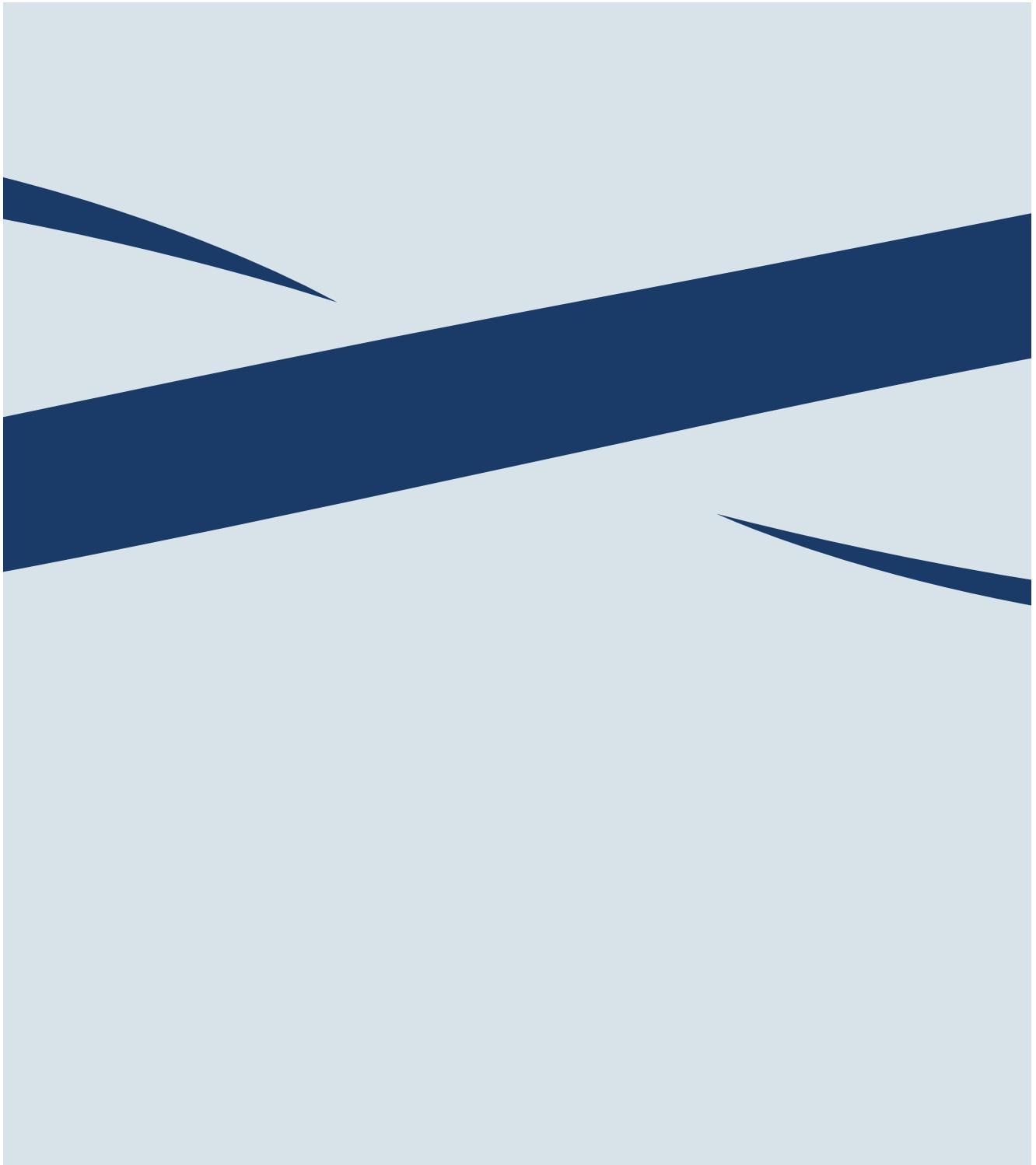
Anthony Laverty, Imperial College London
Charles Carter, Institute of Charted Accountants in England and Wales
Charlie Musselwhite, Swansea University
Chris Cornwell, Hampshire Association of Older People's Forums
David Graham, East Sussex Senior's Association
David Richardson, Age UK
Elizabeth Webb, ESRC International Centre for Life Course Studies
Emily Lewis, Oxfordshire Rural Community Council
Garth Johnson, Newcastle University
Gwyneth Pedler, Transport for All
James Harris, Royal Town Planning Institute
James MacColl, Campaign for Better Transport
Jocelyn Pearson, Passenger Focus
Joe Oldman, Age UK
John Jerry, Nottinghamshire Older Peoples Forum
John Welham, Future Years
Justin Ryan, Southeastern Railway
Kamal Panchal, Local Government Association
Kit Mitchell, Transport Scientist and Engineer
Lianna Etkind, Transport for All
Lucy Saunders, Transport for London
Neil Smith, Sustrans
Ralph Smyth, Campaign to Protect Rural England
Roger Mackett, University College London, Centre for Transport Studies
Ronald Douglas, National Pensioners Convention
Sam Russell, London Overground
Shelagh Marshall, Yorkshire and Humberside Age Action Alliance
William Ions, The North East Forum on Ageing

Endnotes

- 1 Age UK. (2013). Health concerns would make people consider stopping driving.
- 2 ELSA data and ONS 2011 census data.
- 3 The Active People Survey (2012-13) conducted by Sport England
- 4 Laura Asher, Maria Aresu, Emanuel Falaschetti, and Jennifer Mindell (2012) *Most older pedestrians are unable to cross the road in time: a cross-sectional study*. Age Ageing first published online June 13, 2012 doi:10.1093/ageing/afs076
- 5 Mid - 2013 Population Estimates UK Office for National Statistics, 2014
- 6 National population projections, 2012 - based, Office for National Statistics, 2013
- 7 ONS population estimates, mid-2012
- 8 Mid-2002 to Mid-2013 Population Estimates of the very old (including centenarians), UK Office for National Statistics
- 9 ONS 2012 based population projections
- 10 Conservative Party Manifesto (2015). Available at: <https://www.conervatives.com/Manifesto>
- 11 JRF. (2015). *The cost of the cuts: The impact on local government and poorer communities*.
- 12 Spinney, J. et al. 2009. Transport Mobility Benefits and Quality of Life: A time-use perspective of elderly Canadians. *Transport Policy*. 16 (1).
- 13 Green, J. et al. 2014. More than A to B: The role of free bus travel for the mobility and wellbeing of older citizens in London. *Ageing and Society*. 34 (3).
- 14 Davey, J. 2007. Older People and Transport: Coping without a car. *Ageing and Society*. 1.
- 15 Ziegler, F. and Schwanen, T. 2011. 'I like to go out to be energised by different people': an exploratory analysis of mobility and wellbeing in later life. *Ageing and Society*. 31 (5).
- 16 Hawkley, L. et al. 2010. Loneliness predicts increased blood pressure 5-year cross-lagged analyses in middle-aged and older adults. *Psychology and Ageing*. 25 (1).
- 17 Coronini-Cronberg, S. et al. 2012. The Impact of a Free Older Person's Bus Pass on Active Travel and Regular Walking in England. *American Journal of Public Health*. 102 (11).
- 18 Greener Journeys. 2014. The costs and benefits of concessionary bus travel for older and disabled people in Britain.
- 19 NPC and ILC-UK/ (2015). Decision Time: Will the voluntary sector embrace the age of opportunity?
- 20 Department for Transport. 2010. National Travel Survey.
- 21 Department for Transport. (2013). Adult personal car access by age and gender England, 2013.
- 22 Department for Transport (2012). Average number of trips (trip rates) by age, gender and main mode: Great Britain, 2012.
- 23 Department for Transport (2010). Driving license holding and vehicle availability.
- 24 RAC Foundation. (2010) Maintaining safe mobility for the ageing population: The role of the private car.
- 25 RAC Foundation. (2010) Maintaining safe mobility for the ageing population: The role of the private car
- 26 Which? (2012) Car insurance woes for older drivers

- 27 Which? (2014) Are older drivers being unfairly penalised on car insurance?
- 28 Age UK. (2013). Health concerns would make people consider stopping driving.
- 29 <http://www.confused.com/car-insurance/specialist/telematics/telematics-explained>
- 30 <http://www.aviva.co.uk/drive/>
- 31 Department for Transport. (2015). The pathway to driverless cars: Summary report and action plan.
- 32 Society of Motor Manufacturers. (2015). Connected and Autonomous Vehicles: The UK Economic Opportunity.
- 33 Steinfeld, A., & Steinfeld, E. (2001). Universal design in automobile design. *Universal design handbook*, 50, 13.
- 34 ELSA data and ONS 2011 census data.
- 35 ILC-UK. (2015) Serious Illness in the Over 50s.
- 36 Purdy, S (2010) Avoiding hospital admissions: What does the research evidence say? The King's Fund
- 37 National Audit Office (2013) Emergency admissions to hospital: managing the demand
- 38 http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=144
- 39 First Bus Group and TfL are among the providers offering the training
- 40 Alzheimer's Society website - Equality, discrimination and human rights
- 41 Programs for Elderly. Available at: <http://www.programsforelderly.com/memory-first-group-bus-driver-dementia-sensitivity-training-awareness.php>
- 42 Alzheimer's Society. (2013). *Alzheimer's Society welcomes new awareness training for bus drivers*. Available at: http://www.alzheimers.org.uk/site/scripts/news_article.php?newsID=1818
- 43 Office for National Statistics (2014) % Never Used the Internet – 2014 Q1
- 44 Department for Transport bus statistics, Table BUS0105 (2014)
- 45 Baker, Stuart, White, Peter. (2010). Impacts of free concessionary travel: Case study of an English rural region. *Transport Policy*, Volume 17, Issue 1, pp 20-26.
- 46 Baker, Stuart, White, Peter. (2010). Impacts of free concessionary travel: Case study of an English rural region. *Transport Policy*, Volume 17, Issue 1, pp 20-26.
- 47 Baker, Stuart, White, Peter. (2010). Impacts of free concessionary travel: Case study of an English rural region. *Transport Policy*, Volume 17, Issue 1, pp 20-26.
- 48 Greener Journeys (2014) The costs and benefits of concessionary bus travel for older and disabled people in Britain
- 49 Author's calculations based on ONS population projections and Greener Journeys (2014) The costs and benefits of concessionary bus travel for older and disabled people in Britain.
- 50 Laura Asher, Maria Aresu, Emanuela Falaschetti, and Jennifer Mindell (2012) *Most older pedestrians are unable to cross the road in time: a cross-sectional study*. Age Ageing first published online June 13, 2012 doi:10.1093/ageing/afs076
- 51 Kirk-Sanchez, N. et al. (2014). *Physical exercise and cognitive performance in the elderly: current perspectives*. Clinical Interventions in Aging. 9.
- 52 Holme, I. and Anderssen, S. (2015). *Increases in physical activity is as important as smoking cessation for reduction in total mortality in elderly men: 12 years of follow-up of the Oslo II study*. British Journal of Sports Medicine. 49 (11).

- 53 Gunnell, K. et al. (2014). *Goal contents, motivation, psychological need satisfaction, well-being and physical activity: A test of self-determination theory over 6 months*. Psychology of Sport and Exercise. 15 (1).
- 54 Aniansson, A., Hedberg, M., Henning, G. & Grimby, G. (1986). Muscle morphology, enzymatic activity and muscle strength in elderly men: a follow up study. Muscle and Nerve, 9 , 585-591
- 55 Rosenhall, U., & Rubin, W. (1975). Degenerative changes in the human vestibular sensory epithelia. Acta Otolaryngolia, 79 , 67-81.
- 56 Laura Asher, Maria Aresu, Emanuela Falaschetti, and Jennifer Mindell (2012) *Most older pedestrians are unable to cross the road in time: a cross-sectional study*. Age Ageing first published online June 13, 2012 doi:10.1093/ageing/afs076
- 57 The British Toilet Association (2013)
- 58 Sport England/Department for Transport. (2014) Local area walking and cycling statistics: England 2012/13
- 59 Pollock, R.D. et al. (2015). An investigation into the relationship between age and physiological function in highly active older adults. *The Journal of Physiology*. 593 (1).
- 60 Buehler, R., Pucher, J., Merom, D., & Bauman, A. (2011). Active travel in Germany and the U.S.: Contributions of daily walking and cycling to physical activity, American Journal of Preventive Medicine,41(3)
- 61 <http://www.bbc.co.uk/news/magazine-21786511>
- 62 Dutch Bicycling Council. 2006. *Continuous and Integral: The Cycling Policies of Groningen and other European Cities*. Available from: <http://www.fietsberaad.nl>
- 63 Pucher, J. and Buehler, R. 2008. *Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany*.
- 64 Ibid.
- 65 Table NTS0622 in Department for Transport (2014a).
- 66 A. Gentlemen (2012) The trouble with mobility scooters, The Guardian, Wednesday 2 May 2012
- 67 Department for Transport statistics (2013). Vehicles involved in reported accidents by accident severity and vehicle type, Great Britain, 2013
- 68 Centre for Regional Economic and Social Research. 2013. *From dependence to independence: emerging lessons from the Rotherham Social Prescribing Pilot*
- 69 ONS. (2013). Comparing Rural and Urban Areas of England and Wales.
- 70 Oxford Consultants for Social Inclusion, for Cabinet Office, 2009
- 71 <https://www.gov.uk/government/collections/background-to-the-bus-service-operators-grant-bsog>
- 72 Department for Transport. (2013). *Bus Subsidy Reform Consultation Analysis*.
- 73 Department of Communities and Local Government. 2008. *Government Response to the Communities and Local Government Committee's Report on the Department for Communities and Local Government's Annual Report*

**ILC-UK**

11 Tufton Street

London

SW1P 3QB

Tel : +44 (0) 20 7340 0440

www.ilcuk.org.uk

Published in June 2015 © ILC-UK 2015

Registered Charity Number: 1080496.

Supported by

