CENTRE FOR AGEING BETTER

Ageing and mobility: A grand challenge

September 2019

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Background

The Centre for Ageing Better has been exploring the high-level policy intersections between the Industrial Strategy Grand Challenges on Healthy Ageing and the Future of Mobility.

This paper provides analysis of evidence, experiences and insights gained from our strategic partnership work in two major UK cities (Greater Manchester and Leeds) as well as wider stakeholder engagement. The paper is intended to spark innovation and collaboration, promote discussions between a wide variety of stakeholders, and to help inform future research and activity.

Introduction

A case for urgency and change

More of us are living longer than ever before. Someone aged 65 today can expect to live to 85, nearly ten years longer than their parents' generation, with profound implications for how we organise society. Mobility and transport are key in helping people to remain healthy, active and connected in later life (Holley-Moore & Creighton, 2015). Mobility meets practical needs, such as getting to the shops or the hospital, or seeing friends and family and participating in community life. It also serves emotional needs (Musselwhite, 2010), improving both quality of life (Schlag et al, 1996) and wellbeing (Ziegler & Schwanen, 2011) as we age.

How we get around also influences how well we age, with an increasing body of evidence suggesting that walking, cycling and the use of public transport all contribute to better health outcomes (e.g. Flint et al 2016, Laverty et al 2018, PHE 2018). Despite this, one third of older adults report unmet travel needs in relation to pursuing leisure activities or visiting friends and family (Luiu et al 2016).

We are also on the brink of major disruption to the ways in which we move around our cities and communities. Innovation – driven by new technologies, services and business models such as Autonomous Vehicles, Mobility as a Service (MaaS) and Intelligent Transport Systems – will yield benefits for all ages. However, our ageing population demands both a case for urgency and for specific consideration as to how these innovations are designed and implemented to meet our needs and aspirations as we age – ensuring they are accessible and inclusive from the outset.

We remain a car centric society and increasing numbers of drivers are aged over 70 (DfT, 2015). People in rural areas in particular are highly dependent on private vehicles. We therefore need to think about how innovation can extend driving lives, safely and confidently, as well as support those people who want or need to stop driving.

We need to promote solutions that support active and healthy behaviours, such as walkable communities and active travel options. All of this will require a concerted effort and collaboration to address the hard issues of system fragmentation and complexity, which also act as barriers to innovation.

Mobility challenges faced in later life

Through our expert workshop, we identified a range of mobility needs and barriers people face in later life that have implications for how innovations are designed and delivered. These include:

- **People approaching and in later life want and need flexible transport options** - millions of over 50s still work, have caring responsibilities and volunteer. However, travel options become more limited with age with an increased reliance on often limited public or community transport provision.
- **There is often a price premium for flexibility** - alternative modes such as taxis, which offer greater flexibility and choice, are not affordable for all.
- **The design of the public realm can hinder active travel** and affect the ability to access public transport. Issues include a lack of amenities (toilets, benches), the condition and design of pavements and lack of appropriate maps/signage.
- **The design of vehicles, and the digitisation of timetabling/ticketing information** and transport booking can cause significant access issues.
- **Routes favour 'in and out' commuting** not the journeys people often want to make across or between communities.
- **A complex and fragmented policy and commissioning landscape**, across different departments and sectors in the provision of public and community transport acts as a barrier to use and improvement. This results in difficulties for individuals to navigate the systems and weakens system-wide incentives for integration and innovation.

On average at least one-third of older people report unmet travel needs. It worsens with age, and women were reported to be more affected than men.

(Luiu et al 2016).


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Opportunities for innovation

Accessible and inclusive new technologies, services and business models

As we grow older, we are more likely to have health conditions and disabilities that restrict our ability to get around. People with a mobility disability might find it difficult to walk to the bus stop, while visual decline will stop some people from being able to drive anymore.

Inequalities also influence the proportion and amount of our lives spent in poorer health. For those who are no longer able to walk far or drive it is essential that people can maintain their level of independence and freedom.

Traditional modes of transport such as taxis and public transport play an important enabling role – but only if vehicles are well-designed, there is adequate provision to meet the need and journeys are affordable.

New models of intelligent transport offer some promising solutions. However, unless we pay specific attention to the needs of an older population there is a risk of accidently exacerbating inequalities or 'designing out' those who stand to benefit the most from these innovations.

The **door to vehicle** stage of the journey is a significant challenge for many people in later life – both in getting to the vehicle, but also with activities such as moving luggage or shopping from the vehicle to their house.

Equity in access to transport options across **rural and urban** areas also needs to be considered. Furthermore, given the high concentration of older people in rural areas, it essential that any new solutions are deliverable within rural areas.

Trials of new provision should be co-designed and tested with people in both mid and later life, and in rural areas.

66% of older people cannot reach a hospital within 30 minutes by public transport.

(Future of Mobility: Evidence Review).

Specific issues to address in their development include:

- **New vehicles, including Autonomous Vehicles, need to be designed to be accessible** for people with limited mobility.
- **Addressing the door to vehicle portion of the journey**, which can be the biggest barrier to using public transport for people with health conditions.
- **Designing for rural provision** where there are higher percentages of older people and a greater reliance on private vehicles than in urban centres.
- **Developing non-digital ways for customers to interface with MaaS** and other transport information/ticketing/ planning services, such as in person or through voice activated options.
- **Build in consideration of the accessibility needs of users** (including both the accessibility of vehicles and the interchanges between modes) in MaaS and other transport planning services.
- **Development of equitable models of ownership and cost** (including exploring community, shared and public ownership).

We should explore systems that support the recruitment and management of volunteers to assist with journeys and to operate as drivers. Volunteers are a valued resource amongst community transport providers and passengers, whilst many volunteers themselves are over 50.

Extending car driving, and supporting those who reduce or stop driving

There has been a significant increase in the number of older drivers on the road. Most older people rely on private vehicles to get around and driving is an important source of independence and wellbeing for people in later life (Musselwhite, 2011). This is particularly the case for rural populations and younger cohorts of older people, who are working for longer and have never or rarely used public transport.

Research also shows that giving up driving can have negative impacts on your health – including a decrease in wellbeing, increase in rates of depression and other related health problems (Musselwhite, Unpublished).

When people do hang up their keys, having a choice of suitable, affordable and flexible alternatives (including new technologies) is critical for people to continue to do what matters to them and to maintain a sense of freedom and independence. Innovations should consider:

- **Accessible design of cars and controls including in-car technologies** and semi-autonomous features that support safe-driving.
- **Supporting self-regulating behaviour** – using data on road congestion, complexity of junctions etc. to enable people to plan 'safe' routes, or providing feedback on driving behaviours / patterns to improve driving safety.

Mobility centres and wider community services could play a role in supporting people in the **transition to new modes of transport** and the adoption of alternatives:

- **Models of training & support** that provide access to emotional and practical support through driving cessation – such as peer support groups and travel 'clubs'.
- **Information, advice & guidance on driving cessation and 'life after driving'** – encouraging early planning and preparation, and consideration of alternatives.

On average, people with disabilities and mobility issues take 60% fewer trips than other adults.

(National Travel Survey: England 2018).

Active and accessible neighbourhoods

The design and condition of streets, pavements, shared spaces and the public realm can encourage and support walking, cycling and the use of public transport, all of which are positively associated with health outcomes in later life (Laverty et al 2018, PHE, 2018).

Investment is needed in innovations to increase the uptake of walking and cycling in mid-life and to support people to continue active travel into their later lives. Possible approaches include:

- Innovations in the design of the public realm such as **intelligent road crossings and traffic systems** (e.g. Crosswalk app) to enable it to adapt to different pedestrians' needs.
- **Interactive maps/information** to help people navigate the public realm (including information on amenities, walkability).
- Building walking and cycling into **commuting and leisure travel infrastructure.**
- Ensuring innovative products, such as electric bikes, which can support active travel into later life are **affordable and accessible.**

The evidence is mixed on the effectiveness of social incentives (e.g. walking/cycling clubs) and/or financial incentives (e.g. travel discounts) to take up and sustain active travel. We need to further explore these, especially those that can be built into business models to enable sustained behaviour change.

Three quarters of older people interested in using autonomous vehicles envisaged using them for non-essential journeys, like leisure activities,holidays or to visit family.

(Flourish: User needs, June 2019).

Integrated policy, strategy and investment

The systems and policy context for mobility and transport is complex and fragmented and can present a major barrier to collaboration and innovation. We need more coherent ownership and leadership of transport provision to ensure that it is tailored to the needs of our ageing population.

At a local level, increased collaboration between community, public and private transport operators could improve the reach of local transport services and ability to personalise provision.

At a national level, closer working and collaboration between Department for Transport (DfT), Department for Health and Social Care (DHSC) and Local Authorities is needed to respond to the mobility needs and demands of those in later life, and in ensuring health and care services are accessible.

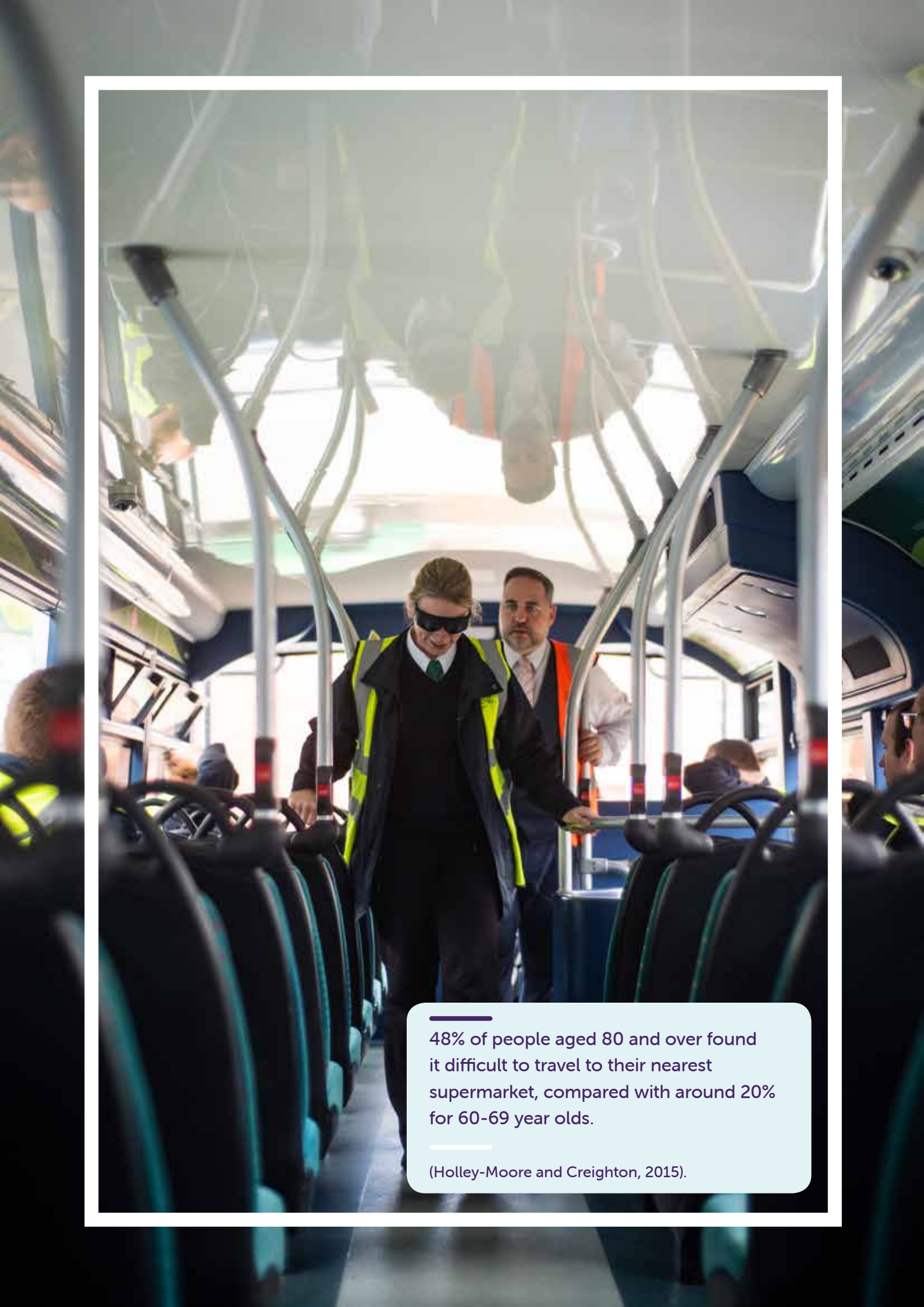
Whilst DfT's Inclusive Growth Strategy and the newly established Inter-Ministerial Group on Disabled People and Society are a promising start in providing the leadership required, there is scope to stimulate innovation that supports the development and delivery of more integrated provision.

New business models that better align incentives and enable coordination across sectors are required. There are also opportunities to develop better ways to use data to inform planning and commissioning of transport services:

- Use national and local data sources to **identify current and forecast future, transport needs.**
- Understand and make visible the potential **cost benefits** to health and care systems from transport investments.
- Incorporate **healthy ageing and social connections** as outcomes in integrated transport models (such as Maas).

Most pedestrians over 65 are unable to cross the road in time at traffic lights.

(Asher et al.,2012).



48% of people aged 80 and over found it difficult to travel to their nearest supermarket, compared with around 20% for 60-69 year olds.

(Holley-Moore and Creighton, 2015).

Conclusion

The design and thinking that goes into any new technologies, services and business models must include older people as a key user group from the outset. It will also be critical to embed digital support or make offline alternatives available when solutions spring from digital and technological innovations. This is especially important when working to reduce the gap between rich and poor.

Our current transport system is complex and fragmented. This is a barrier to innovation and collaboration and reduces the incentive to invest in interventions to support healthier later lives. There is a role for local and national government to provide political will and drive change in an area where few people 'own' the problem. The Grand Challenges on Healthy Ageing and the Future of Mobility offer an opportunity to stimulate the leadership and collaboration required to deliver the sustainable change which is needed to improve lives now and into the future.

Glossary

Intelligent Transport Systems (ITS) use IT and telecommunications applications to send and receive real time information about passengers and vehicles locations for example, to support transport safety and efficiency – examples of ITS in action include smart ticketing, electronic tolling, automatic traffic light controls and real-time travel information.

Mobility as a Service (Maas) is a term that describes bringing multiple transport services together through a single point of access. Maas includes public, community, shared or private vehicles (bike or car share, taxis, buses or trains etc) which can be managed and booked seamlessly, normally through a digital platform such as a smartphone app. MaaS also brings new business models such as monthly subscriptions or end to end ticketing.

Autonomous Vehicles, also known as self-driving or driverless cars, are vehicles which require little or no driver or human input to get from A to B. Automation can cover a range from full driverless to elements of the task such as automated brakes or parking.

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