

# Ageing, transport choice and healthy living



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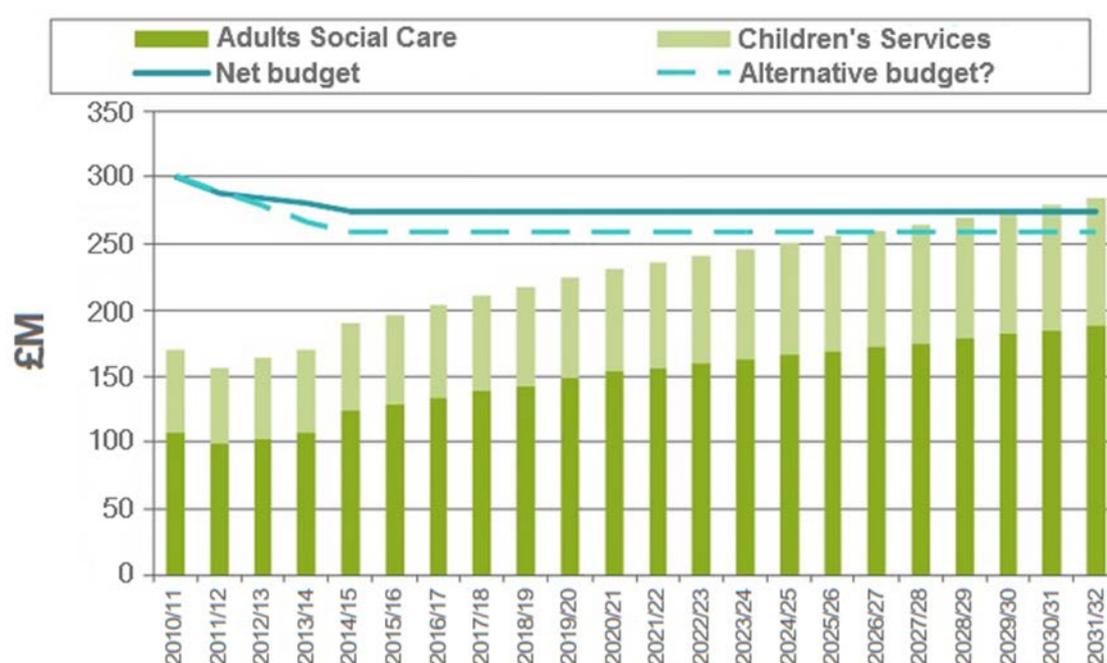
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## Introduction: Can we afford to get old?

Sometimes, the simplest analysis tells us all we need to know. In 2011, Barnet council's budget committee was presented with a terrifying Powerpoint slide. It showed that within 20 years the authority's entire budget would be consumed by the social care demands of an ageing and increasingly unhealthy population. The 'Barnet graph of doom' quickly did the rounds of media and political commentators, generating criticism, refutation and controversy. Clearly, it is not the output of a strict economic modelling programme, but it does illustrate the problem faced by local authorities in a time of austerity.

**Figure 1: Barnet Graph of Doom**



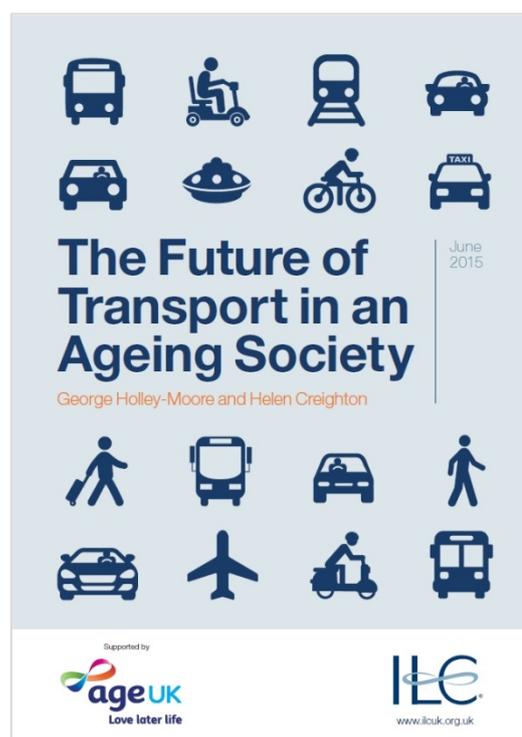
(Source: Barnet Council)

The scale of demographic change we face is unprecedented. Over the next 25 years, the number of over-65s will increase dramatically: by two thirds according to the Local Government Association<sup>1</sup>. We are living longer, but we are increasingly contracting lifestyle-related non-communicable diseases (NCDs). Expensive to treat and long lasting, many NCDs are linked to ageing. Someone has to pay for this long-term treatment, and it's not clear where the money can be found. So it is a priority to develop policies which protect people's quality of life while rolling back the growth in NCDs.

## Purpose of this paper

This paper aims to provoke discussion about the transport and travel choices we make as individuals, the wider physical, social and cultural environment within which we make them, and how these relate to older people's experience. It is a contribution to the Foresight 'Future of an ageing population' project, but may have some wider relevance – while the great strength of Foresight is the long time frames it studies, up to 50 years, the 'graph of doom' illustrates that this problem is in our face right now.

The paper is focused on how travel choice, through the life course as a whole and specifically in later life, can promote or harm health: this is a public health issue. It does not therefore address the issue of older people's access to healthcare services. This is however a significant issue in its own right and should also be addressed. A very good starting point is the Age UK / International Longevity Centre report from June 2015, 'The Future of Transport in an Ageing Society'<sup>2</sup>, which among other issues looks at the startling inequalities in access to healthcare among older people.



## What do we mean by 'older'?

The issues addressed by this paper are broad and generic. We can discuss them and make recommendations without waiting until all the gaps in our knowledge about older people, their choices and behaviour, and their lifestyles and health, have been filled. But it may be helpful to acknowledge that we are handicapped by a lack of clarity about what constitutes 'older', and a shortage of evidence around how behaviour and health vary from age band to age band, according to class, location, ethnicity or other factors. Evidence and arguments based on information about the 55 – 65 age group may not be helpful if we are considering people, for example, in the final ten years of life. See further comment on this in the considerations section at the end of the paper.

## Start active, stay active... or at least become active in later life

When the Chief Medical Officers (CMOs) of the four Home Countries commissioned a report on physical activity, their choice of title threw down an interesting line for discussion. 'Start active, stay active' is a great rallying cry, and should be a fundamental principle of public health policy. But what should be done when considering a generation of older people who have grown up less physically active than any generation preceding them? If they have become inactive prior to old age, what can we do?

The 2012 Health Survey for England records that 57% of men and 52% of women aged 65-74 years claim to meet current minimum physical activity recommendations, and even up to age 84, 43% of men and 21% of women<sup>3</sup>. Unfortunately, self-reporting of this kind can be untrustworthy: as the CMOs put it, "Recent objective measurements of physical activity suggest lower levels of participation; for example, accelerometry data collected in England reported that only 6% of men and 4% of women met the ... guidelines"<sup>4</sup>. So the problem is even worse than the official health survey reveals.

### We can't afford to be inactive

If the data about older people's physical activity levels are suspect, one thing we know well is the impact of a largely inactive population on the spread of NCDs, including heart disease and stroke, many forms of cancer, depression and other mental health problems. There is a useful matrix in 'Start active, stay active', illustrating the availability, and the strength, of evidence around the impact of a physically active lifestyle on these various NCD outcomes.

From a healthcare economics point of view, the scary monster is Type 2 diabetes. Diabetes UK calculates the cost to the healthcare system alone at over 10% of the total NHS budget - £1.5 million per hour throughout the year. Wider social costs, such as lost working time and productivity, more than double this figure<sup>5</sup>. And the relationship with physical activity is strong: a physically active lifestyle offers a 30-40% reduced risk of becoming diabetic<sup>6</sup>.

Or look at this another way: diabetes is responsible for 100 amputations per week: 80 of these are avoidable<sup>7</sup>. We are cutting the limbs off 80 people a week because they have avoidable diabetes, largely driven by environmental factors!

## Physical activity in later life

We are faced therefore with two, linked questions:

- if we enable people early in life to lead a healthy, active life, will they benefit when older?
- and if people have become inactive, and we support them when older to adopt a more active lifestyle, will they still be able to benefit?

Happily, the answers are 'yes' and 'yes'. The health benefits of an active lifestyle – or disease risk reductions if you prefer – are listed in 'Start active, stay active' and are huge. And it's never too late to increase one's physical activity level, as the BHF, among many, points out<sup>8</sup>. Benefits such as heart health, reduced cancer risk or prevention of diabetes are reinforced by issues more specifically relevant for older people, such as improved proprioception, reducing the risk of falls, and improved bone strength, meaning that falls if they do occur may not have such dramatic consequences for the individual.



## Healthy travel choices

Everyone has an opinion about public health issues, and often the opinion is that obese, diabetic, inactive or otherwise unhealthy people should just pull their socks up and change their ways. In reality, the physical, social and cultural environments within which they live effectively determine people's behaviour. We have planned and engineered physical activity out of people's lives, and it is now clear we need to reverse the process. The whole public health sector speaks with one voice on this. Exhort and encourage individuals to become more active, by all means, but create the conditions for them to do so, or any behaviour change is unlikely to be sustained. This is true across the whole life course.

## Physical activity doesn't just mean sport

It is also common for non-experts to conflate sport and physical activity, or even to suggest that physical activity of various kinds is a kind of pyramid with sport at the top: if we get more people walking, dancing, gardening, they can aspire to graduate to swimming and playing football. This is clearly nonsense, but it has in the past influenced much physical activity policy.

## The role of active travel in meeting the Olympic physical activity legacy target

Within the framework of the London 2012 Olympic games, the government set a target to get 2 million more people physically active in the UK, 1 million through sport and the other half through campaigns led by the Department of Health. There is a very good one-page paper from the Commons Library, in 2010, considering this target and the likelihood of meeting it<sup>9</sup>.

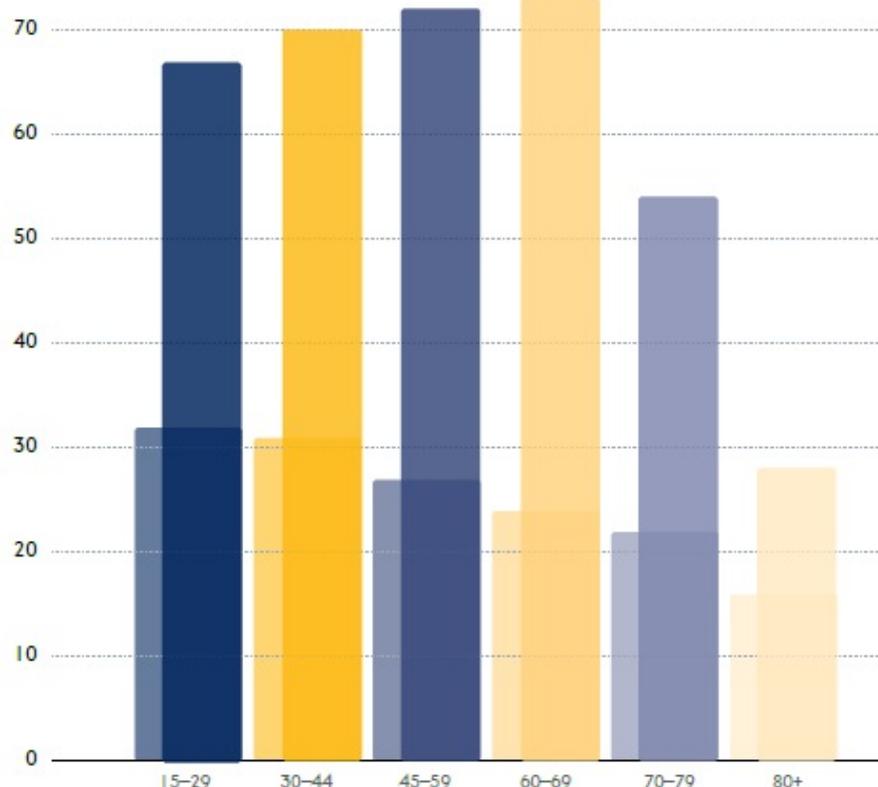
In the event, the whole 2 million people legacy target was met by the National Cycle Network, developed over the past 20 years by a huge web of local partnerships across the UK, coordinated by Sustrans. By 2014 the Network was carrying over three quarters of a billion trips per annum (despite the name, mostly on foot) by almost 5 million people. Roughly half those users are insufficiently active by the CMOs' measure, but 80% report increased physical activity through use of their local routes<sup>10</sup>. In 2013, a third of users were over 55<sup>11</sup>.

The National Cycle Network is therefore in public health terms a really important environmental intervention to promote public health. Alongside it, the national walking and cycling bodies as a sector, particularly through the Active Travel Consortium<sup>12</sup>, have successfully engaged around 2 million people in increased physical activity through active travel (we may assume a large overlap between these beneficiaries and those counted on the National Cycle Network infrastructure).

The CMOs put it this way: "For most people, the easiest and most acceptable forms of physical activity are those that can be incorporated into everyday life. Examples include walking or cycling instead of travelling by car, bus or train"<sup>13</sup>. This is of course intuitive, but we need to ensure it informs policy and practice – people will walk and cycle more if we create conducive conditions. To illustrate the scale of the potential benefits, Transport for London has estimated that even for the 70-79 age group, more than half their physical activity needs could be met by active travel<sup>14</sup>.

Perhaps the most authoritative voice on health evidence and practice is that of the National Institute for Health and Care Excellence (NICE). NICE public health guidance 8, 'Physical activity and the environment' sets out a number of specific recommendations on environmental change to promote and enable physical activity in daily life: most of these are planning or traffic engineering measures<sup>15</sup>.

**Figure 2: Proportion of adults in London who could meet their physical activity needs through walking and cycling**



(Source: Transport for London, 2014 - Improving the health of Londoners)

## Air quality: first, do no harm

Physical activity is not the only way transport policy and practice impact on public health. Local air quality is an area of particular significance in the UK, where the government has been before the European Court of Justice, and was recently ordered by the UK Supreme Court to comply with EU air pollution regulations. Particulate air pollution – overwhelmingly coming from the use of motorised transport – causes almost 30,000 premature deaths each year across the UK<sup>16</sup>.

But mortality is not the only negative impact of local air pollution, particularly with regard to older people: at least as relevant here is the role of particulates in accelerating cognitive decline.

Improvements to local air quality may be an important mechanism for reducing age-related cognitive decline<sup>17</sup>. A 2015 paper in *Stroke* notes that exposure to elevated levels of PM<sub>2.5</sub> particulate pollution was associated with smaller total cerebral brain volume (a marker of age-associated brain atrophy) and with higher odds of covert brain infarcts. The suggestion is that air pollution is associated with harmful effects on structural brain aging even in dementia- and stroke-free people<sup>18</sup>.

A working party led by the Royal College of Physicians will publish a robust and hard hitting report on air quality early in 2016. It reviews evidence including that relating to cognitive decline. Hopefully, this may catalyse government action.

## Can policy makers see beyond motor transport?

Much UK transport policy seems to regard mobility – the possibility for more people to travel further, faster – as a good thing in itself. This makes little sense: we travel in order to access education, employment, goods, experiences, social contact, and not least healthcare services. If all these desiderata could be provided within short walking distance, minimising the need to travel and the concomitant costs, time and pollution, clearly that would be better.

Elsewhere in this paper I touch on the breadth of benefits achievable, and the value for money on offer, if national and local transport policies and investment programmes were to prioritise active travel. Policies and programmes regularly pay lip service to active travel, but the implementation still leans heavily to private motorised transport. It is difficult to understand why.

### The bus pass

So, given the way our built environment is currently laid out, and the distances that must be covered, it seems clear that – for now at least – widespread access to subsidised motorised public transport is a good thing for the health of many older people.

The English National Concessionary Travel Scheme, which provides free travel on a range of services for older and disabled people, enjoys huge public support and is very heavily used. Four out of five eligible older people have a pass, and holders make anything up to 250 trips per annum (this level of usage recorded, not surprisingly, in London)<sup>19</sup>. There may be a number of positive factors arising from this level of mobility and access, and various causal pathways, but it does seem that physical activity levels and health do benefit<sup>20</sup> (public transport trips generally involve a larger active travel component than car use).

In rural areas, or where public transport provision is scant, demand-responsive transport services may currently, at least in some places, plug the gap<sup>21</sup>. This seems likely to remain the case, and it is imaginable that automated vehicles might make future services cheaper and more flexible.

### Keeping drivers driving

Giving up the car keys is a dramatic life-course event, and one that most of us regard with trepidation. As things stand, with a built environment designed around private motorised mobility, those older people with access to a car will gain from driving as

long as they can, and may be tempted to continue when probably they should not. Meanwhile, those without car access will continue to suffer what is really a form of discrimination.

There are however interesting alternative viewpoints among expert advisory groups, such as the US-based HelpGuide.org: “Even if you find that you need to reduce your driving or give up the keys, it doesn’t mean the end of your independence. Seeking alternative methods of transportation can offer health and social benefits, as well as a welcome change of pace to life”<sup>22</sup>.

The next section of this paper suggests that we need to take a holistic view of older people’s behaviour, how they travel, their physical activity and its impact on their health, all combined with other parts of society. The behaviours are linked, and the positive or negative impacts appear across a range of policy sectors.

## The potential for active travel

If we create the conditions, a rise in the levels of active travel could be a literal lifesaver. To put the UK into its embarrassing context, about 1% of trips by older people are made by bike here: in the Netherlands that figure is 24%. And if it seems evident that the UK and the Netherlands would be the poles of this particular spectrum, 12% of trips by over-65s in Germany are cycled, while in Denmark, a similar percentage is achieved by 70-74 year olds<sup>23</sup>.

The UK is lagging, and not surprisingly – these high levels of cycle use by older people are a product of policies, practice and environments which support high levels of bike use throughout the life course. If for these countries the issue is simply to maintain high existing cycling levels as people age, the UK needs first to make active travel, and cycling in particular, easier to choose for people of every age.

## Co-benefits: achieving a range of policy objectives

In transport and in public health policy (as in other sectors) there are plenty of things we can do that pay back repeatedly across sectoral boundaries and address the objectives of many government departments.

The term co-benefit is often used to describe this multi-sectoral payback, and designing for active travel offers a wonderful array of co-benefits. Shifting priority, investment and road space from private motorised transport to walking and cycling means less road danger, reduced climate emissions and local toxic air pollution, less noise, more social contact and higher levels of physical activity. It benefits school attendance and academic performance, workforce productivity and sickness absence. It even seems to benefit city competitiveness<sup>24</sup>. A cornucopia of co-benefits.

The problem is that investment and effort come from one policy sector (generally transport) while the benefits are accrued by others (particularly the NHS and social care). Worse, the main payback is felt some time down the line, possibly long after the careers of the decision-makers are over.

This means that government, and other investors, need to employ what is sometimes called 'diagonal accounting': a trans-sector overview of the return on investment to identify the value to society as a whole, even if the direct investor is not the ultimate beneficiary.

## Value for money from active travel

The scale of return on investment from active travel is quite remarkable. The Department of Transport's (DfT) regards a BCR of 2:1 as a good return on investment. Walking and cycling schemes regularly return BCRs of over 10:1.

A review of published transport analyses, carried out in 2010 for the South West regional government office and the Department of Health, found;

*“almost all of the studies identified report economic benefits of walking and cycling interventions which are highly significant. The median result for all data identified is 13:1 and for UK data alone the median figure is higher, at 19:1”<sup>25</sup>.*

In 2010, the (then) CMO for England called for a doubling of walking and an eight-fold increase (from a much lower base) in cycling. A study by public health economists found that within 20 years this increase would lead to savings of roughly £17 billion (at 2010 prices) for the NHS alone, in England and Wales<sup>26</sup>.

A Cabinet Office paper from 2009 looked at where financial loss or wastage was occurring as a result of current transport systems. It found ten-digit costs occurring in each of six different policy areas: congestion, road casualties, local air pollution, physical inactivity, climate emissions and noise / loss of amenity<sup>27</sup>. Reducing older people's risk of cardio-vascular disease, cancer or dementia is a perfectly valid reason for moves to prioritise walking and cycling, but there are many, massive gains to be made from any such intervention, right across the policy spectrum and the age range.

## Considerations and future research

### Considerations

We should remind ourselves regularly that not all 'older people' are the same. There are patterns, related to gender, wealth, social class, even perhaps ethnicity, and we may not fully understand them yet. And within those patterns, individuals differ.

Inequality, and health inequality particularly, are really significant issues. The social determinants of health may play even more strongly in defining the quality of life of older people. A policy to address declining ability to drive, for example, needs to start

from understanding that driving has not been an option open to all, even before the onset of old age.

For example, financial or other support to assist in acquiring self-guiding vehicles, as they become available, might seem a natural and progressive policy, but in reality it would benefit those older people wealthy enough to buy and run a motor vehicle and discriminate against the poorest.

## Research and evidence

I suggest there should be a shift in research funding priorities, away from the 'hard', medical and clinical science of diseases and healthcare, towards the more complex and multifaceted study of behaviour, choice and healthy living. Let's study how to prevent the NCDs, rather than concentrate on what happens when they have already developed (this suggestion goes wider, of course, than research and evidence relating to ageing and older people).

Issues we need to understand include such broad, generic questions as:

- what steers the decision-making of older people around lifestyle factors?
- what influences decision-makers? Are their own lifestyle choices car-dominated and does this impact on their policies or investment planning?
- how do current transport systems impact on older people (for example, the impact of traffic speeds and volumes on social interaction, picking up on the themes of Appleyard and Lintell from the 1970s)?

A UK consortium called CycleBOOM ([www.cycleboom.org](http://www.cycleboom.org)) is beginning to look at some of these questions with regard to cycling. It may be useful to synthesise the findings with those of GOAL ([www.goal-project.eu](http://www.goal-project.eu)) and the various WHO publications on ageing.

And we could also benefit from some quite specific research, such as:

- do we know how many older people are injured, falling on pavements damaged by antisocial parking?
- we need more research on the benefits of cycling for osteoarthritis sufferers
- it would be useful to explore currently anecdotal suggestions that electric assisted cycles may help inactive older people to meet the CMOs' recommended physical activity levels
- there needs to be intensive monitoring and evaluation of the developing NHS England 'Healthy New Towns' programme, to identify which elements successfully promote healthy living at all ages, but also specifically for older people.

Also important is how evidence-based tools are to be designed. Across the world, teams of academics and practitioners are developing tools to measure the 'walkability' of neighbourhoods. It seems to be widely accepted now that walkability is associated with better community health and wellbeing. But are these tools really 'older-proof': do they look forward to the older population we will have in time?

## Recommendations

It might sound redundant to make this recommendation in a Foresight paper, but nonetheless it is important. The primary recommendation is, don't just do what we've always done. Our built environment is currently dominated by provision for private motorised transport, and this suppresses active travel by old and young alike. If we look to the future, it is clear that policy objectives in a number of sectors are served by designing motor vehicles out, and active travel in.

The Royal Institute of British Architects lays out a simple philosophy with regard to how we will live in an ageing society: this is hard to beat.

*“The population is increasing and our society is growing older. Let's design buildings and communities that are mindful of the health impacts on residents”<sup>28</sup>.*

Central to this is the creation of an environment within which healthy choices are the easiest to make. Are there good daily shopping options close to where people live, so that a short healthy walk is an option rather than having to travel further and by a sedentary mode? And is the walk an option, or are pedestrian footways blocked and broken by parked motor vehicles? Are seats and benches provided? Public toilets? Is the environment attractive? Is there greenery? Or, all too easily overlooked by transport planners, do light-controlled junctions allow time for slower walkers to cross (see Living Streets' campaign for safer crossings)<sup>29</sup>.

So rather than concentrating on how to find ways for older people to keep on driving, let's find ways to free them from needing to drive, by locating the services and experiences they need to access close enough to be reached by healthy travel. There is ample guidance on how to do this, from NICE<sup>30</sup>, Public Health England in partnership with the Town and Country Planning Association<sup>31</sup>, the Royal Institute of British Architects<sup>32</sup>, and the Active Transport for Healthy Living Coalition<sup>33</sup>, among many. The guidance just needs to be implemented.

### ***Recommendation 1: implement existing planning policy guidance, which calls for high quality built environments with accessible local services***

There is an urgent need for transport policy-makers to prioritise investment in active travel. A wide-ranging group of transport and public health bodies have called on government to commit just 5% of transport budgets to active travel<sup>34</sup>, which seems exceptionally conservative but which, if sustained, could transform the possibilities of active travel, for all ages.

The arguments, evidence and economic assessment are in place (including within the DfT cost benefit analysis methodology) but for some reason are not driving decision-making. We need to find ways to train and inform politicians and senior officials about the realities of where value for money can be obtained, and the cross sector co-benefits of investing in healthy, active travel. At local level, the Local Government Association already performs this role: who can educate ministers and their advisers?

It might also be useful to educate media commentators. In general, media commentary tends to be negative to anything seen as remotely 'anti-car', creating a decision-making environment which is unhelpful. But the Times' Cities fit for cycling campaign is a positive example of how influential an informed media player can be.

***Recommendation 2: invest more in active travel – at least 5% of total transport spending immediately, with a long-term commitment to raise this level***

***Recommendation 3: decision-makers and commentators need to be educated in the realities of travel choice: government officials, NGOs and academics can all contribute to this***

Regarding technology, let's look for the clever little things as well as brilliant big ones. On-board vehicle telematics in use today, primarily for fleet management and pay-as-you-drive insurance, could be used to ensure all motor vehicles obey the speed limit, all the time. Combined with a rapid move to a default 20mph urban limit this could make the street environment much safer and active travel more appealing for older people (and everyone else).

Limits could reasonably be lower still in specific areas, and if it has become almost a tradition for the lower limits to be outside schools, why not also in places which are important for older people, such as purpose-built retirement villages but also urban centres and around destinations such as hospitals.

When self-guiding vehicles are fully developed, their use where people live should be guided by the principle that the pedestrian has permanent priority (the so-called hierarchy of road users – with the pedestrian at the top – exists today<sup>35</sup>, but is not generally implemented).

This technology should allow British cities to move quickly to resemble, for example, Swedish cities such as Lund, where much urban road space is shared by all users, without demarcation into pedestrian or vehicle zones. There, human drivers take great care to observe, anticipate and if necessary avoid pedestrians and cyclists: British drivers might have difficulty adjusting rapidly to this norm, smart vehicles would not.

Electric and low-emission motor vehicles offer less local toxic air pollution than conventional petrol or diesel, but do not offer a full range of co-benefits to match those from a shift to active travel, as described above.

***Recommendation 4: use new vehicle technologies to drive new ways of using and sharing the street, not just cleaner versions of today's unsatisfactory transport mix***

Transport and health campaigners sometimes say that children are an 'indicator species'. If the environment drives them indoors, and their parents feel forced to drive them everywhere, this is a marker of an uncivilised society. We might usefully regard older people in the same light: we should keep under review how it feels to grow older in the environments we have created.

Do motor vehicle movements take priority, influencing or even preventing social interaction on the street? Is the environment attractive, as well as safe, for regular

short walking trips to daily activities? Is it the norm, as in the Netherlands, for large numbers of older people to be seen going about their business by bike? If not, if older people are not visible on the street in numbers proportionate to their share of the population, they are definitely an indicator. What their absence indicates is that we need to roll back the motor vehicle's dominance of our streets.

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- <sup>34</sup> [www.ukhealthforum.org.uk/prevention/pie/?entryid43=41615](http://www.ukhealthforum.org.uk/prevention/pie/?entryid43=41615)
- <sup>35</sup> **Department for Transport, 2004** Local Transport Note 1/04 - Policy, Planning and Design for Walking and Cycling