

Active travel in the city of the future

A paper for the **Foresight Future of Cities** project
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“We know more about good habitats for mountain gorillas, Siberian tigers, or panda bears than about a good urban habitat for Homo sapiens. Nobody has taken an interest . . . So, what happened was that the eye level stuff was handled by the traffic engineers.”

Jan Gehl¹

“If the Government were to achieve its target of trebling cycling in the period 2000–2010 (and there are very few signs that it will) that might achieve more in the fight against obesity than any individual measure we recommend within this report.”

Health Select Committee report on obesity, 2004²

The future starts today

As we attempt to envision the way cities will develop over the coming 50 years, we can see a huge range of possible futures. But most of these are largely conditioned by issues and technologies already around us. We can develop policies and strategies today, to make the most of the strengths and opportunities, and to beat back the weaknesses and threats.

At one end of the spectrum, accelerating climate change and the disruption it will cause – the weather extremes, mass migrations, disease pattern changes, social and economic system breakdown – may within decades see our cities dystopian, ravaged by disease and crime. Pampered by our childlike faith in the power of technological advance to take our problems away, we might sleepwalk into such a future.

Or the future might be appealing: we might use our ever-increasing scientific knowledge and communication capability to address the most threatening problems. Perhaps we will rein back our obsessive pursuit of consumption growth, bring our energy use and climate emissions back into balance, and transform our health and wellbeing by creating the conditions for better lifestyle choices in areas such as physical activity, nutrition, smoking and alcohol, so that individuals enjoy better health and the demands on the health and social care systems are reduced.

The world is joined up now, allowing information, opinion and investment to flow almost unhindered, almost anywhere. Any city in any nation is already today in competition with others, for influence, brand recognition, economic activity and employment.

If a city – naming no names – is packed with noisy, polluting traffic, if it is being pursued through the European courts for its failure to address toxic air pollution, and if a leitmotiv of its media identity is a succession of cyclist killings by heavy goods vehicles, it may need to think about its image. If the global perception of a city is that children scoot or cycle safely to school along quiet, tree-lined back streets – and if a CEO considering inward investment can visualise his or her children doing so – it may have a critical competitive advantage.



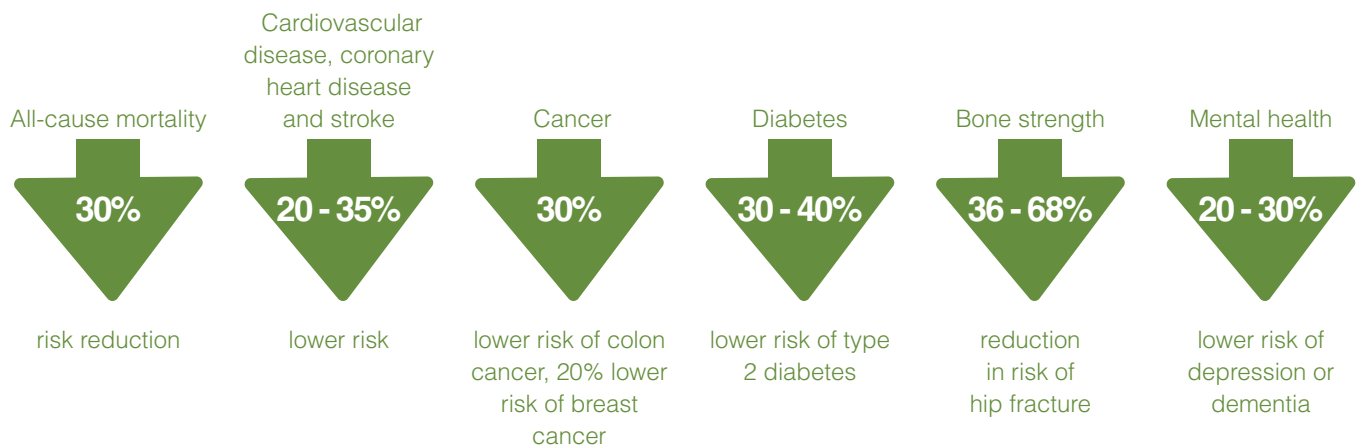
A local environment to attract inward investment

A future dominated by non-communicable disease

Chronic, non-communicable diseases (NCDs) are the number one cause of death and disability in the world.³ In the words of the World Health Organization (WHO) Director-General Margaret Chan, NCDs “tax health systems to breaking point [and] break the bank”.⁴ The four main types of NCD are cardiovascular diseases (like heart attacks and strokes), cancers, chronic respiratory diseases (such as chronic obstructive pulmonary disease and asthma) and diabetes.

Individual lifestyles are a central determining factor in the incidence of NCDs, but individual choice is influenced, sometimes even dictated, by the physical, cultural and economic environment within which it is exercised. A child whose home is separated from their school by a high-speed multi-lane road may have a legal right to travel actively to school, but in reality will have to be driven or taken by bus. A poor family in a deprived neighbourhood, with limited access to motor transport, may have no retailer of fresh food within walking distance and effectively no choice but to eat junk. This is why the concept of ‘healthy places’ has become important in public health philosophies and policy over the past decade.

Physical activity and disease risk



A physically active lifestyle protects against non-communicable disease

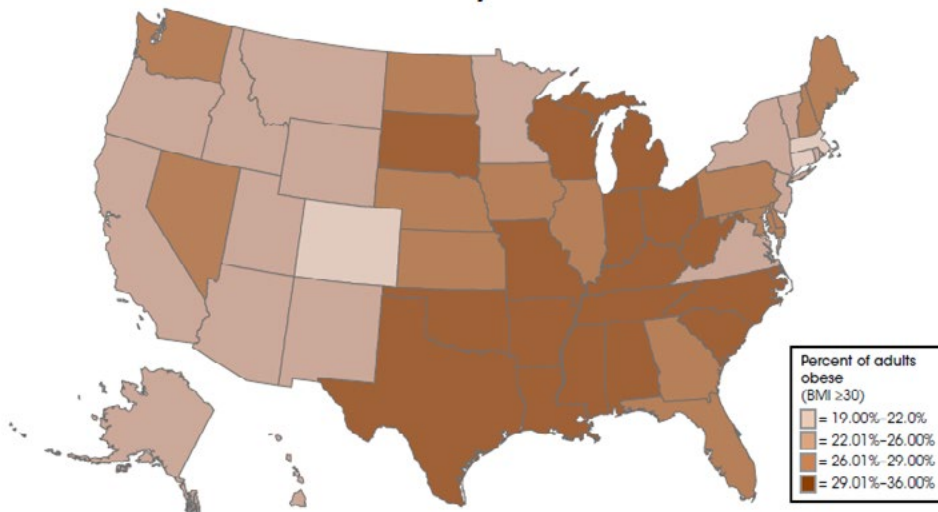
Source: Department of Health, 2011 *Start active, stay active*

The growth in NCDs occasioned by unhealthy lifestyles leads to steeply rising costs of healthcare and social care, which as Dr Chan has pointed out place a massive burden on the economy. Across the 27 European Union countries and Norway, an ageing, decreasingly active and unfit population could see public spending on health and long-term care rise from 6.7% of GDP in 2007 to 13% by 2060, according to the European Commission.⁵ The cities of the future have a moral duty to address this, but also a budgetary imperative.

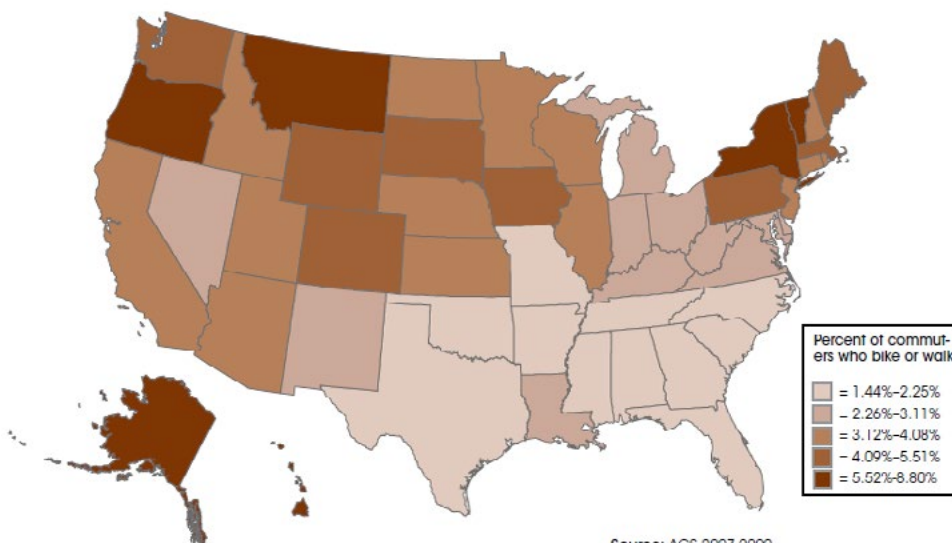
Physical activity was described by the last Chief Medical Officer for England, Sir Liam Donaldson, as a “miracle cure”.⁶ Active travel – walking and cycling for transport purposes as part of people’s daily lives – is endorsed by his successor,⁷ and every other public health expert of note, as an ideal way to be active. It offers huge reductions in the risk of coronary heart disease and stroke, many forms of cancer, type 2 diabetes and mental ill health, builds bone strength and protects against falls.

Active commuting correlates to lower obesity levels (USA)

Obesity levels



Levels of bicycling and walking to work



Source: ACS 2007-2009

US states with higher levels of active commuting also show lower obesity rates

Source: Alliance for Biking & Walking 2012, *Bicycling and walking in the United States 2012: Benchmarking report*

Physical activity: too many co-benefits?

Strategies and practice to enable more active travel can be effective in tackling NCDs by increasing physical activity levels. At the same time, they also reduce road congestion, climate change emissions, local toxic air pollution, noise and road danger, improve social cohesion, create a better street environment, and benefit local businesses. The problem we face is to develop the best policy approach, to maximise all these benefits and to share the load of delivering them.

The economic arguments are very powerful. The standard DfT cost benefit analysis methodology for transport investment shows active travel schemes generate returns on investment many times higher than the road-building schemes which still today dominate transport investment planning.

A review of published transport analyses, carried out in 2010 for the South West regional government office and the Department of Health, found that “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”. To put this into context, many road schemes go ahead with benefit to cost ratios of 2:1 or even lower.⁸

A striking example is the Sustrans National Cycle Network: three-quarters of a billion walking and cycling trips made by 4.8 million individuals on the Network in 2013 generated a total health benefit worth over £800 million⁹ (using the WHO Health Economic Assessment Tool).¹⁰

Public Health England has calculated that if everyone in a town of 150,000 people walked just 10 minutes more a day, 31 lives a year would be saved with a value of £30 million.¹¹ In a city of 1.5 million, or of 15 million... well, the arithmetic isn't difficult.

And all current economic assessment tools and models are known to understate the benefits – much of the healthcare cost saving is not yet economically quantified, while environmental and social benefits are almost completely absent from the models. The true picture of return on investment from active travel is yet more advantageous: it would be wise for the UK governments to develop an economic assessment tool capable of identifying all the benefits – social, health, environmental and business-related.

So if this single policy move – commitment to increasing active travel – can create co-benefits in so many sectors, why is it not happening, or at least not in the UK? This may be because most of the policies and investment for active travel come from Transport whereas the benefits, financial and otherwise, are registered in Health, Social Care, Environment and other sectors. Or it may be that the really large gains, in cutting the cost of healthcare and social care provision, are medium and long term, ill-matched to the short timeframes of political decision-making. It may be both.

But for sure we can state that immediate, visionary, joined-up policy making on active travel would be a powerful driver for health and other benefits, with a payback well within the 50-year Foresight timeframe.

The windscreen perspective

While there are 35 million motor vehicles in the UK today and some people have more than one, the oldest, youngest and poorest are not drivers, and others elect not to become tied to a motor vehicle. Not everyone is a car user.

But you wouldn't know it. Elected representatives, officials, advisers, investors – the people taking daily decisions about our cities – tend to come from the most car-dependent parts of society, and may be among those with the most complex travel behaviour. If they themselves desire more and cheaper motoring, wider roads and fewer delays, they may find it difficult to set aside their personal preferences and implement policies aimed at alternative choices. This is sometimes called the 'windscreen perspective'.



European Environment Ministers' meeting generated this traffic (top right, a normal day): can these deciders see beyond the car?

In 2006 Sustrans carried out a small study to look at retailers' perceptions about the importance of car-borne custom. Retailers were asked how far they thought their customers travelled and by what mode of transport; interviews with customers then checked these views against reality. The scale of the traders' misperception was dramatic: they overestimated car use by 100%, while three times as many customers lived within a half-mile walk as the shopkeepers thought.¹²

This is not abstract: retailers had opposed walking, cycling and public transport improvements on their streets. Their customers just did not share this perspective. Is there any other area of opinion where traders would be so keen to put their own preconceptions ahead of good business planning?

Following up on the Sustrans study, London Councils found that "Car drivers spend more on a single trip; walkers and bus users spend more over a week or a month".¹³

The windscreen perspective

Successive budgetary changes have cost the exchequer a total of £21.5bn in fuel duty, which represents a massive loss of revenue at a time of austerity. It also sends a powerful incentive to individuals to drive more and to choose active travel less frequently. It is not easy for politicians to resist a powerful lobby, and in this case industry groups in car manufacture, roads and oil, along with a noisy motoring lobby, can apply heavy pressure. The negative consequences of these decisions will be felt long into the future.

We have nodded at bloodshed on our roads

Road danger is the biggest cause of preventable death and injury among children.¹⁴ In 2012, the number of children killed while walking or cycling on our roads was equivalent to over one whole primary school class, and the equivalent of over seven whole primary schools were seriously injured. If so many children were killed or seriously injured in any other way there would be a national outcry and an urgent call for more to be done to address this failure to keep our children safe. Instead we have simply left parents and children to deal with the problem, often by driving to school, further adding to road danger.¹⁵



The potential for travel behaviour change

Sustrans has a published target, to double the proportion of local trips made by walking, cycling and public transport, to four out of five, and to achieve this by 2020. We see this as a fundamental, in fact indispensable step towards solving the linked national problems of ill-health, climate change, toxic air, and road death and injury.

As part of our role in the Department for Transport (DfT) Sustainable Transport Demonstration Towns programme, we carried out a detailed assessment of all trips made by 400 people in each of the three towns, looking at factors such as travel modes available, journey purpose, decision-making constraints such as the need to carry loads or for a chain of short trips which added up to a longer one. Considering all these factors, around half of all local car trips in the three towns could currently be switched to a cleaner, safer and more active mode with, in many cases, more than one option (from the menu of walking, cycling or public transport) being available.¹⁶ Significant improvements to the infrastructure for walking and cycling would open up further opportunities for modal shift.

The Sustrans findings are remarkably consistent with the calculations of the Cabinet Office in 2009, which calculated that people could replace 78% of their local car trips under five miles with walking, cycling or public transport.¹⁷



Technology will save us!

We should guard against a naive belief in technological advance as the way out of our transport problems. Air quality is a good example. According to the standard emission test carried out on all motor vehicle models, emissions are falling and technology is saving us. In reality, the car industry has worked very effectively to slow the introduction of tighter emissions standards, while the emission test itself can be gamed to the extent that what is euphemistically termed “utilisation of flexibilities” may account for two-fifths to one half of the net CO₂ emission reduction between 2002 and 2010.¹⁸

While the industry and governments can trumpet what appear to be stringent emissions reductions, the reality is that air pollution limits are regularly breached, and in certain London boroughs more than 8% of mortality may be due to particulate air pollution.¹⁹ Need we stress that the people living in these boroughs will have very low car ownership levels themselves?

The vision of clean, inexpensive private transport, for example electric cars, seems to be just the excuse politicians need to avoid the immediate, radical intervention needed to tackle toxic emissions from vehicles.

It seems clear that by 2065, self-guiding motor vehicles will be the norm. Perhaps cars with a driver may be restricted on grounds of safety, to specific areas where enthusiasts can waive their rights to safety and enjoy their motoring passion. And it is possible that once the thrill of exercising motor power is removed, large numbers of drivers may lose interest and the dominance of the car in our lives may reduce. But we just don't know, any more than we can predict more appealing streetscapes when crashes and casualties due to driver error are taken out of the equation. The advent of this technology is not a substitute for proven, effective, relatively low-tech action to restrain motor vehicles where people live, today.

The technologies which may more realistically offer hope in the field of transport, health, climate and environment may be those around science, evidence and data management, and around communications.

Over the past decade our number-crunching power has improved dramatically, and with it our ability to collate mass epidemiological data and model them into meaningful outputs. This means that we can estimate things like current mortality impacts of global climate change,²⁰ premature mortality linked to local air pollution,²¹ or the extent to which physical inactivity contributes to the diabetes epidemic,²² often down to local authority level.

The power and flexibility of new communications systems can clearly be a force for ill: powerful industry lobbies can obfuscate debate and slow progress in areas such as tobacco packaging or alcohol pricing. But we have many examples of how an informed citizenry, armed with social media platforms and inexpensive equipment, can drive rapid change, be it the Arab Spring or more specific campaigns such as the Nigerian 'Bring Back Our Girls' campaign. Dare we hope that a better informed population might drive progress towards cleaner, quieter, safer, more sociable streets and cities?

Vision for the future



As the last of the cheap fossil fuels are exhausted, private motorised transport will be competing for fuel on an increasingly competitive market, with bio-fuel sources needed for food and electricity for a multiplicity of uses. Foresight, among others, has pointed out the predictable worsening of the UK balance of payments in energy.²³ In the city of the future, transport policies based on cut price petrol and diesel will have been exposed as ludicrous, and surely long abandoned.

At the same time, the reality of health and social care cost growth will have driven central and local government to be much more energetic in promoting healthy lifestyles, including active travel.

The principle of Health in all Policies (HiaP) will be systematically applied at all levels of government, including the city level (the WHO defines HiaP as “an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts, in order to improve population health and health equity”).²⁴

What to do right now

Government needs to change the public debate around active travel on the one hand, with all its benefits, and the outdated emphasis on private motorised transport on the other. Shallow ministerial rhetoric about ‘ending the war on the motorist’ itself needs to change, and a good place to start would be publication of the real costs and impacts of private motoring, and the extent to which it is currently subsidised.

The cross-sectoral range of benefits generated by a move to active travel, and the failure (to date) of government departments and their sectors to collaborate effectively and maximise these benefits, mean that government from the top and as a whole needs to make active travel its priority.

Investment priorities need to change, immediately, in favour of active travel: the whole world of public health speaks with one voice on this. For example, the British Medical Association has called for “ambitious growth targets for walking and cycling at national and regional levels, with increased funding and resources proportional to target levels”.²⁵

The Local Sustainable Transport Fund over the period 2011 to 2016 is the first significant multi-year UK investment programme supporting active travel. Interestingly, it seems that as the investment level has risen, the policy world has also taken more notice of active travel: a win/win scenario. Meanwhile, in Scotland, spending on cycling infrastructure and ‘smarter choices’ projects by central and local government, coordinated by Transport Scotland, Sustrans and Cycling Scotland, is now approaching an estimated level of £10 per capita per annum, generally regarded as the threshold for continental levels of provision and of walking and cycling mode share.

In its 2014 report, the All Party Commission on Physical Activity called for “reallocation of transport investment, providing long-term continuity of dedicated funding for walking and cycling as regular daily transport”, and for “developments and infrastructure to be ‘health checked’ so that walking and cycling [...] are prioritised”.²⁶ This recommendation should be followed.



Changing the way people travel

Short-term recommendations

These recommendations apply both to national government and to city administrations. The two levels of government need to collaborate on their achievement.

1. Top-level political leadership is required, at all levels of government, focusing the attention of all departments and sectors on tackling the causes of unhealthy lifestyles, so as to cut the rising trend in healthcare and social care costs
2. Politicians and officials should each make it a priority objective for their own department to bring about significant and sustained shift from private motorised transport to active travel
3. A legislative approach should be developed, along the lines of the new Active Travel Wales Act, with duties and incentives to improve walking and cycling infrastructure and encourage individuals to use it
4. Secure, dedicated investment streams are needed: capital to create adequate walking and cycling infrastructure for all local trips within the city, and revenue for the behaviour change programmes to maximise the change generated by the new infrastructure
5. A national 20mph default speed limit in built-up areas should be instituted immediately, and enforced, to make everyone's journeys safer.

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About Sustrans

Sustrans makes smarter travel choices possible, desirable and inevitable. We're a leading UK charity enabling people to travel by foot, bike or public transport for more of the journeys we make every day. We work with families, communities, policy-makers and partner organisations so that people are able to choose healthier, cleaner and cheaper journeys, with better places and spaces to move through and live in.

It's time we all began making smarter travel choices.
Make your move and support Sustrans today.

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