

Health and well being in  
and out of low carbon homes

Implications for residential  
development

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## Sustainable places are where people choose to be

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- Climate change imperative and key health and well being factors
- Priorities for new residential development





# Climate Change Act 2008: key drivers



- **Legally binding targets:** Green house gas emission reductions through action in the UK and abroad of at least 80% by 2050, and reductions in CO2 emissions of at least 26% by 2020, against a 1990 baseline.
- A **carbon budgeting system** which caps emissions over five year periods, with three budgets set at a time, to set out our trajectory to 2050.
- Powers to introduce domestic **emissions trading schemes** more quickly and easily through secondary legislation; measures on **biofuels**; powers to introduce pilot financial incentive schemes in England for **household waste**.
- On **adaptation** the Government must report at least every five years on the risks to the UK of climate change, and publish a programme setting out how these impacts will be addressed.
- The Government will issue guidance in 2009 on the way **companies should report their greenhouse gas emissions**, and to review the contribution reporting could make to emissions reductions by 1st December 2010.

# Blueprint for a better planet (2009)

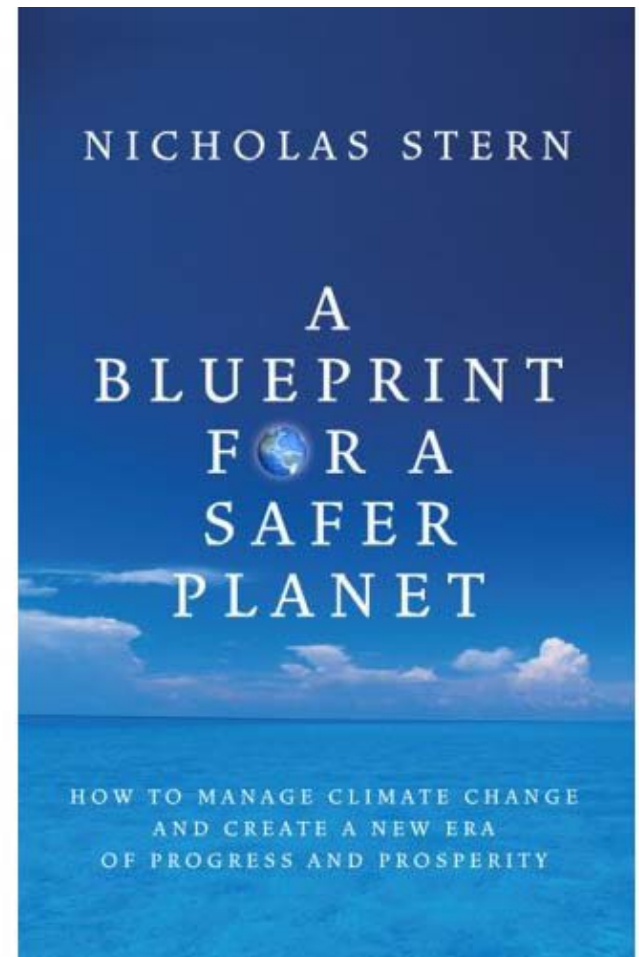


## The best available insurance policy

- Even from the publication of the Stern Review in 2006, Stern has reviewed his forecasts to predict that a 2% rather than a 1% spend of GDP to stabilise greenhouse gas emissions is required

## Sensible investment now

- Climate change mitigation must be viewed as an investment in the future to avoid much more costly defensive actions.
- We must adapt to make our cities more comfortable and resilient during extreme weather events such as heat waves and floods.
- Using whole life cost and valuation techniques, which takes account of social and environmental impacts, is critical to making development more sustainable.



We face a major economic crisis and we face a still bigger climate crisis and by thinking through clearly and carefully, and acting quickly, we can respond to both of them at the same time’.

Lord Stern, January 2009

# Climate change projections



- The UK Climate Projections (UKCP09) give climate information for the UK up to the end of this century. The Projections show three different scenarios representing high, medium and low greenhouse gas scenarios, based on simulations from climate models.
  - All areas of the UK get warmer, and the warming is greater in summer than in winter.
  - There is little change in the amount of precipitation (rain, hail, snow etc) that falls annually, but it is likely that more of it will fall in the winter, with drier summers, for much of the UK.
  - Sea levels rise, and are greater in the south of the UK than the north.

# Climate change: the biggest global health threat of the 21st century

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## “Managing the health effects of climate change”

Lancet/UCL Commission (16 May 2009)

- Key areas of impact
  - patterns of disease and mortality
  - food security
  - water and sanitation
  - shelter and human settlements
  - extreme events
  - population migration

# What's good for people's health is good for the planet too

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- “We must develop win–win situations whereby we mitigate and adapt to climate change and at the same time significantly improve human health and wellbeing. There are major health benefits from low-carbon lifestyles, which can reduce obesity, heart and lung disease, diabetes and stress.”

Professor Anthony Costello (UCL Institute for Global Health)

# Health, well-being climate change

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- Different parts of the UK will be affected in different ways and the social impacts may well be more pronounced in more economically vulnerable areas.
  
- Disproportionate effect on the vulnerable in society – the elderly, the poor, those with less choice to avoid poorer quality internal and external environments. Particularly severe direct impacts include
  - Urban heat island effect – overheating
  - Fuel and energy insecurity
  - Surface water flooding
  - Reduced air quality
  
- A report by the Roundtable on Climate Change and Poverty in the UK emphasises the interconnectedness between climate change and poverty – and that it is possible to tackle both together.

- *The Constitution of the World Health Organisation (WHO) defines health not only as the absence of disease or infirmity, but also as ‘a state of complete physical, mental and social well-being. It also emphasizes our duty to ensure the enjoyment of the highest attainable standard of health as it is ‘one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.’*

# Addressing key trends in physical activity



- We have more sedentary lifestyles.
  - In 2003 people walked 63 miles each year less on average compared with 1975.
  - Cycling distances fell from 51 miles per person per year to 34 miles over the same period.
  - Car use increased considerably over the same period.
- Only 40% of men and 28% of women in England meet the recommended levels of physical activity per week
- A significant rise in obesity prevalence estimated to affect 60% of adult men and 50% of adult women by 2050.
- Greatest potential in walking for journeys under one mile. In 2006, 19% of journeys less than one mile were made in a car, an increase from 15% in 1989/91.



# Appreciating the limits of expertise

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To know that we know what we know, and that we do not know what we do not know, that is true knowledge."

Henry David Thoreau

"Real knowledge is to know the extent of one's ignorance."

Confucious

Home

Leadership

Energy

Waste

Water

Transport

Green infrastructure

Public space

Spatial scales

Good practice

## Help from CABE for people in local authorities working to create better places.

If you think it's impossibly complicated to make your town or city low carbon, think again.

This website gives expert advice on planning, designing and managing a sustainable place. It cuts through the complexity with clear priorities for action. And it shows which places are getting it right.

Getting it right means a more resilient economy, healthier residents, a more beautiful place and a better quality of life for everyone.



Energy

Cut demand and use low-carbon alternatives



Take action

See 15 priorities to tackle climate change, and decide what to do at particular scales such as site, neighbourhood or city-wide.

Provide leadership

Read how to make the case, mobilise funding and resources and forge partnerships to create sustainable places.

Learn from others

Find out how others have developed solutions which could help you, from the UK and around the world.



# Opportunities for adaptation and mitigation: sustainable masterplanning

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- **plan the location of homes, businesses, social infrastructure and open spaces to minimise the use of energy and need to travel**
- **analyse the local context to produce appropriate passive design responses (building mass, orientation to the sun and prevailing winds, balance between the height and depth of buildings and their relationship to open spaces) to minimise the need for expensive technologies at the building scale**
- **design and manage developments to take accommodate the principles of lifetime homes and neighbourhoods**
- **consider from the outset of the design process how places and the buildings and other assets that make them up will be managed and maintained in the long term**
- **undertake thermal and energy masterplanning so that waste heat is minimised across cities, neighbourhoods and sites**
- **undertake utilities masterplanning (electricity, gas, vehicle refuelling, telecommunications, water supply and sewerage) across cities, neighbourhoods and sites**
- **loose fit – create buildings and places that are inherently flexible and can easily accommodate change over time**
- **ensure that developments are planned and areas refurbished taking account of the future impacts of climate change - and adaptation measures that may need to be retrofitted**
- **consider how new developments can improve the sustainability of existing places by sharing infrastructure and services**
- **plan for refurbishment of neighbourhoods, sites, buildings and public spaces to minimise carbon emissions and to increase resilience to a changing climate.**

# Adaptation of public space



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- Hotter temperatures mean a greater need for shade and provision of seating and rest areas as more people spend time outdoors.
  - Extreme weather will mean heavier rainfall and greater incidence of storms and high winds.
  - Ensuring an inclusive design process and product engages all groups needs in a community
  - Ensuring the opportunities for play are encouraged within the natural landscape

# Providing transport choices



- Reducing car dependency by providing alternatives
- Promoting public transport options within developments
- Encouraging active travel – walking and cycling
  - **ensuring street layout and network link to existing routes and nodes for walking and cycling opportunities**
  - **streets should form an attractive environment for walking and cycling. Applying the five Cs (comfortable, connected, conspicuous, convivial and convenient) to all streets as standard can help to improve their performance as walking and cycling routes.**
  - embracing the new approach in Manual for Streets (2008)

# DfT's Manual for streets (2008)



- Recognition the role of streets in place making
  - Well designed residential streets at the heart of the successful communities
  - Recognises the role of streets as places
  - Emphasises good design and spatial approach



# CABE's street work



**Briefing**



**Living with risk: promoting better public space design**

Over-sensitivity to risk can have a profound effect on the quality of public space. It can restrict innovation, leading to more standardised designs and less interesting places.

CABE believes that good design can help manage risk, rather than being compelled to eliminate it. Design can help people to be risk aware rather than risk averse.

To deal with risk, some things are vital. One is a clear design vision for a scheme, supported by strong design leadership. It is easier for those engaged in making decisions about schemes, especially clients, to justify a decision that avoids risk than a decision that uses risk creatively. So the balance needs to be swung the other way: we need to challenge the justifications for the easy solution as opposed to being warned off a more demanding one.

Finally, in communicating across different professional groups and the public, it is essential to express clearly the positive opportunities as well as the risks.



**Briefing**



**Paved with gold: the real value of good street design**

This research demonstrates a direct link between street quality and property prices. It shows that the quality of a high street can add at least 5 per cent to the price of homes and to the level of retail rents.

This is the first study to connect economic benefits directly with the quality of street design, management and maintenance. It may seem obvious that smarter streets cost more and that good quality design brings benefits but this research gives us new information: it shows that the design quality of a street affects prices on its own, regardless of any other factors. All the other things likely to affect prices, such as income levels, the quality of public transport, or the range of local shops, have been discounted. Simply improving street design can make a major difference to market values.

These findings support the case for improving street quality, and provide evidence of the likely returns from investing in a high-quality streetscape.



**Briefing**



**This way to better streets: 10 case studies on improving street design**

Streets are hard-working spaces. They balance a wide range of uses, communicate values and signify the transformation of neighbourhoods, towns and cities. To be sustainable and fit for purpose in the 21st century, streets need to respond to the demands of climate change and shifts in culture. CABE has reviewed 10 streets, looking at design development and implementation to unlock the lessons learnt. They provide an insight into recent developments in street design. This briefing summarises the findings. Details of the 10 case studies can be found at [www.cabe.org.uk/streets](http://www.cabe.org.uk/streets).



**Briefing**



**Civilised streets**

There has been an important shift in thinking in recent years about urban street design. Where the car was king, now – according to the government's *Manual for Streets* at least – people must come first. In some places, we are seeing bold changes to street design, with the emergence of shared spaces which remove physical barriers and force drivers to consider pedestrians. But do these changes create safer, more civilised streets – or scarier streets? Do they help or hinder children, or people with impairments? We all want streets to work better for everyone – so does that make compromise inevitable? This briefing sets out the debate. It's designed to prompt further discussion among design professionals and lobby groups in our search for civilised streets.



# Green infrastructure & adaptation

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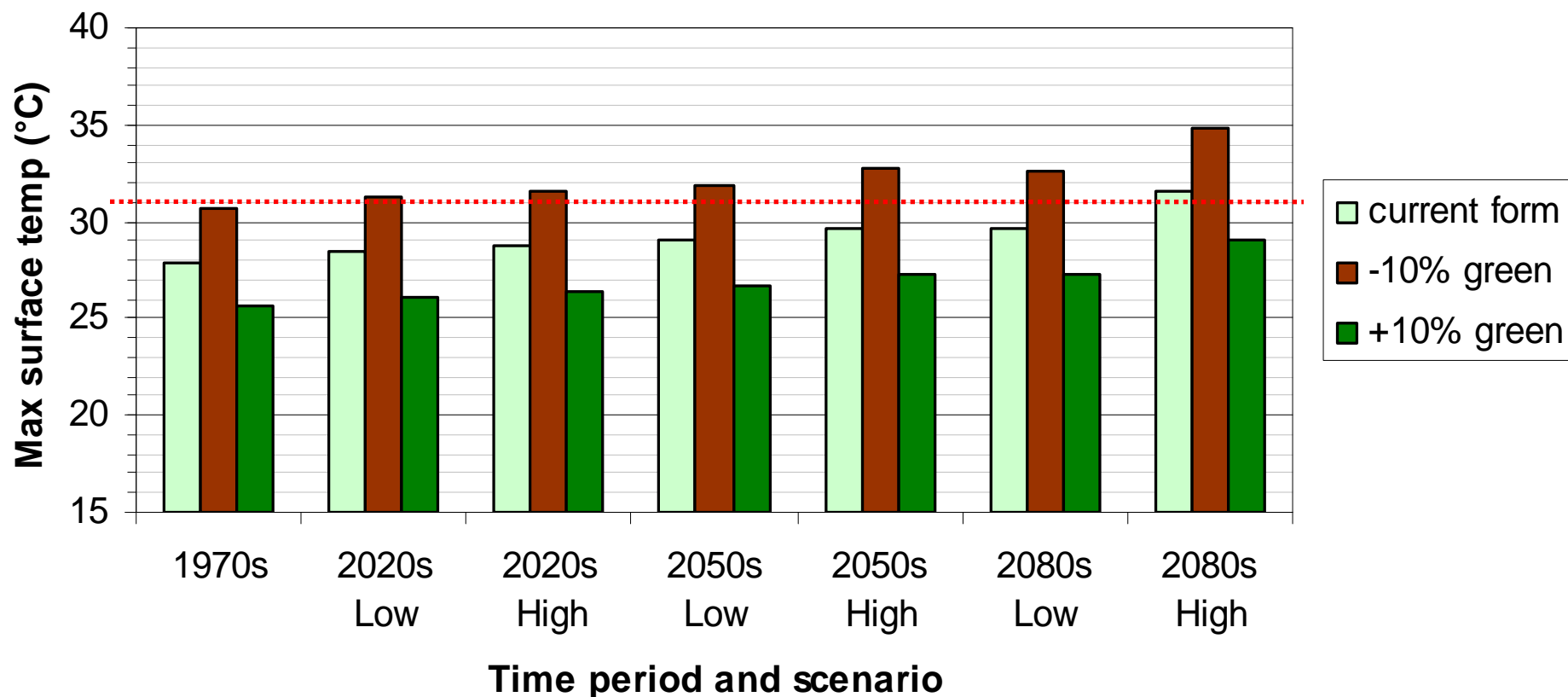


- Incorporation of multifunctional green spaces into new development
- Linking into existing networks of green spaces and corridors
- Ensuring the right species are planted for climate and biodiversity
- Providing models for the long term management of spaces
- GI providing better urban microclimates

# Moderating extreme temperatures



## High density residential



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- Reducing potable water consumption – reducing demand management within the home
  - Capture and re-use of greywater on site
  - Encouraging more sustainable drainage and percolation of surface water
  - Protecting existing watercourses to clear and drain naturally through swales, ponds and green space



- Sustainable irrigation to ensure evaporative cooling
- Large mature tree canopies to provide shade

## For further information

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- Advice and guidance
- Good practice case studies

# Start with the park

Creating sustainable urban  
green spaces in areas of  
housing growth and renewal

cabe  
space



## Helping make it count for the LA too

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- Increasing the use of public transport, walking and cycling and reducing car use can contribute to a range of national indicators:
  - **reducing CO2 emissions from the local authority area (NI 186)**
  - **tackling obesity in children (NI 055 and 056)**
  - **reducing the number of people killed or injured in road traffic accidents (NI 47)**
  - **reducing the negative effects of congestion (NI 167)**
  - **air quality – percentage reduction in NOx and primary PM10 emissions through local authority’s estate and operations (NI 194).**



Thank you

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## Local Government Act – July 2000

- Within the Act, ‘wellbeing’ is a discretionary power to promote the economic, social and environmental wellbeing of communities, with community strategies being plans for local wellbeing. This act provided significant new powers for local councils to do anything that they consider is likely to promote or improve the economic, social or environmental wellbeing of their area.



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## National Improvement and Efficiency Strategy

- The new local performance framework is aimed at improving quality of life and providing better public services. In particular the National Improvement and Efficiency Strategy is intended to enhance the quality of delivery of local area agreements (LAAs). LAAs are the delivery plan for local authorities' sustainable community strategies, and both LAAs and sustainable community strategies often focus on aspects of wellbeing.

# Marmott Review



- The Review follows the publication of the global [Commission on Social Determinants of Health](#), also chaired by Sir Michael Marmot and published by the [WHO](#). The CSDH advocated that national governments develop and implement strategies and policies suited to their particular national context aimed at improving health equity. The English review is a response to that recommendation and to the government's commitment to reducing health inequalities in England.
- The aim of the Review is to propose an evidence based strategy for reducing health inequalities from 2010. The strategy will include policies and interventions that address the social determinants of health inequalities.
- **The Review has four tasks:**
- (i) identify, for the health inequalities challenge facing England, the evidence most relevant to underpinning future policy and action
- (ii) show how this evidence could be translated into practice
- (iii) advise on possible objectives and measures, building on the experience of the current PSA target on infant mortality and life expectancy
- (iv) publish a report of the review's work that will contribute to the development of a post-2010 health inequalities strategy
- It is anticipated that the Review will also have relevance for other countries developing strategies aimed at tackling health inequalities, following the recommendations of the CSDH.

# Policy context for health



- **Legislation, policy, guidance and tools**

- This section is designed to hold the latest government legislation relating to health as well as any guidance on the subject. No matter what part of the health agenda you are involved in, this section is a must read in order to be kept up-to-date with the latest legislation and policy affecting local government.

- [Choosing health: making healthier choices easier](#)

- This White Paper sets out the key principles for supporting the public to make healthier and more informed choices in regards to their health. The Government will provide information and practical support to get people motivated and improve emotional wellbeing and access to services so that healthy choices are easier to make.

- [Releasing the potential for the public's health](#)

- This is a collaboration between the LGA, ukpha and the NHS Confederation. The publication seeks to identify key principles and common ground that may underpin a joint vision for health.

- [Programme for action \(PDF, 84 pages, 681KB\)](#)

- This Programme for Action sets out the government's plans to tackle health inequalities over the next three years. It establishes the foundations required to achieve the challenging national target for 2010 to reduce the gap in infant mortality across social groups, and raise life expectancy in the most disadvantaged areas faster than elsewhere.

- [The NHS Improvement Plan - Putting people at the heart of public services](#)

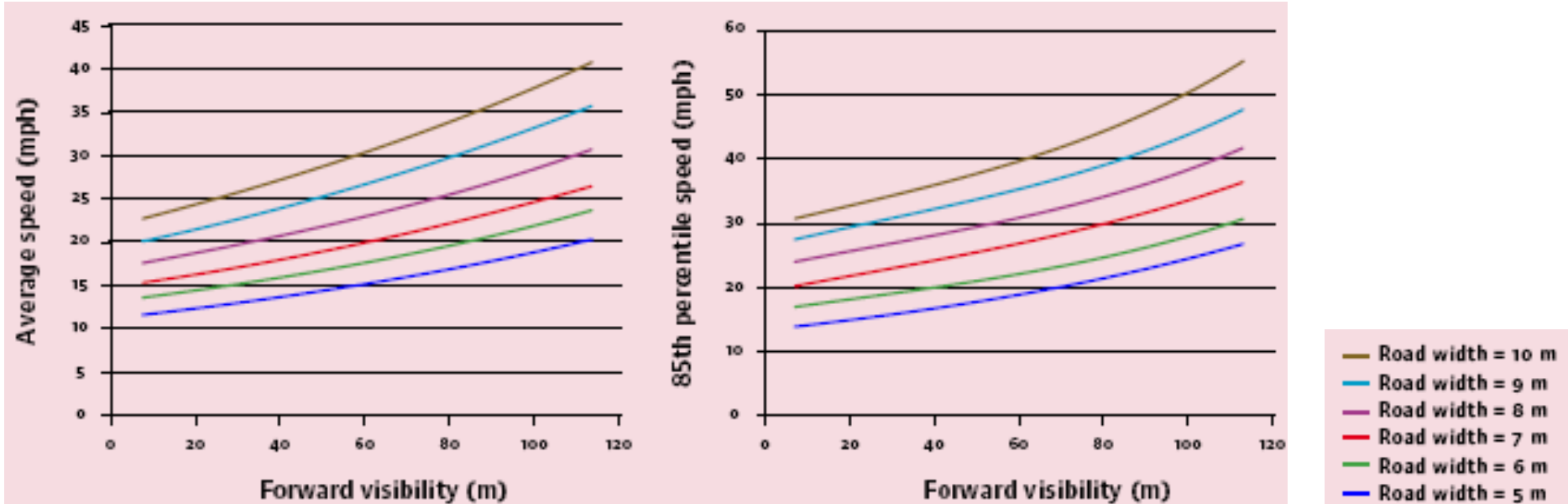
- This links to the DoH's new five year strategy for the NHS. While the plan is primarily focused on the NHS, it does include a number of references to the local government health-social care interface with the NHS and highlights the importance of the public health agenda in advance of the white paper on the subject which is expected in the autumn.

# The policy context – well being



- **Local Government Act – July 2000**
- Within this act, 'wellbeing' is a discretionary power to promote the economic, social and environmental wellbeing of communities, with community strategies being plans for local wellbeing. This act provided significant new powers for local councils to do anything that they consider is likely to promote or improve the economic, social or environmental wellbeing of their area.
- [Local Government Act 2000](#) – on the OPSI website
- **Local Government White Paper – October 2006**
- 'Strong and Prosperous Communities – The Local Government White Paper' sets out a vision of revitalised local authorities with the ability to reshape public services around the citizens and communities that use them. This means that not only do communities get more say about what will enhance local wellbeing, they can also influence the standard of the services and the outcomes.
- [Local Government White Paper](#) – on the Communities and Local Government website
- **Sustainable Communities Act – October 2007**
- This act aims to promote the sustainability of local communities, which means local authorities encouraging the improvement of the economic, social or environmental wellbeing of their area. It includes 'social wellbeing' as participation in civic and political activity and is therefore relevant to the project's neighbourhoods and community empowerment work strand.
- [Sustainable Communities Act 2007](#) – on the OPSI website
- **National Improvement and Efficiency Strategy – December 2007**
- The new local performance framework is aimed at improving quality of life and providing better public services. In particular the National Improvement and Efficiency Strategy is intended to enhance the quality of delivery of local area agreements (LAAs). LAAs are the delivery plan for local authorities' sustainable community strategies, and both LAAs and sustainable community strategies often focus on aspects of wellbeing.
- [National Improvement and Efficiency Strategy](#) – on the Communities and Local Government website
- **Community Empowerment White Paper – July 2008**
- This white paper, 'Communities in Control: Real People, Real Power' tells the story of power, influence and control and how people can use existing and new tools to access it. It also includes references to the Local Wellbeing Project's work on neighbourhoods and community empowerment. The paper looks at who has power, on whose behalf it is exercised, how it is held to account, and how it can be accessed by everyone in local communities.
- [Community Empowerment White Paper](#) – on the Communities and Local Government website

- *Reduced visibility* – research carried out in preparation of MfS found that reductions in forward visibility are associated with reduced driving speeds (TRL 166)



Why?



