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# Bringing Public Health into Built Environment Education

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## Introduction

This guide is aimed at all built environment educators, showing what the key issues are in terms of improving health understanding in the built environment professions. It will explain the relevance, show how the built environment impacts on health and its implications for education and provide examples of good practice in teaching.

By making these connections, graduates should be emerging into the workplace with a good understanding of the health impacts of their professional work and be equipped with techniques and examples to help them deliver healthier places in the future.

The guide draws on the work of the Education Network for Healthier Settlements, a group of built environment educators from the UK and beyond who are developing ways to reconnect health and the built environment in the professions.

## Why is public health a built environment issue?

*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.*

*..as defined in the Constitution of the World Health Organization, 1946*

In poorly planned settlements lacking adequate infrastructure, infectious diseases can thrive, but in higher income countries at least, good city planning, well designed housing and urban civil engineering have seen an end to cholera, dysentery and tuberculosis as a constant background to urban life. Here, the focus has now shifted to the financial and human cost of the so called non-communicable diseases such as asthma, type 2 diabetes, obesity, cardio-vascular disease, strokes, some cancers and mental health issues. These are on the increase and their rise has been associated with urban environments and urban lifestyles. At a global scale, aspects of these same lifestyles are damaging the ability of the planet to support health: climate instability and species extinction give witness to this fact.

And it is not just absolute health that is the concern, research shows that urban environments often exacerbate health inequalities. People with the poorest health prognosis

often live in environments which support unhealthy lifestyles – lacking green space for exercise and with poor walking and cycling environments but having plenty of fast food outlets.

These unhealthy environments have not just happened by themselves, but are often the results of many incremental decisions by a plethora of built environment professionals including architects, urban designers, transport professionals, landscape architects, town planners and civil engineers. Each decision could probably be justified on its own parameters but, since health has never been a prime concern for such professions, we have been left with a legacy of unhealthy urban environments.

### Policy drivers

The Wanless review for the future of the health service (2002) came to the view that with increasing costs, an ageing population and a rise in ‘lifestyle’ diseases, an NHS to treat ill health would not be affordable in the future and it recommended a ‘fully engaged’ scenario where all sectors are part of the solution for improving health. The Department of Health’s workforce unit developed this into the concept of a ‘wider health workforce’ which includes, amongst others, the built environment professions. The Royal Commission on Environmental Pollution’s report *The Urban Environment* (2007) added to this debate noting how the urban environment impacts on mental health, obesity and premature death and calling for the **knowledge, capacity and skills** to promote health and wellbeing to be increased.

Particular health issues of concern to the government and where the built environment is implicated include **obesity** which was raised in the Foresight *Tackling Obesities* report (Butland *et al.*, 2007) and the *Healthy Weight Healthy Lives* (Department of Health, 2008) cross-government programme; and **health inequalities**. The Marmot Review of Health Inequalities recommends as one of its six core policy objectives the creation and development of ‘healthy and sustainable places and communities’ (Marmot, 2010, p.126), again identifying that the built environment plays an important role in the health (and health equity) of society.

Other significant bodies have added to the debate

with the National Institute for Clinical Excellence producing guidance on the environment and physical activity (NICE, 2008) and the Royal Town Planning Institute publishing *Good Practice Note 5: Delivering Healthy Communities* which starts by stating that ‘delivering safe, healthy and attractive places to live are key objectives of spatial planning’ (2009, p.1); and there are numerous other reports and papers making these links.

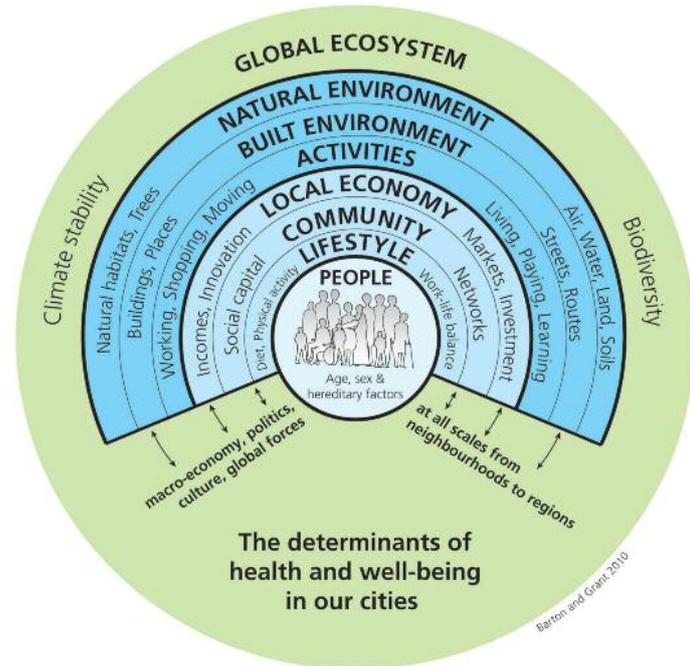
### Brief professional history

Public health and the planning professions had common origins in the nineteenth century; both preventing the spread of infectious disease in the crowded and unsanitary conditions of the expanding industrial cities. But over time, the goals have changed and whilst public health has become the preserve of the medical professions; planning has arguably focussed on easing spatial constraints on macro-economic growth. This has been reflected in the teaching context with few planning and design built environment courses offering specific health related activities and modules. Mirroring this, any health labelled contact tends to be restricted to health concerns in the planning and design of health facilities and services.

The WHO International Healthy Cities movement and, more recently, the English Healthy Towns initiative have recognised the importance of urban environments in supporting health with a range of approaches to addressing the issues. The Healthy Cities movement, which started in 1987 in Europe, has developed the concept of Healthy Urban Planning as an approach focussing on **people** and how they use buildings and their surroundings rather than simply on the urban fabric (Barton and Tsourou, 2000). This now underpins each phase of the healthy cities roll-out. See appendix 1 for the 12 key principles of Healthy Urban Planning.

**Teaching and learning context**

The agenda is ‘re-integration’ of public health into the built environment professions. The goal is to put people and their wellbeing at the centre of the sphere of concern as the Health Map (Barton and Grant, 2006) below demonstrates.



**The determinants of health in our cities, the Barton and Grant Health Map, downloadable under a creative commons licence from [www.bne.uwe.ac.uk/who/healthmap/ccl.asp](http://www.bne.uwe.ac.uk/who/healthmap/ccl.asp)**

There is little in the published literature on the integration of public health and the built environment in teaching for the built environment professions. In the USA, there has been a growing awareness of the issues, and particularly of obesity, for some time and more resources have been put into researching the links and considering solutions. Within education in the US, there are a number of graduate level courses that address the links between health and the built environment and the designers of some of these collaborated on a ‘model curriculum’ published in 2009 (Botchwey *et al.*) which consolidates the content of the various courses. Whilst this reflects a particularly US-centric approach, we can learn lessons from that approach and adapt it to suit the purposes of UK academia.

In Australia too there is a growing movement re-linking planning and health with the University of New South Wales (UNSW) delivering a state-sponsored ‘Healthy Built Environments Program’ including an undergraduate course on healthy planning (Capon and Thompson, 2010).

In the UK, most of the published work focuses on the re-integration of planning and public health with little relating directly to education. Ellis *et al.* (2008) are a notable exception in their description of an interprofessional approach to education, bringing planners and medical students together in a healthy urban planning project. More recently, the WHO Collaborating Centre for Healthy Urban Environments at UWE has been supporting a network of academics from a range of built environment professions who are bringing health understanding to their students.

**Some factors to consider in teaching – what are the essential connections between health and the built environment?**

There are many connections between the built environment and health outcomes; the diagram overleaf demonstrates how a range of physical (built) factors lead into impacts on the environment in which we live and work which in turn can result in negative health outcomes. In many cases these are not simple linear cause and effect and a number of factors can contribute to a particular outcome. It is not enough to think that by removing a particular feature a problem is solved.

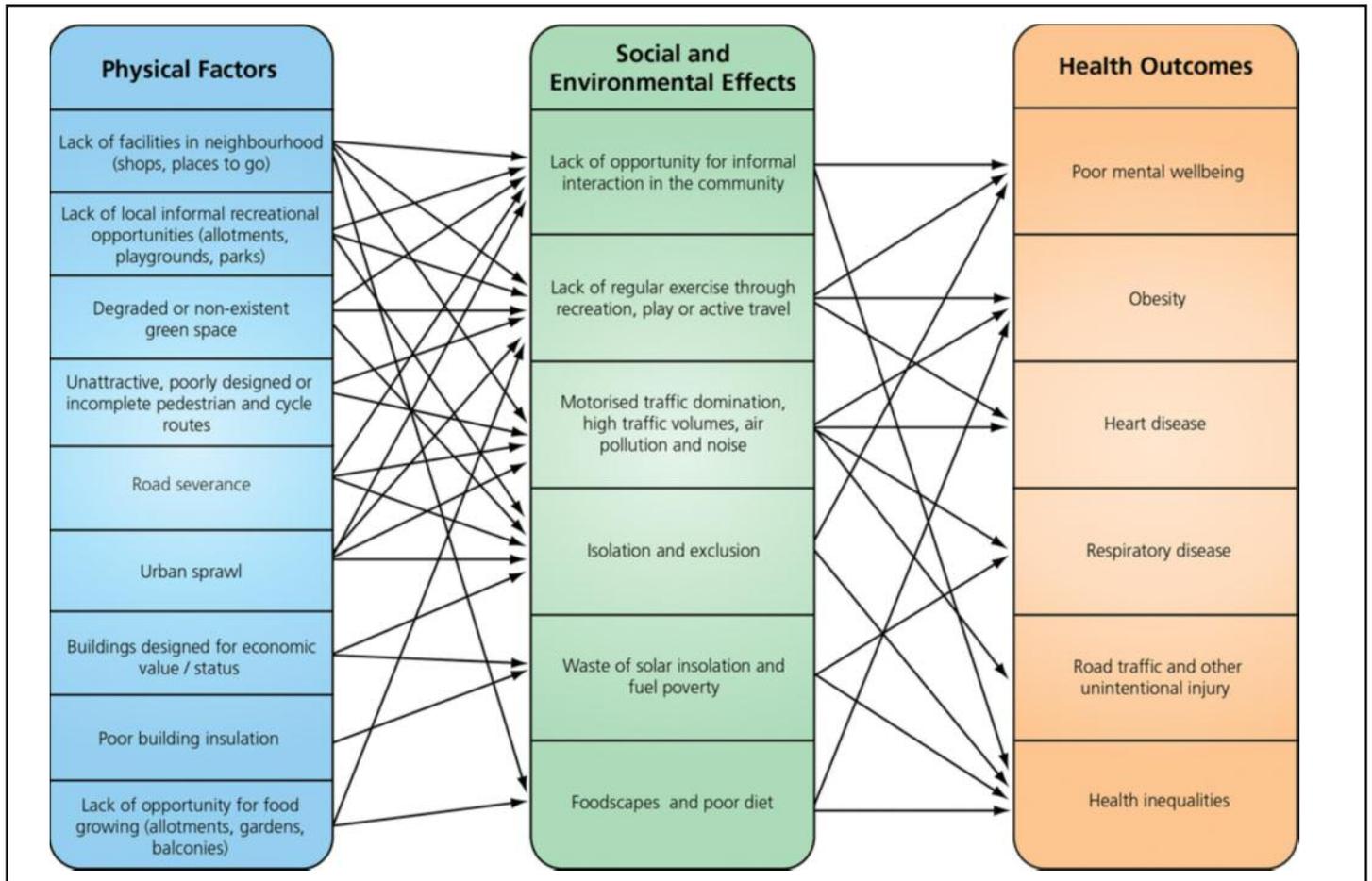


Diagram showing some of the essential and complex connections between health and the built environment

## Good practice in teaching for healthy built environments

There are a range of examples of how public health and built environment understanding can be brought together in teaching the built environment professions at all levels. But first, there are three areas of health interest to distinguish:

1. Design and planning of health service facilities
2. Ensuring that environments do not expose people to substances hazardous to health
3. Design and planning of environments which support health (salutogenic environments)

It is the final area that is the subject of this briefing and which has been woefully missing in built environment teaching.

## The Approach

Some possible interventions:

- Compulsory modules
- Seminars or topics as part of sustainability modules
- Topics spread across several relevant modules
- Guest spot lectures from external experts or visiting lecturers
- Joint teaching sessions with public health or medical students
- Hands-on action research projects in the community
- Live projects with local partners
- Site visits or field trips for city area assessments
- Specialist module or project options
- Encouraging students to consider health-related dissertation options

In all of these, teaching needs to refer back to the essential connections between the built environment and health and how the professions need to understand these linkages and their impact upon them, both historically in how urban areas have developed and in making healthier decisions for the future. Some key questions to explore with students might be:

- How human settlements can support or restrict healthy lifestyles?
- What components of the urban environment pose a challenge or risk to health?
- What planning and design processes determine whether a healthier environment is the outcome?

Subjects typically covered in a module or project discussing public health within the context of the built environment include:

- History of planning and public health – divergence and re-integration
- Inter and trans-disciplinary approaches
- Physical activity and active travel
- Health Impact assessment
- Mental wellbeing, social capital, community
- Understanding the context of urban development and the strengths and weaknesses of existing communities
- Climate change and sustainable development and how 'healthy' is also sustainable
- Value of green space and habitat (for exercise and for mental health through aesthetics and tranquillity as well as for ecosystem services, climate change adaptation, biodiversity (birds, trees, vegetables, etc.))
- Current drivers in linking health and the built environment – obesity, inequalities, healthy ageing, finite resources for healthcare etc.

### Where to get specialist skills and knowledge

A first stumbling block for many lecturers wanting to explore this agenda further will be the perception that some specialist health knowledge is required. To just get started this is not the case, but it will certainly help to engage with a partner in the public health field.

Public health is more akin to a broad movement than a single profession and there are several places to look for help:

- Identify and get in contact with the public health group in your own institution.
- Contact local public health professionals who have a remit that aligns with issues in the built environment, such as active living, transport, community development, they can be found best through the offices of the director of public health.
- Explore material on the website of the WHO Collaborating Centre for Healthy Urban Environments. There is content, including tools and techniques, directed at built environment educators.
- Locate and contact a built environment professional in one of the UKs designated Healthy Cities or a city or town in the UK and Ireland Healthy City National Network.

### Examples of different approaches in practice

#### Compulsory planning module: a comprehensive neighbourhood approach

Taken in year 1, undergraduate planners at UWE spend two semesters on 'Healthy sustainable communities'. They first cover the basic concepts of sustainable development and the wider determinants of health in a neighbourhood setting, proposing objectives for a healthy community in terms of development and planning. The second semester covers appraisal of locality, context and policy for a local site. Students then work up a schematic layout and client report responding to the local and health objectives set for the site.

#### Live planning project: health through culture and sport in strategic planning

Through strong practical links with the North West planning bodies, University of Liverpool students have the opportunity to work on a real life regeneration area spatial guide. They use the 'living places' approach to develop a strategic blueprint for promoting physical, social and mental wellbeing through cultural and sporting provision in the planning process.

### **Action research project: provision of local facilities with wide health benefits**

Working with the local allotment society, Newcastle University students take an in-depth look at the benefits of allotments on the day-to-day lives of those who have them and explore their potential for society more generally. One objective is to highlight the need for planning policy to take into consideration the protection of existing allotments and to promote the development of new ones to deliver health and other benefits.

### **Live Architecture design project: making good in the city**

This is a final year studio project at UWE demanding both conceptual and technical skills to 'make good' within Gloucester which is developing new master plans for its historic city centre to turn around past mistakes. Students are required to assess the context of the problem in relation to past built mistakes and outcomes for both cultural heritage and the needs of its inhabitants, including levels of ill health. They then propose the insertion of appropriate buildings and spaces to address the identified issues. Fundamental to a successful design is the understanding of the place and its people.

### **Project option: considering wellbeing in design**

Engineering students at the University of Warwick are offered a fourth year group project option on the relationship between sustainable school design and the wellbeing of children. Students work with external partners including the local authority, school and engineering consultants to start thinking about user perspectives and the concept of wellbeing alongside their technical work. The students use a range of methods to determine wellbeing leading to the outcome of a design tool to optimise wellbeing in schools.

### **Within a module: the links between physical activity and green space**

Access to green space is used in Environmental Epidemiology to teach environmental science students at the University of East Anglia about the links between health and the environment. The need to properly consider the full range of influencing factors before drawing conclusions about their possible benefits is discussed in order to determine appropriate interventions to improve health.

## **Other sources of good practice and alternative approaches**

Beyond initial under- and post-graduate training, mid-career professionals also benefit from up-to date knowledge to refresh their practice and CPD offerings linked to university courses are a good way of achieving this. UWE offer a distance learning MA in spatial planning with the option of taking one or more topics individually. Two of these topics are of particular relevance: 'The Built Environment as a Determinant of Health' and 'Healthy Sustainable Communities'.

Coming from the public health side, one approach is where public health academics reach out into all the professions and courses that might have an impact on health. At Sheffield Hallam University, the Public Health Hub has been developed to fill such a role providing a focus for public health related activities across the university and beyond. There is a recognition that built environment academics need to foster better links and understanding with their public health colleagues.

## **Possible problems and benefits**

### **Links to the professional bodies:**

Health is not at the core of curriculum accreditation criteria and the professional bodies do have a role in promoting wider take up of this important area. However, some have signalled their acknowledgement of the importance of health: the RTPI's (2009) *Good Practice Note 5, Building Healthy Communities*, clearly demonstrates the importance of planners in the delivery of healthy communities.

### **Employability:**

Students may not appreciate the need for this wider understanding of the health impacts of their professions but this knowledge has the potential to give them the edge in employability with increasing numbers of job opportunities calling for inter-professional understanding and knowledge. There is an opportunity here for educators to take a lead in responding to the clear messages from government that addressing a range of health issues through the '*wider workforce*' will be the way to maximise health outcomes. The Foresight report (Butland *et al.*, 2007) made the clear links from obesity to the built

environment and health inequalities and healthy ageing are also priority areas on which the wider (built environment) workforce have a significant impact. Most students taking courses that have a strong health element ultimately appreciate the benefits of this approach for their future careers:

*An architecture student at UNSW said: "The Healthy Planning course has opened a new perspective of designing and approaching my future professional career. I think it will help me to aspire to change or influence people's lives in a positive way."*

### Transdisciplinary skills

Through being taught in an inter- or transdisciplinary way, students develop new skills which better equip them for the working environment and, through working with other disciplines they also develop an understanding of other approaches and the needs and priorities of other professions. But, multi/transdisciplinarity also has the challenges of working across boundaries such as different languages, research traditions and approaches which must be acknowledged.

### Good references and sources of further information

There are a range of texts looking at the links between the built environment and health, from government reports like the Foresight obesity report noted above to guidance and policy recommendations from sustainability, environmental, planning and health bodies alike. Although the body of academic literature is relatively small, there are still good articles making the essential links between the built environment and health and a number of core texts. A few key sources are listed below:

#### Books:

Barton, H., Grant, M. & Guise, R. (2010) *Shaping neighbourhoods for local health and global sustainability*. 2nd ed. London: Routledge.

Barton, H. & Tsourou, C. (2000) *Healthy urban planning: a WHO guide to planning for people*. London: Spon Press for WHO Regional Office for Europe.

Corburn, J. (2009) *Toward the healthy city: People, places, and the politics of urban planning*. London: MIT Press.

Frumkin, H., Frank, L. & Jackson, R. (2004) *Urban sprawl and public health: Designing, planning, and building for healthy communities*. Washington, DC: Island Press. - Core text for most of the American courses.

Kawachi, I. & Berkman, L. F. (2003) *Neighborhoods and health*. New York: Oxford University Press. - Core US text.

Lake, A. A., Townshend, T. & Alvanides, S. (Eds.) (2010) *Obesogenic environments: Complexities, perceptions and objective measures*. Chichester: Wiley-Blackwell.

Orme, J., Powell, J., Taylor, P. & Grey, M. (Eds.) (2007) *Public health for the 21st century: New perspectives on policy, participation and practice*. 2nd ed. Maidenhead: Open University Press.

#### Websites:

##### General information on health and the built environment:

- [www.bne.uwe.ac.uk/who](http://www.bne.uwe.ac.uk/who) – The WHO Collaborating Centre for Healthy Cities and Urban Policy
- [www.healthyurbandevelopment.nhs.uk](http://www.healthyurbandevelopment.nhs.uk) – London's Health Urban Development Unit
- [www.neoen.org.uk/index.php](http://www.neoen.org.uk/index.php) – North East Obesogenic Environment Network
- [www.euro.who.int/en/what-we-do/health-topics/environmental-health/urban-health](http://www.euro.who.int/en/what-we-do/health-topics/environmental-health/urban-health) – WHO healthy cities pages
- [www.healthyplaces.org.au/site/index.php](http://www.healthyplaces.org.au/site/index.php) – Australian guide for planning, designing and creating sustainable communities that encourage healthy living
- [www.cdc.gov/healthyplaces](http://www.cdc.gov/healthyplaces) – American website on designing and building healthy places

##### Education specific information:

- [www.bne.uwe.ac.uk/who/enhs/resources.asp](http://www.bne.uwe.ac.uk/who/enhs/resources.asp) – ENHS project resources
- [www.fbe.unsw.edu.au/cf/HBEP](http://www.fbe.unsw.edu.au/cf/HBEP) – University of New South Wales Healthy Built Environments Program
- <http://faculty.virginia.edu/nbotchwey/BuiltEnvironmentandHealthCurriculum.htm> - American curriculum advice and comment

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Barton, H. & Grant, M. (2006) A health map for the local human habitat. *The Journal of the Royal Society for the Promotion of Health*, 126 (6), 252-253.

Barton, H. & Tsourou, C. (2000) *Healthy urban planning: a WHO guide to planning for people*. London: Spon.

Botchwey, N. D., Hobson S. E., Dannenberg, A. L., Mumford, K. G., Contant, C. K., McMillan, T. E., Jackson, R. J., Lopez, R. & Winkle, C. (2009) A model curriculum for a course on the built environment and public health. *American Journal of Preventive Medicine*, 36 (2), S63-71.

Butland, B., Jebb, S., Kopelman, P., McPherson, K., Thomas, S., Mardell, J. & Parry, V. (2007) *Foresight tackling obesities: Future choices – Project Report*. London: Government Office for Science.

Capon, A. & Thompson, S. (2010) Planning for the health of people and planet: An Australian perspective. *Planning Theory & Practice*, 11 (1), 109-113.

Department of Health. (2008) *Healthy weight, healthy*

*lives: A cross-government strategy for England*. London: DoH/DCFS.

Ellis, G., Morison, S. & Purdy, J. (2008) A new concept of interprofessional education in planning programmes: Reflections on healthy urban planning project. *Journal for Education in the Built Environment*, 3 (2), 75-93.

Marmot, M. (2010) *Fair society, healthy lives: The Marmot strategic review of health inequalities in England post-2010*. London: Marmot Review.

National Institute for Health and Clinical Excellence (2008) *Promoting and creating built or natural environments that encourage and support physical activity*. London: NIHC.

Royal Commission on Environmental Pollution. (2007) Twenty sixth report: *The urban environment*. London: HMSO.

Royal Town Planning Institute (2009) *Good Practice Note 5: Delivering healthy communities*. London: RTPi.

Wanless, D. (2002) *Securing our future health: Taking a long-term view*. Final Report. London: HM Treasury.

## About the authors

Both **Caroline Bird** and **Marcus Grant** have been involved in developing a network of educators who are bringing built environment and public health together in education. The Education Network for Healthier Settlements is a national initiative with a core of experts and a wider group of educators and others interested in making these essential links and sharing good practice.

Caroline is a Research Fellow with a background in environmental sustainability in local government, a postgraduate degree in Integrated Environmental Studies and a first degree in Civil Engineering.

Marcus is a landscape architect with a first degree in ecology. He has been examining issues of sustainable development and health for more than 20 years in both consultancy and academia. He is an honorary member of the Faculty of Public Health and is deputy director of the WHO Collaborating Centre for Healthy Urban Environments. He specialises in stakeholder working and knowledge exchange for sustainability through a consensus building and participatory processes. He is programme leader for the MA Spatial Planning at the University of the West of England.

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## APPENDIX 1

## Twelve key principles of Healthy Urban Planning

1. **Healthy lifestyles** – safe and convenient environments encouraging people to walk and cycle and with adequate recreational facilities
2. **Social cohesion** – safe and permeable environments with natural foci for informal interaction
3. **Housing quality** – a range of housing and housing tenure, well laid out, with energy efficient design and materials
4. **Access to work** – varied local opportunities and good transport facilities
5. **Accessibility** – local facilities and good walking and cycling provision
6. **Local, low-input food production** – provision of allotments, smallholdings and city farms together with local healthy food outlets
7. **Safety** – from traffic accidents through slower speeds, and feeling safe in the urban environment through good design and natural surveillance
8. **Equity** – through access to opportunities and the development of social capital
9. **Air quality and aesthetics** – local environmental quality – lower air pollution from good transport policy and better wellbeing from an attractive environment
10. **Water and sanitation quality** – including surface water drainage systems, protection of water courses and aquifers and resistance to flooding
11. **Quality of land and mineral resources** – use of brownfield sites, preservation of open spaces, reducing contamination and using recycled/renewable materials
12. **Climate stability** – mitigation of change through policies to minimise energy use in buildings and transport, and adaption in building design and urban form

Adapted from 'Healthy Urban Planning' p12-22, Barton and Tsourou (2000) published by the World Health Organisation.

## APPENDIX 2

## Educating for Healthy Settlements Conference, March 2010

This CEBE sponsored national conference was held in London to bring together practitioners and educators to discuss linking health and built environment teaching. One outcome was the following statement directed at policy-makers, educators and the institutions and professional organisations whose members plan, design and develop our urban environments, including their transport and resource infrastructures and to those institutions whose remit is to support public health and reduce health inequality.

**Conference Statement:**

*We believe that the creation of healthy communities is a central aspect of sustainable built environments. To achieve this, we strongly recommend:*

- I. ensuring all built environment professionals finish basic training with an understanding of the impact of their professional activities on health, including health equity;*
- II. ensuring training for all health professionals includes a consideration of the impact of the built environment on health, including health equity;*
- III. establishing a health-related cross-professional development programme for healthy settlements;*
- IV. bringing the evidence base from research and practice into the realm of educators and policy-makers in an accessible and relevant form*