



## “Everyday green space and experienced well-being: the significance of wildlife encounters”

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## Context—implications of NHS treatment based model

Over 50 years, UK National Health Service spending has risen from 3.4% to 9.5% of GDP in an increasingly affluent society

(New Economics Foundation, not dated)

So...why is our wellbeing not increasing?

...A new approach is clearly needed.





**CHYAN COMMUNITY FIELD**

Chyan Community Field was started in October 2002. From a disused, over-grown field of 2.2 acres it has been painstakingly developed by local volunteers and members to include veggie plots, a pond, strawbale tea-shed, toolstore, and sensory garden.

WHAT'S ON

Up coming events

Pruning and Grafting workshop  
Cornish apple tree expert Shane Kneebone teaches winter fruit tree care and propagation through the field more —

Winter-Spring 2013 Programme... out now!  
Our new programme of courses is now available to download. Notice of Intoxic, plus regular. Read more —

THE HEART OF A NEW ECONOMY

Visitor  
Context  
Atres Totnes  
Who are we?  
Atres Voices  
FAQs  
Donate



We couldn't have got this far without the energy and time of hundreds of people in this community. The campaign that got us here has been a great demonstration of the power of community. We need you to get...



## Context—need for preventative model

... focussed on the quality of how & where we live our lives

*“Evidence suggests spending on health care could be reduced if greater investment was made in preventing ill health before it happens. For instance, it costs 27 times more to achieve a reduction in cardiovascular mortality through clinical interventions than it does to achieve the same result through local public health spending.”*

*(The Routledge Handbook of Planning for Health and Well-Being: Shaping a sustainable and healthy future. Hugh Barton, Susan Thompson, Sarah Burgess, Marcus Grant. Routledge, 22 May 2015.)*

# Context - Green Infrastructure ...G.I. Benefits Driven Approach

... Poor environments cause disease inducing stress

...Performative environments provide Multi-functional

Opportunities (Economic, Environmental & Social/ cultural) to combat stress

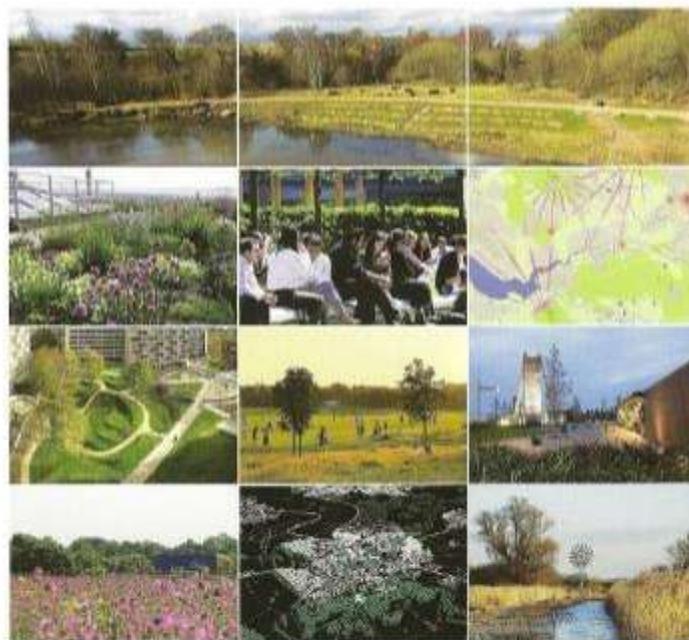
...**Green Infrastructure** = a cost effective agent for wellness

...building personal / societal resilience

## Green Infrastructure

An integrated approach to land use

Landscape Institute Position Statement



GI is the network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect villages, towns and cities. Individually, these elements are GI assets, and the roles that these assets play are GI functions.

When appropriately planned, designed and managed, the assets and functions have the potential to deliver a wide range of benefits – from providing sustainable transport links to mitigating and adapting the effects of climate change

### Green infrastructure assets

GI assets range from country parks, lakes and woodlands to urban interventions such as green roofs and street trees. They can be specific sites at the local level or broader environmental features at the landscape scale within and between rural and urban areas such as wetlands, moors and mountain ranges.

### Green infrastructure functions

GI functions are the roles that assets can play if planned, designed and managed in a way that is sensitive to, and includes provision for, natural features and ecosystem services. They may have obvious primary functions, but each asset can perform different functions simultaneously – a concept known as multifunctionality. For example, street trees add aesthetic quality to an urban area, but will also reduce airborne pollution, provide shade, reduce urban heat island effects, mitigate wind chill and turbulence and increase biodiversity.

*Green Infrastructure An integrated approach to land use* Landscape Institute

Position Statement© March 2013 Landscape Institute <http://>

[www.landscapeinstitute.co.uk/](http://www.landscapeinstitute.co.uk/)

[PDFContribute/2013GreenInfrastructureLIPositionStatement.pdf](http://www.landscapeinstitute.co.uk/PDFContribute/2013GreenInfrastructureLIPositionStatement.pdf)



# Context - research evidence for green infrastructure + wellbeing

A growing body of cross-disciplinary studies suggest:

...exposure to green spaces can have positive impacts on human health and wellbeing

(Keniger et al., 2013; Hartig et al., 2014),

...providing appealing opportunities for health promoting physical activity

(Bowler et al., Thompson-Coon et al., 2011)

...Support positive social interaction

(Maas et al., 2009b),

...restoration from stress and cognitive fatigue

(Herzog et al., 1997; Kaplan, 1995; Ulrich, 1983).

Etc.etc.etc.

## G.I. + Wellbeing Benefits Driven Approach

*Public Health & Landscape Creating Healthy Places* Landscape Institute Position Statement © November 2013 Landscape Institute

[http://www.landscapeinstitute.co.uk/PDF/Contribute/PublicHealthandLandscape\\_CreatingHealthyPlaces\\_FINAL.pdf](http://www.landscapeinstitute.co.uk/PDF/Contribute/PublicHealthandLandscape_CreatingHealthyPlaces_FINAL.pdf)

Public Health  
and Landscape  
Creating healthy places

Public Health  
and Landscape  
Creating healthy places

Landscape Institute Position Statement



Landscape  
Institute  
helping good places

Landscape  
Institute  
helping good places

**Context— legislative opportunity ...**

**April 2013, the ‘Health and Social Care Act’ (2012)  
connect public spending silos...Health + Spatial Planning**

**...fragmented Health Agenda delivery before April 2013**

...health authorities/ trusts deliver health planning /provision = treating acute or chronic ill health.

...local government delivers economic development, spatial planning and environmental protection

...Health & Safety Inspectorate / environmental protection services prevent or treat health threats.

**After April 2013...** public health, health planning & spatial planning brought together in  
Unitary local authorities & ‘Health and Wellbeing Boards’ uniting NHS, public health,  
adult social care and children's services.

...

...responding to **Marmot Review of health inequalities in England** (Marmot et al., 2010),

... ***“create and develop healthy and sustainable places and communities”***

...potential for Green Infrastructure (GI) (though spatial) to contribute to Health Agenda

Context— legislative opportunity ...

April 2013, the 'Health and Social Care Act' (2012) connect public spending silos...  
Health + Spatial Planning

The challenge for society - relate health policy-making & our GI resource design & management more effectively to deliver on this aim

...We need a cultural paradigm shift to delivering Health through Green Infrastructure

The challenge for all of us - deliver that culture

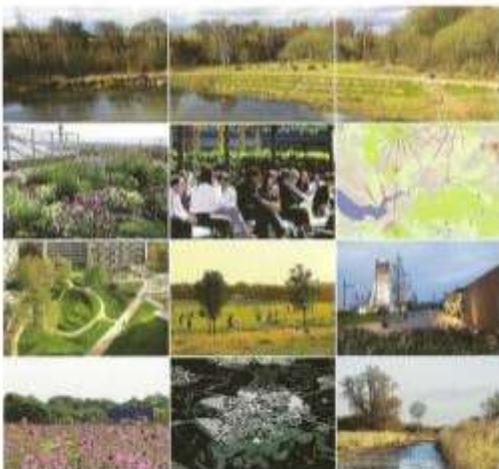
...A culture doesn't just happen...it needs to be resilient & resourced to deliver and grow...

Green Infrastructure  
An integrated approach to land use  
Landscape Institute Position Statement



Public Health and Landscape  
Creating healthy places

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Creating healthy places  
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**WHAT'S ON**

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- Planting and Grafting workshop
- Cermin apple tree expert Show
- Knowledge teaches winter fruit tree care and propagation through the field.

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# Health through Green Infrastructure...Building a Resilient Culture

... Research, Education and Practice

**The challenge for all of us - deliver that culture...engage across the 'virtuous circle'!**

...enhancing our effectiveness as *reflective/ reflexive practitioners*

## Research—

...improve understanding

...explore potential for Health +  
GI synergy

...support investment in  
solutions / delivery



## Education-

...multidisciplinary learning culture

...prevention of silo thinking

...presumption to engage with GI for  
Wellbeing Agenda

## Practice—

Demonstrate  
examples of performative GI

Prove relevance / get public/  
political/ financial buy-in



# Research -Collaboration with European Centre for Environment & Human Health, Cornwall County

“*In Residence*” (ERDF) Award funding

## Design/ research premise, findings & recommendations:

- 1– Wellbeing compromised by stress caused by Economic, Environmental & Social/ cultural agents
- 2– Wellbeing compromised by stress caused by loss of control / lack of relationship to landscape context
- 3– Demonstrate relevance of GI through activity delivering meaningful, measurable benefit outcomes (Economic, Social/ Cultural and Environmental), agreed to meet need
- 4– Agendas set & solutions delivered by communities for a personal relationship with GI’s relevance
- 5- Multi-sector & Multidisciplinary engagement required for resilience - public, private and voluntary
- 6– Delivery & Resilience- Link to established frameworks & local partners – *Neighbourhood Planning*

## Wellbeing from Green Infrastructure



a proposal to tackle triple bottom line challenges, and generate wellbeing benefits through community design & management of green infrastructure in Neighborhood Planning

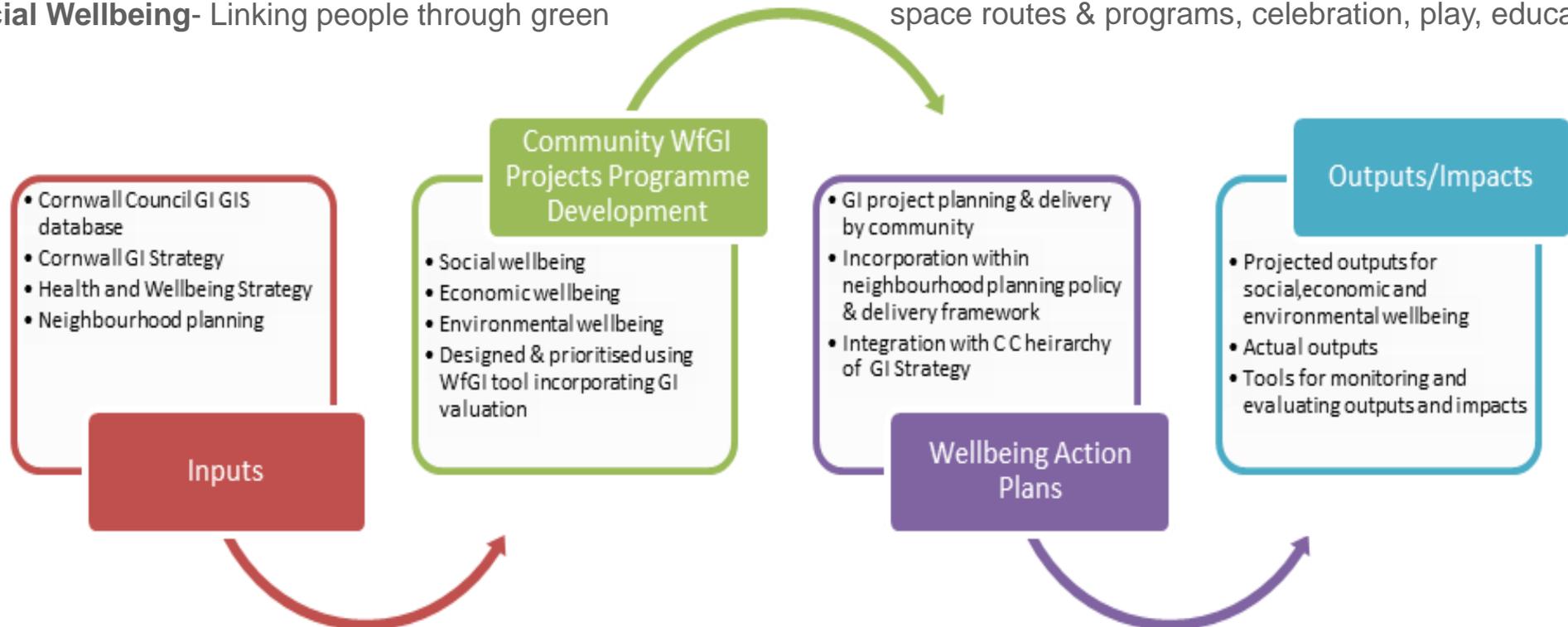
# Research -Collaboration with European Centre for Environment & Human Health, Cornwall County —'WfGI' (*Wellbeing from Green Infrastructure*) Neighbourhood Planning project.

## Delivery:

- Extend agenda of Neighbourhood Planning-community priorities for Social, Environmental and Economic benefit
- Relate challenge to local mosaic of GI place types
- Produce program of WfGI project possibilities...the WfGI tool explores these through...

## WfGI Project Themes delivered through workshops, on-line resources and mapping:

1. **Food & Wellbeing**- nutrition & income, combating food poverty- allotments, CSA, box schemes, community kitchens etc.
2. **Fuel & Wellbeing**- Bio-fuel from smart GI management- hedgerow, woodland & crops, LHP systems & fuel credits etc.
3. **Nature & Wild Wellbeing**- Ecosystem protection, wildlife conservation, green tourism, green prescription & green gyms etc.
4. **Water & Wellbeing**- resource conservation, flood / pollution prevention, reed beds, swales, water butts etc.
5. **Social Wellbeing**- Linking people through green space routes & programs, celebration, play, education etc.





# Research - (PhD support and post doctoral collaboration) Dr. Sarah Bell

## “Perceptions and use of green (and blue) space: implications for health, wellbeing and landscape design”



**convergence**  
for economic  
transformation

**westley design**  
inclusive landscape  
architecture



**FALMOUTH**  
UNIVERSITY

**RESEARCH**  
WITH  
PLYMOUTH  
UNIVERSITY



**UNIVERSITY OF**  
**EXETER** | **MEDICAL**  
**SCHOOL**



**Emplaced ‘flow’:** deep and micro, influenced by ambient conditions (e.g. whilst sailing, surfing, fishing, cycling, gardening, walking)

**Long-term achievements & more immediate gratification:** Pursuing internal states of physical fitness; appreciating tangible external markers of achievement; short-term cognitive release through physicality (e.g. golf courses, playing fields, clay pigeon shooting, running tracks, fishing lakes, rivers, well-connected larger parks, allotments/gardens, coast/ countryside/woodland trails, beaches/the sea)

**Supportive/challenging social settings for mutual hobbies** (e.g. running clubs, kayaking clubs, cycling clubs, surfing community)

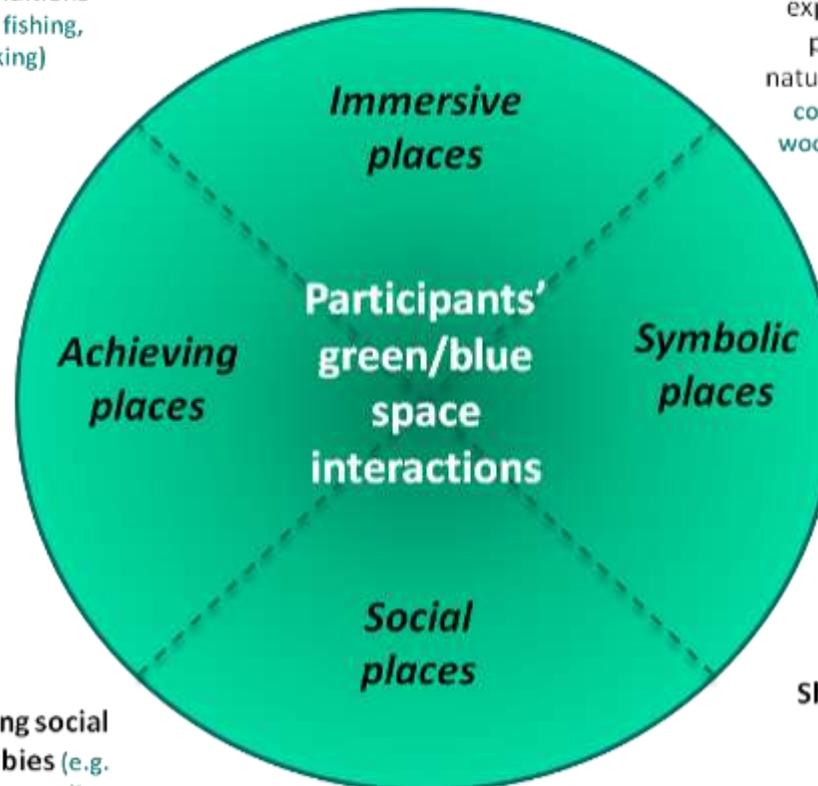
**Restorative immersive experiences:** sense of space; opportunities to explore; captivating multisensory spaces; relaxing place rhythms (e.g. woodland/countryside trails, coastal path, beaches, lakes, rivers, National Trust-type gardens)

**Immersive inspiring experiences:** expanse, power and perspective; spiritual wellbeing and diminutive peak experiences; sense of freedom; simple pleasures of wildlife; connecting to nature’s temporal cycles (e.g. coast, distant countryside views, ancient semi-natural woodlands, individual wildlife encounters)

**Cultural/personal place meanings:** existing cultural/political place narratives (e.g. green spaces as health-giving, notions of the rural idyll etc); faith-based meanings (e.g. nature and creation); and, personal sense of place including feelings of belonging, identity, rootedness, attachment; places as markers of ‘milestone moments’ (e.g. specific views, coastal proximity, woodlands)

**Shared place meanings:** places as containers of important relationships and shared experiences over time (e.g. early courtship / marriage/ engagement settings, family leisure traditions at the coast, memorials to important people from the past)

**Connecting experiences:** opportunities for a conversation; engaging in a convivial social ambience without feelings of crowding; shared comfortable companionship with like-minded individuals; family leisure (e.g. harbours, beaches, lakes, woodlands, coastal/countryside trails, gardens, parks, playgrounds, playing fields)



## Research - (PhD support and post doctoral collaboration) Dr. Sarah Bell

*“Perceptions and use of green (and blue) space: implications for health, wellbeing and landscape design” 2014* Supervisors: Dr. Ben Wheeler, Dr. Cassandra Phoenix, Prof. Melvyn Hillsdon. *Business collaboration: Westley Design Ltd.*

### Design/ research premise, findings & recommendations:

- 1– The **qualities** of the places people describe as healing/ wellbeing inducing must be better understood to guide their ongoing management and as a guide to future design.
- 2– How the interplay between **individual agency and people’s changing life patterns** influences personal view of green spaces as meaningful places for wellbeing, needs to be better understood, in order that places can be designed not just functionality but to help and embody relevancy and meaning .
- 3– The **nature of peoples wellbeing experience of space itself** needs to be better understood and defined to guide objectives for design and management supportive of particular forms of human interaction with/ wellbeing benefit from place.
- 4– The **theoretical underpinning (through research and practice)** needs to be made available more conveniently, for deployment by those proposing GI/ Wellbeing design & management and for those commissioning and resourcing health and greenspace/ amenity services.
- 5– GI & Wellbeing design and management must deliver placed based wellbeing benefits through both **‘the plumbing & the poetry’**, we need GI to be functionally relevant but also performative through its inherent meaningfulness to its users.

# Research — Collaboration with U.K. Landscape Institute

## Editing team and case studies for 'Public Health & Landscape Creating Healthy Places L.I. Position Statement'

LI paper identifies 'determinants of health' and defines generic benefits that *GI assets* can deliver... *GI Wellbeing functions* Healthy places:

1. improve air, water and soil quality, mitigate climate change
2. overcome health inequalities, promote healthy lifestyles
3. provide comfort, increase social interaction, reduce anti-social behaviour, isolation and stress
4. optimise opportunities for working, learning and development
5. are restorative, uplifting, healing (physical and mental health)

### Multifunctional GI is key

Consult, plan and design to maximise benefits... (and then monitor & promote!)



Project profiles

#### Principle 4

### Healthy places optimise opportunities for working, learning and development

#### Turning a degraded landscape into a thriving social business

Blarbuie Woodland Enterprise  
Argyll, Scotland

After 10 years, Blarbuie Woodland Enterprise is now generating 36 per cent of its income through sales of firewood, timber, plants and arts, and off-site environmental contracts. Set up in 2003, the Enterprise manages Blarbuie Woodland in agreement with NHS Highland for the benefit of people who use health and social services in Mid Argyll, and its workforce includes patients from Argyll and Bute Hospital.

The restoration and ongoing maintenance of the woodland, which had fallen into a degraded state by the 1990s, provided the opportunity to engage with patients, people with learning difficulties and sensory impairment, and people experiencing the effects of drug and alcohol abuse. Very little of the work has been done by outside contractors. Right from the start, the project enabled people to develop new skills, whether in woodland management, timber construction, signage design or environmental education, and experience the health benefits of working in the natural environment.

The site was opened as a public park in 2007 and is widely used by local groups and families, and by both patients and staff at Argyll and Bute Hospital and the adjacent Mid Argyll Community Hospital. Evaluation and reporting to all funding and supporting bodies, and members of the Enterprise, reveal the breadth of health benefits experienced by the main participants. Caring for the woodland is a key activity for the participants and they contribute not only to maintenance, but also to new facilities and interpretation, creating new environments within a landscape that is both designed and wild.



#### Helping children learn, while they heal through a multisensory outdoor space

Dolphin House Courtyard  
Cornwall

A carefully planned environment that encourages playful interaction between children, their families and the staff is fundamental to the learning and care programme delivered at Truro Child Development Centre at Dolphin House. The courtyard, by Westley Design Ltd, provides a flexible, therapeutic outdoor setting that staff can adapt to suit the needs of children with a range of learning difficulties, and a relaxing setting where parents and staff alike can enjoy some downtime.

To combine the two objectives of learning and healing play within a restricted space, the design process was a collaborative one. Westley Design Ltd facilitated a series of charrettes or design workshops with all of the staff and user community at the centre to establish a set of priorities for the space. The designs were then refined through further consultation to produce an outdoor 'room' furnished to give staff the tools to combine kinetic, proprioceptive, creative and selective-sensory-stimulating experiences in their practice.



03 Blarbuie Woodland Enterprise

04 Dolphin House Courtyard, Westley Design Ltd

# Research practice examples— Collaboration with U.K. Landscape Institute—Editing team and case studies for *'Public Health & Landscape Creating Healthy Places Landscape Institute Position Statement'* November 2013 Landscape Institute

## Creating healthy places – 10 recommendations

- 1 A bigger role for public health in placemaking
- 2 A resource commitment
- 3 Realise national requirements at the local level
- 4 Recognise landscape as an asset
- 5 Landscape performance indicators for public health
- 6 Collaboration is key
- 7 Multifunctional benefits that landscape offers
- 8 Use Health Impact Assessments
- 9 Ensure community buy-in
- 10 More evidence is needed for investment and action

### Principle 1

Healthy places improve air, water and soil quality, incorporating measures that help us adapt to, and where possible mitigate, climate change

#### Improving air quality through urban greening

Clean Air Fund  
London

Excessive levels of airborne particulate matter (PM10) are widely accepted as having a negative impact on human health and have been linked to cardiovascular disorders and respiratory tract infections. Across London in 2011, there were hotspots which were at risk of exceeding the PM10 limits set out by the EU Air Quality Directive, so in addition to the potential harm to human health, the UK government faced substantial fines for non-compliance.

Transport for London's (TfL) Clean Air Fund was a £5m package of innovative measures designed to tackle these pollution hotspots. A total of £1m was assigned to the green infrastructure work stream, following evidence published in the Mayor of London's Air Quality Strategy in 2010 that suggested that urban greening could achieve local reductions in particulates. In 2011–12, more than 600 large trees and a range of smaller trees and shrubs were planted at hotspots along the TfL road network. A 200m<sup>2</sup> green wall designed to provide living cover in all seasons was installed on the south-east facing walls at Edgware Road underground station in 2011 and a second 120m<sup>2</sup> green wall was installed at the Mermaid Theatre building the following year.

Research undertaken by the Centre for Environmental Policy at Imperial College London showed that the shrubs and plants in the green wall at Edgware Road had the ability to trap PM10, but that ability varied greatly across different plant species and their leaf characteristics. Results suggested that green infrastructure is best used as a supplementary measure to support emissions reduction, but should be viewed in the context of wider environmental benefits such as reducing the urban heat island effect, biodiversity gains and aesthetic values.



01  
Edgware Road  
green wall, London,  
Transport for London

02  
Avenue Coking Works,  
TEP Landscape  
Architects



# Education - Course & project design & delivery

Plymouth University- M Arch./ B Arch. Design Studio/ Theory  
 "Connecting Sustainable Practice"  
 & "Green Infrastructure & Wellbeing"



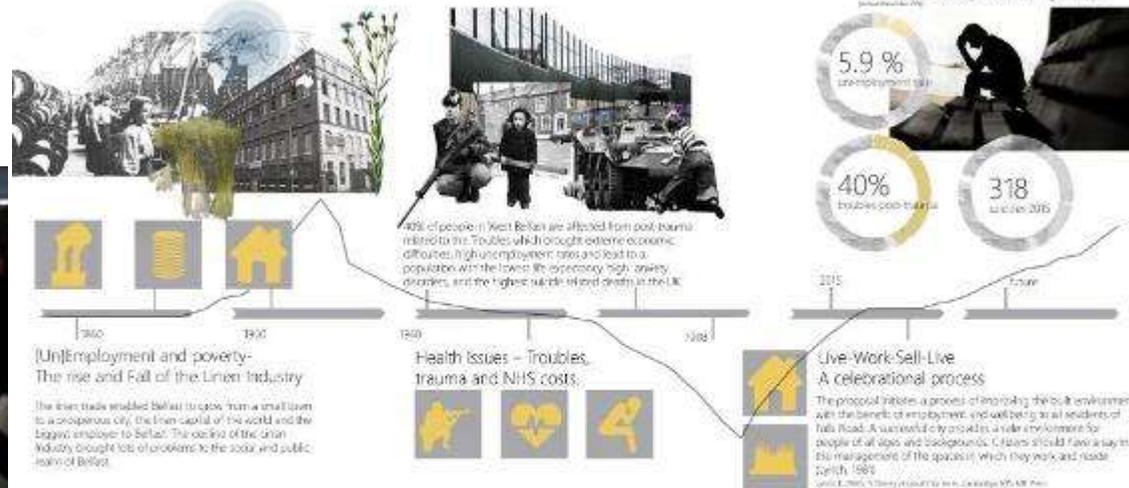
**Belfast Problem of Deprivations**

**BELFAST BEE ECONOMICS**

The project is designed to help Belfast overcome its deprivations and improve its economic position through the establishment of a new local economic and social hub. It is designed to be a multi-faceted, multi-use development, providing a mix of uses and spaces through a combination of open air shared with public realm, public realm and buildings.

## New Flux - New economy

An evaluation of Falls Road in West Belfast and how it could be developed into an economically resilient community for the benefit of wellbeing.



- Environmental benefits:** Decreasing local air pollution, enhancing biodiversity of fauna and flora, healthy lifestyle.
- Economic benefits:** Increasing local jobs.
- Community benefits:** Culturally protecting (local) and historic, embracing and celebrating heritage, improving the urban fabric, fostering local identity, social benefits of interacting with people and nature.



## Practice example— Public Realm & Co Design— CABE Spaceshaper

### Recommendations:

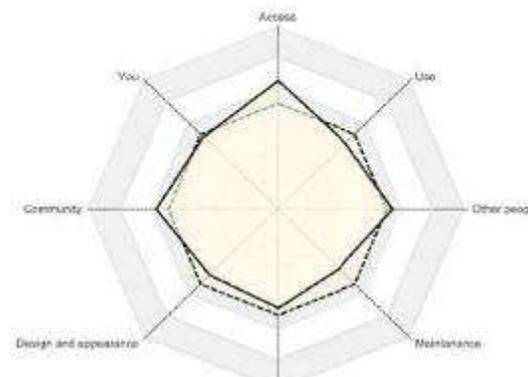
Establish relevant brief requirements/ outputs through thorough co-design

...**Quality** not quantity – developing shared understanding of Place **Quality**

...establishing a basis for **Social Wellbeing** from the site's community & their GI.

### Spaceshaper process

- practical toolkit delivered through a workshop of stakeholder group representatives
- captures diverse views of space users/ managers
- discuss how the space works for different people
- encourages people to demand more from GI
- designed to support change/ improvement
- assessing existing and planning new sites
- used as an element of a broader consultation



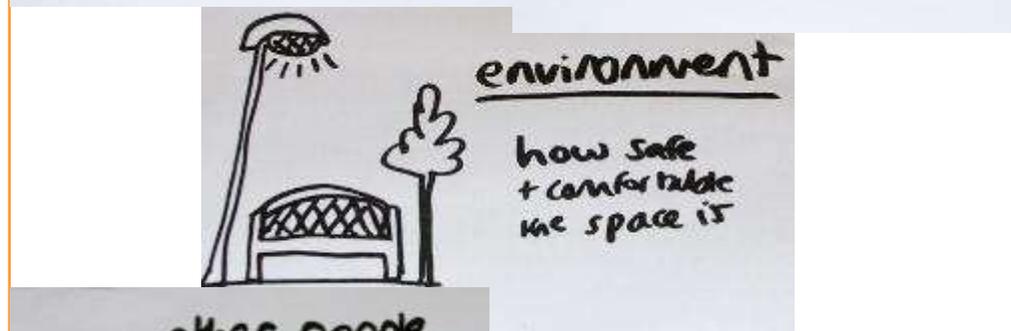
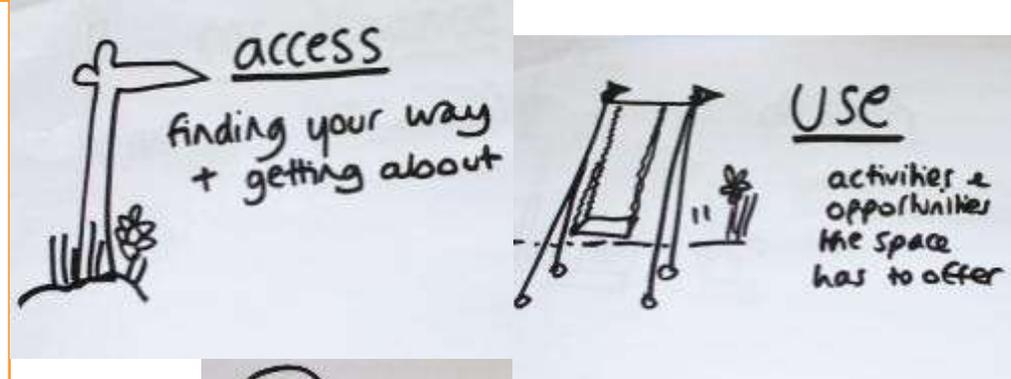
## Practice example— Public Realm & Co Design— CABE Spaceshaper

...successful co-design can:

- Resolve opposing interests/ users for action
- identify the strengths and weaknesses
- measure how well proposals meet inclusive needs
- establishing priorities
- Stimulate new ideas
- track changes in improvements over time
- help build relations with hard-to-reach groups.

...Spaceshaper covers eight specific areas of space quality (demonstrating potential relevance of GI):

- access: finding your way and getting about
- use: activities and opportunities the space has to offer
- other people: how the space caters for different needs
- maintenance: how clean and cared for the space is
- environment: how safe and comfortable the space is
- design and appearance: what the space looks like and what materials it uses
- community: importance of space to local people
- you: how the space makes you feel.



# Practice e.g. - Learning Environments GI- (Connor Downs Primary School, Cornwall)

## Recommendations:

- Build culture of performative expectation of benefits from GI in whole school community through - Tangible benefits e.g.
- relevance to learning curriculum, improved working environment, multisensory play/ learning experiences, engagement with / benefit from wider community partners, fresh food!





## Practice e.g. - Healing Environments GI. ('Play for Life' garden, Royal Cornwall Hospital, Truro)

### Recommendations:

Engage diverse 'client group' in targeted appropriate consultation program

'Layered' design brief development demonstrating specific stakeholders group outcomes delivered from Multifunctional space balancing spatial subdivision with inter-visibility to facilitate synchronous diverse use and safety-oversight

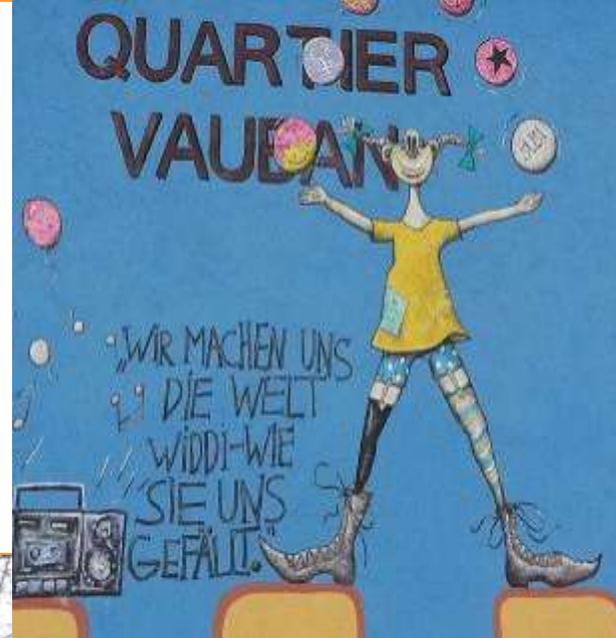


# Conclusions— We should “make the world the we like it” so that it likes us back!

... Research, Educate & Practice GI Design to deliver Wellbeing,

## Further reading and recommendations:

- 1– Visit Freiburg!– (Vauban & Rieselfeld)
- 2– ref. WHO Collaborating Centre for Healthy Cities and Urban Policy- NHS South West 9-13 September 2009 & 17-20 September 2008



NHS South West University of the West of England

South West England  
**NEWS FROM FREIBURG**  
Planning • Public health • Urban design

WHO Collaborating Centre for Healthy Cities and Urban Policy  
NHS South West  
9-13 September 2009

