

# Green Infrastructure as panacea: Principles, terminology and a coalition of ideas

Panacea Green Infrastructure? Multidimensional Contributions to Competitive and Livable Metropolitan Regions 16<sup>th</sup>-17<sup>th</sup> February 2017, Essen, Germany

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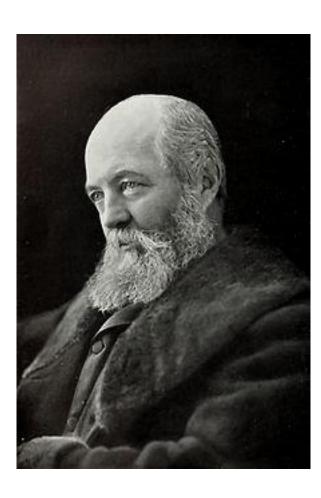
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Lancelot 'Capability' Brown (1716-1783)



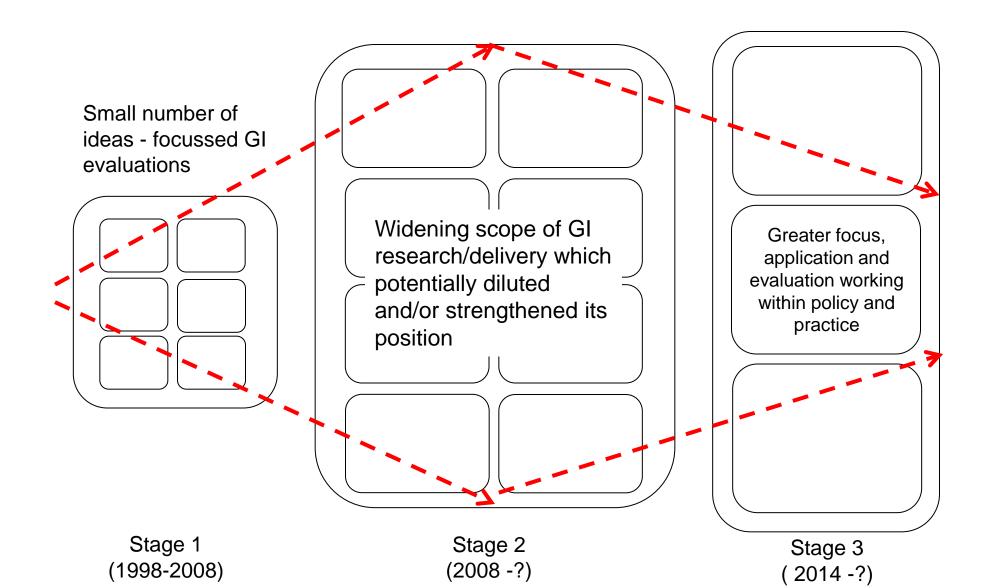
Frederick Law Olmsted (1822-1903)



Sir Ebenezer Howard (1850-1928



## A timeline for GI Planning: scale, depth and focus





## Green Infrastructure: a rapid history

Greenways

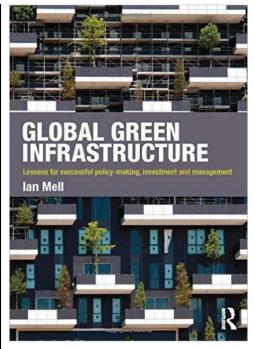
**Garden Cities** 

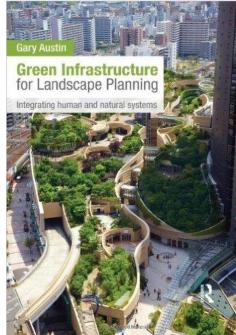
Green Belts and urbanfringe Sustainable cities and landscapes

Green Infrastructure Ecosystem Services

Eco-city / Sponge cities Nature-Based Solutions (NBS)

	Timeframe	Key principles
Greenways	Late 1800's onwards	Linearity, connectivity, access to nature, recreation, economic/property uplift,
Garden Cities	Late 1800s - early 1900's onwards	Compact development, localised amenities, access to nature, socio- economic-ecological links to landscape, town & country
Landscape Ecology	1950/60s onwards	Networks, connectivity, scaled investment and linkages, links-hubs-nodes, supportive systems
Social inclusion	1980s onwards	Use of GI as a communal hub, access to green and open space, control of crime-education-health, social interactions
Urban Sustainability	1990's onwards	Flood mitigation, climate change adaptation, biodiversity and conservation, aesthetic qualities, social interaction with nature
Ecosystem Services	2000s onwards	Supporting, regulating, provisioning and cultural services, networks, connectivity, links to nature



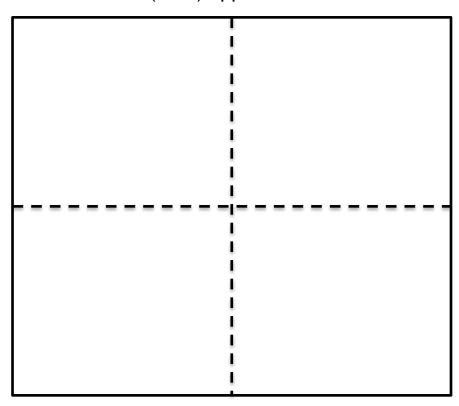




Ecologically focussed

benefits

# Nature-Based Solution (NBS) approaches



Socio-economically focussed benefits

Technological / Engineered approaches



# Nature-Based Solution (NBS) approaches

Wetland Private restoration gardens Nature reserves Greenways Green Belt Urban forests Street trees Riverfront Green roofs developments SUDS / Sustainable Bioswales transport route

Socio-economically focussed benefits

Ecologically focussed benefits

Technological / Engineered approaches



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Are we doing enough to understand and protect GI resources from development?



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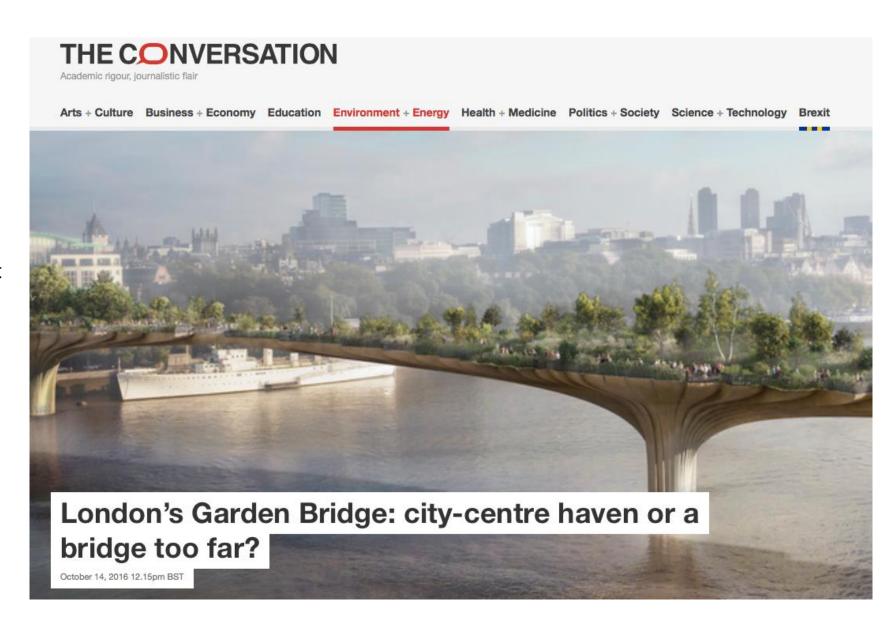
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Are all green spaces or GI resources the same and are they treated/managed in the same way?

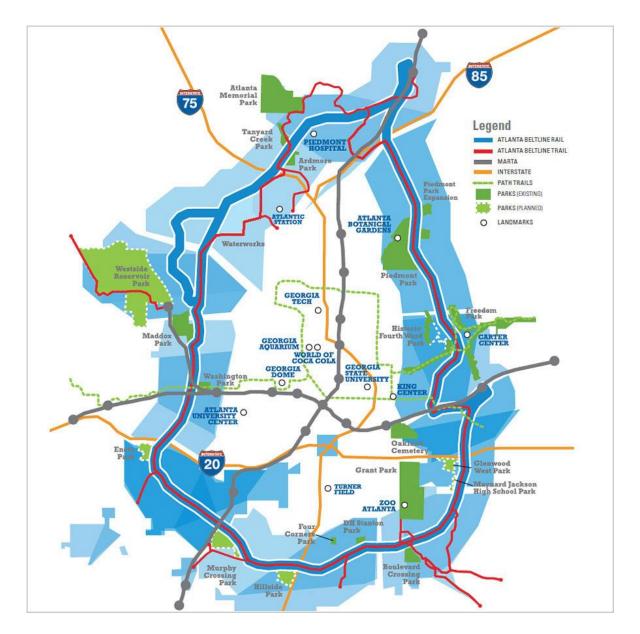


Do we need to take the development context into account when deciding whether investment in GI is appropriate?



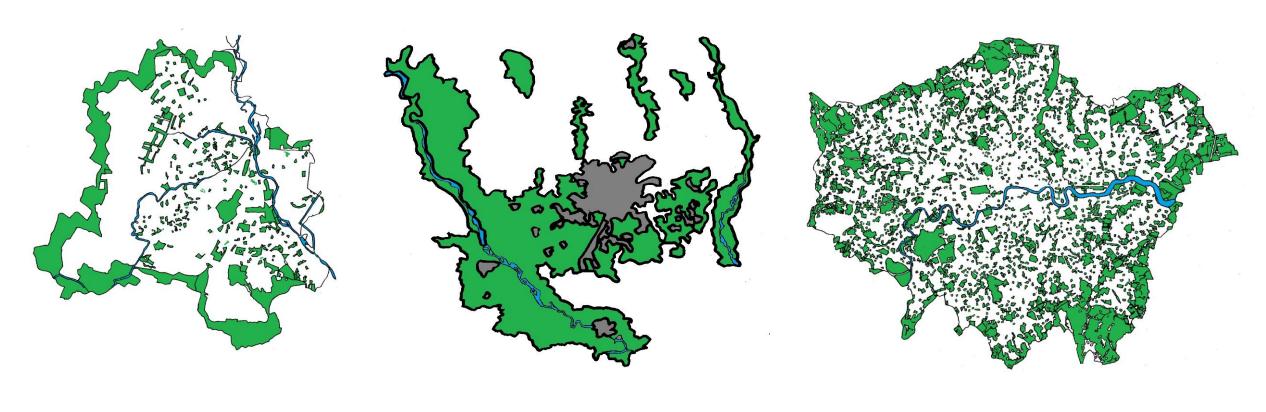


Are P-P-P projects like the Atlanta Beltline the future of financing and revitalising disused or undervalued landscapes?





How can we interpret, value and manage a wide ranging set of GI resources in our urban, urban-fringe and rural areas?



New Delhi GI network

Milan GI network

London GI network (excluding GB)

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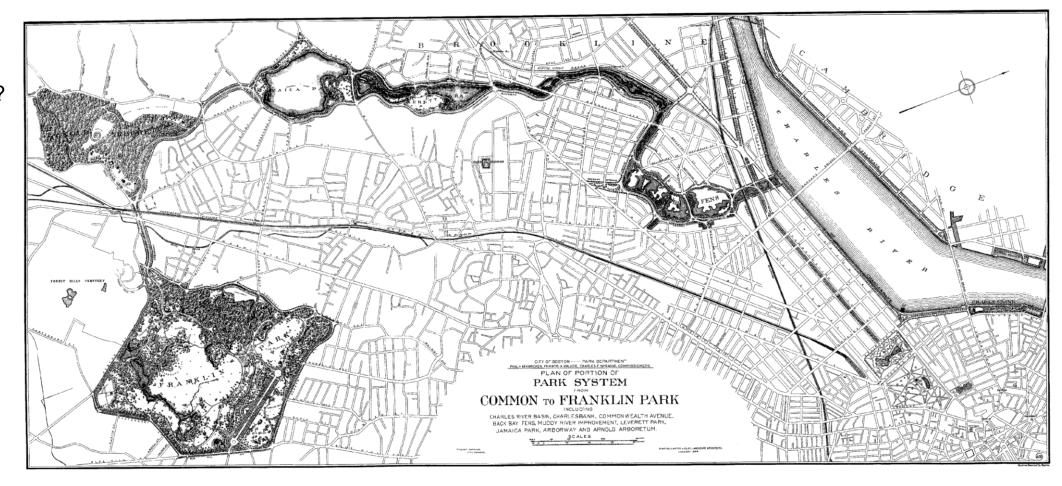
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How do we manage political rhetoric, development objectives and community responses to changes in GI?





How do we design a sustainable drainage system like Boston's?





#### What does successful GI intervention look like?





The High Line, New York

Landschaftpark, Duisburg-Nord



#### What does inappropriate GI intervention look like?





Sabarmati Riverfront redevelopment, Ahmedabad, India



Contested play area and park redevelopment in Ely Country Park, Cambridge, UK



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What economic value do parks or other GI have and can these be defined as a quantifiable equation?









$$WTP = \frac{(L + T + PG + SE)}{(R/T + BI)}$$

Positive influences:

WTP: Willingness to Pay

L: Location

T: (GI) Treatment

PG: Perceived greenness

SE: Socio-economic variables

Negative influences:

R/T: Existing

rent/mortgage/taxes

BI: Existing built

infrastructure

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How can we manage spaces with different political, socio-economic and ecological value at different scales and still deliver sustainable and multi-functional places?









Millennium Park, Chicago

London Wetlands Centre, London



## What next for GI planning?

- Bigger, bolder, better...
- ES/NBS and natural/ecological innovation
- Increased/more visible advocacy from central government to support sub-national policy/implementation/engagement
- More proactive action from stakeholders using GI meeting changes in climatic/social/economic needs and aspirations
- Engagement with key issues within planning: health, well-being, climate change, economic growth growth, water management and urban design
- Funding, funding, funding...