

What kind of green infrastructure do we want? Building better bridges between research and practice: Workshop report 16th February 2018.

Key issues raised in the morning session

Six facilitated discussions move towards developing some project ideas. Initially tables either had academics or practice audiences on them but after the morning discussions the tables were switched to enable each to view and comment on each other's deliberations. It was at this interface that 12 ideas for projects were identified and developed.

The following issues were common across at least two tables and add value to the pre-workshop briefing papers. **These issues merge the themes of 'lessons learnt' and 'challenges'.**

- **Monitoring** Need improved monitoring of GI outcomes. Need such criteria built in from the start for an effective baseline. Need KPIs for developers.
- **Existing Tools** Draw together and prioritise a working toolkit of **existing** tools that planners and decision makers can use effectively (fit for purpose and scrutiny by inspector/regulator/legal challenge).
- Is the **development of new tools** the best outputs from research; not according to practice rather they want intelligence on best tools to use and those that are fit for purpose and can be mainstreamed in existing decision making processes
- **Devolved UK** It is important that we do not just consider solutions that are just based on the English model. Need to have Scottish and Welsh and Northern Irish examples. There are four separate planning systems - need to work across these to gain maximum impact. At present the workshop is very England centric
- **Is the planning system too narrow for looking at GI.** Important to look at how planning systems intersect with other areas of policy and practice; eg health and well being; SMART cities building regs and natural environment
- **Retrofit GI** is a priority that is missed in research and policy: How do you retrofit GI. Need more work to focus on improving existing GI and its long term maintenance.
- **Business case and investment** Need to focus more on investment opportunities that generate real budgetary lines and outcomes.
- Need an improved understanding across researchers and practice of **how development is financed** and the overall pipeline.
- **Understanding viability cases** Role of land values distorting the picture but planning has yet to deal with the betterment and compensation issues. Lack of skills in planners to defend GI from attack in viability assessments.
- **Resources and capacity in local authorities** Capacity and resource issues in local authorities; need research but often don't have time to take part in it or influence it without being paid.
- **Understanding of GI as essential infrastructure** GI is not a priority in the built environment. Need to embed GI across each department at national, combined authority and local level building from the opportunity space of the 25 year environment plan
- **Demonstrating the value of GI** Better use and research data on demonstrator schemes that show link between research evidence and practice. (perhaps Bicester)

- **New markets for GI provision** need to understand the market based instrument opportunities for those who benefit from GI investment and those who provide/deliver the services.

Research challenges

- Improved research models involving teams of academics, policy and practice to enable more joint working for research to inform practice throughout all stages of the research .
- Legacy funding maintain good work rather than reinvent the wheel. Practice led research to help build improved legacy. Danger of researchers leaving. Many tools fall into disuse due to lack of funding for maintenance, support and development.
- How does research call development allow for innovation outside the GI silo. So need the built environment to influence the calls as much as the natural environment.
- Does GI deliver social and environmental benefits in deprived areas.
- How to make the most of citizen science for GI
- Looking at the existing GI networks and looking at the impact of past interventions.
- Translating and communicating research and complex science to the end user audience.
- Issue of improving end user involvement in the development of projects.

Support for Impact

- Need for researchers to be able to reach and influence new audiences not funded for in research budgets sufficiently beyond workshops. Impact takes time to build and should be funded.
- Need for research councils and or a central body to better coordinate similar research projects so that cumulative impact can be achieved; projects tend to be too isolated.
- Need for research to better engage with residents and citizens
- Co-working with practitioners and policy-makers is key to generating impact – flexible funding for ad-hoc work as well as single large projects
- More joint NERC-ESRC (and maybe -EPSRC-AHRC) projects for GI but also must avoid the silo of GI research done in isolation

New pathways to impact

The Planning Inspectorate and Ministry of Housing, Communities and Local Government are key parts of English government that are seen as currently missing from impact pathways in research.

Professional Institutes across the built and natural environment (include national and regional).

There is a very good list of all these here

<https://www.citb.co.uk/documents/qualifications/professional-bodies-support-materials.pdf>

Higher education where built environment courses are taught. Is there scope for a jointly developed module. <http://chobe.org.uk/>

Influence betterment in planning decisions to capture land value uplift in order to benefit GI eg Community infrastructure Levy and environmental levy

Preapplication and site allocations

National infrastructure commission.

Key project ideas from workshop from morning session

1. Better information on the quantum and quality of GI and to how to realise multiple benefits.
2. **Reverse engineer what good GI is and work across sectoral/policy/professional/academic boundaries**
3. Communication and language of GI what are the mechanisms for better co-development and mainstreaming of GI
4. **Explore the development of a central hub for GI where research and evidence**
5. Filling the knowledge gap across professions improving the training of GI across built environment, councillors, CPD but moving away from silos.
6. Interdependencies of the 5 capitals (social, financial, natural, human, manufactured)
7. **Extending/developing the business case for GI**
8. **How do we activate the 25 year environment plan and deliver behavioural change in resourcing and delivery of GI**
9. **Co-production: how do academics, policy and practice work better together and maximise social learning.**
10. Working across the devolved agencies to improve the business case for GI
11. **Research funding is not fit for purpose**
12. How do we improve delivery of GI that leads to real income streams.

A key issue concerning these project ideas was the interrelationships and interdependencies between them. These should not be seen as stand alone projects. This thinking was built into the brief summaries of the 6 chosen projects (voting with no second referendum)

1. WIKIGI

The big idea: Make (research) tools, data evidence, case studies available and accessible in one central space. Specifically

- Different entry points for different needs
- Maintained and updated
- Information Critically evaluated by academics
- Open access papers
- Projects reports
- Links to existing portals
- Searchable
- User ratings on material provided including tools
- Users able to submit material to be verified.
- Accountability of evidence
- Communication aspect to engage other users.

Action Plan : engage with parks advisory group and identify possible sources of funding. Develop a team to complete a bid. Can help support other projects below through the development of this portal.

2. Changing the Research model

Rather than a project idea and actions we uncovered a series of tensions that underlay the research and practice linkages and interdependencies. ***The key action is to signpost research more effectively particularly where there is an impact or innovation component and to support such schemes to pay for valuable officer time.***

- **The lack of a one stop shop** for information across different research areas. Policy and practice struggle to know what research is out there and being done/completed and indeed this lack of awareness can stretch to researchers themselves. (link to WIKIGI idea)
 - *Need to improve the visibility of research projects in one area across multiple research councils and providers.*
 - *Ideally need to provide a list of key research providers and their different terms of reference in one place.*
 - *Where a range of projects are being undertaken on one theme there is a need to improve knowledge exchange platforms for researchers and practice.*
- **The definition of what constitutes research is unclear** and seemingly varies across different research providers. There are different rules of eligibility and also funding particularly for practice There is a maze of different research councils and research projects to navigate through.
 - *There is a need for greater clarity and transparency of research definitions and how end users can contribute and be supported.*
 - *There is a need for more flexible research funding streams that differentiate between blue sky to more policy and practice driven projects allowing practice led approaches*
- There was a strong demand and motivation from practice participants to help **direct the kind of research projects that are developed**. Here the desire to influence the direction of calls was evident.
 - *Improved web site information and communication about future programmes with more proactive targeting of key agencies to respond and contribute.*
 - *Key role of capturing the views of built and natural environment professional institutes with regard to NERC and RCUK remits.*
- Sense of frustration from **practice participants** being needed for research processes and signing up to help but then **being taken for granted and not seen as equal partners**. This is compounded by multiple research consortium asking for the same people for competing bids but also on different bids.
 - *Assessment process needs to look beyond letters of support and perhaps better capture of partners within review and evaluation procedures.*
- Much research **lacks real and effective co-design and coproduction** despite the rhetoric. This creates research outputs that often cant be applied in practice
 - *Need to have evaluation of projects that champion codesign and coproduction to look at the lessons learnt and to improve guidance and core principles that deliver tangible benefits to both academic and practice participants.*
- Funding regime changed to allow for key stakeholders to be lead bodies to improve he legacy and monitoring component of research. Can monitoring take place 2 years after the closure of the grant to improve the learning within the project.

- Research bids assessment needs to take more account of practice involvement and pathways to impact. Computer says no syndrome is a barrier to this.
 - *Is there scope for more involvement of professional institutes on interview panels.*

3. Reverse Engineering for Green Infrastructure

- Starting point is clarity about the quality of B&GI and end product on the ground that wish to achieve.
- Can help do this [i.e. the outcomes] through identifying a range of GI exemplars from different scenarios covering masterplans, policies, etc.
- Then work backwards to provide a clear statement of both the necessary process and outcomes
- This includes the identification of standards that can then influence the initial and final designs reflecting the capacity and capability in the land value and associated benefits (if appropriate).
- Developers to deliver and supply the qualities of place that are desired to meet the standards.

End/Start

STEPS	ACTIONS/DRIVERS	BARRIERS
9 Identify and evaluate benefits using agreed indicators.	Use existing standards such as clean air, noise etc.	Lack of space to deliver formal standards (new thinking)
8 Apply best practice	Flexibility and adaptability	Evidence and knowledge; lack of learning from failures
7 Regulatory permission requirements eg net biodiversity gain/ net environmental gain (local plan)	Sticks and/or carrots	Political mood and opinion Community opinion DCLG attitude
6 Assess economic collaboration models from a developer perspective and build strong and inclusive partnership for complex sites		Short term versus long term
5 Developer contributions to area/region (CIL/Section 106)	GI framework and ecological networks as legitimate beneficiaries from schemes	Duty to cooperate

4 Anticipate Embed policy drivers (e.g. NPPF/Local pan)	Net gain Viability	
3 Design Options		Perceived extra cost
2 Identify priorities/functions you want from GI		Land values
1 Understand GI elements wanted		

Start/End

4. How do we mainstream the Defra 25 YEP

- As HM government publication important opportunity to involve all government departments. (link to industrial strategy; NPPF)
- It is also important to ensure that there is transferability to the situation in Wales, Scotland and Northern Ireland.
- Key issue over definitional clarity of GI with ecosystem services and natural capital seen to be part of the same family. Uncritical use of terms can hinder communication and understanding across other audiences.
- Tensions over the funding of GI but makes business sense when taken into account. how do you translate the benefits into real cash
- Key role of cabinet office and cross departmental natural capital committee then GI should be mainstreamed across all govt departments.
- This requires pre-emptive TRANSLATION of 25 YEP for each dept.
 - How does 25 YEP help deliver their prime objectives
 - Short fact-based set of prompts with evidence to support departmental priorities
- Develop a set of performance metrics; these need to be evidence based
- Key opportunity of the NPPF consultation and the need to present a portfolio of research/practice case studies to show the benefits that stem from GI.
- Look at the interface between NPPF / Industrial strategy and 25 YEP where interestingly natural capital stands out as the common term.

5. Building the business case for GI

MainstreamingGI.com is a useful resource

25 year plan and industrial strategy shouldn't be looked at in isolation need to consider ways to join these two plans together

Too many terms for GI.

Need evidence of GI benefits to biodiversity

How much added value is there to housing when GI is included in housing development – currently not known

GI needs to be included from the start of the planning process and considered throughout the whole chain rather than at the end as a bolt on.

Important distinction between needs and opportunities

Important distinction between functions and benefits

There are in fact many business opportunities that GI can deliver in terms of cost, time savings, enhanced performance and overall market advantage.

There are also business risks associated with failure to incorporate GI into planning, design, construction and operation.

Opportunity	Need
<ul style="list-style-type: none">• GI makes more sites available for development if done well• BESS – GIS natural capital evaluation and mapping tool• Open Source data base for European GI case studies• OPPLA https://oppla.eu/nbs/case-studies another data base• design quality agenda for MHCLG is to use local community acceptance and support• Suite of model GI policy in Scotland – creates strong and stable policy	<ul style="list-style-type: none">• Increased speed through the planning process and more certainty• Lack of comparison/ appraisals – e.g. SuDs v Non SuDs.• What is the benefit?• Fully costed including maintenance who benefits – if its health then it doesn't benefit the investor• Need for good policy – helps with speed of development and helps people defend investment – target the right spatial scale (studies suggest regional level is best level to target.• Different business cases for different audiences• GI having equal status with transport and other integral elements• Interrelate G infrastructure with Blue and Grey from the onset of planning• Quality not quantity• Right scope of business case and who to invite at the start.

6. Co-working between academics, policy and practice: a real world test bed

- Invaluable for addressing real-world problems and with direct links to the need for a range of different research models and funding streams from research council (project 2
- Needs to be policy and practice-led, built around a specific issue that can then attract diverse research teams
- Needs to be co-working on an equal basis – recognise value of grey literature and non-academic tools and knowledge, don't get too hung up on academic papers.

- Needs real commitment from policy and practice in terms of time – this can be a problem if practitioners are very busy and there needs to be mechanisms that can support their time
- NERC GI Innovation programme was pitched very well to encourage genuine co-working. It would be good to see more funding along those lines in future. But sometimes practitioners need just a small amount of funding to work with academics to answer a specific question, or numerous small amounts to answer a series of possibly unrelated questions. So flexible funding would be good.
- Communication is key - academics need to learn the language and terminology of the practitioners. The identification of relevant hooks to engage effectively is key here.
- Suggested opportunity around Oxford-Cambridge growth corridor – a useful and relevant test bed where a huge amount of growth is planned yet there is no strategic GI plan. Danger that the value of existing GI and opportunities for preserving and enhancing strategic networks of GI (e.g. around river corridors) are not taken into account in decision-making e.g. on location of new expressways. This would be a useful opportunity to test a variety of potential tools for planning and evaluating GI, through a co-working approach – seeing how they work in practice.

My own reflections

Having written this overall report and looking at over 100 flip charts of great information I can see clearly linkages across each of the 6 projects (to improve mainstreaming) as well as opportunities within each in their own right. There are some further projects that actually help to cement them and deliver outcomes

1. Each of these projects will become embedded into the workstreams of my fellowship. I believe all of them help the mainstreaming process but it is important that the projects are owned and adapted to the current rapidly changing policy scene. I hope that funding might be possible to explore all these ideas and I will target key agencies for the project ideas in due course. Equally I would be very keen for you to use this workshop intelligence to develop ideas for funding.
2. The forthcoming consultation on the **NPPF (released Monday 5th March)** is going to be key for the way G is incorporated into planning. Here there is a need to use some of this intelligence to inform responses. Currently as part of my own NERC fellow work I have been working with 25 people to develop a GI-proofed NPPF draft. This is a policy practice version. I am currently consulting with academics to secure their input.
3. Building on ideas within the projects and their connections, my own fellowship will be able to devote some time to projects as part of my mainstreaming efforts. In particular:
 - **Developing the business case** On February 27th I am running a workshop with the ICASP project at Leeds that brings together academics and policy and practice audiences to develop project bids that are business savvy. This will be a direct application of some of the material from Friday and will provide a regional model at the catchment level that may be transferable. Here **developing a module on business and investment appraisal** to help GI professionals better engage with the business case and to build market based instruments that can help deliver real income streams.
 - **Developing a user led module on the built environment** using GI solutions to particular challenges. This helps support most of the project ideas. If I can involve all the professional institutes in this idea to approve a practice led module “academicalised” to fit university structures this could be very powerful to realise several project outcomes.

The module could be built to CPD and distance learning uses as well as being delivered across institute supported courses. Are there any other universities that wish to be associated with this. Address knowledge gap in curriculum of GI across all built environment professions at the university level. CHOBÉ might be a suitable agency to work with <http://chobe.org.uk/>

- **Using a defined growth area with which to test out existing research and practice tools.** It struck me that with the concern over the tools out there it makes sense to perhaps test tools in one key study area to both look at the differences between them in results but also to see where the synergies lie between different tools to maximise their cumulative impact for practice needs. The Oxford Cambridge growth area stands out (project 6) particularly as there is a KE fellow (Charlie Stratford) and Manchester city region (as there is another KE fellow working there (Beccy Wilebore) working in this area. There were also other projects present such as Dissington Garden Village and the proposed great Northern Forest where such testing could take place within a series of place based approaches. **Are there academic or policy partners who have tools that would be willing to apply them in this area as part of a coordinated project.**
- **How do we mainstream the 25YEP** I have become part of the Defra group on defining standards for green infrastructure which is a core component of the delivery of the 25 YEP. This allows me to share the intelligence from the workshop.