

the GOVERNABILITY GRIP

What 'power' do cities have on infrastructure?

Research pilot overview

April 2017

About the Lab



action.

The **UCL City Leadership Laboratory** brings together world-class academic scholarship, public authorities, international organisations, the private sector and local SMEs to create a unique environment for urban experimentation, research, teaching and – most importantly –

The Lab builds on three years of projects, grants and activities of the City Leadership Initiative, a joint effort of the World Bank Group and United Nations Human Settlements Programme (UN-Habitat), with funding from the UK Government's Economic and Social Research (ESRC) and Engineering and Physical Sciences (EPSRC) Research Councils. While the aim of the Lab is to tackle globally relevant city challenges, the projects undertaken are *practically oriented* and often *locally focused*.

The Lab sits within UCL's policy-focused **Department of Science, Technology, Engineering and Public Policy** (UCL STEaPP) and has links across UCL's network of urban research and practice.

Project team

[Michele Acuto](#), Director of the UCL City Leadership Lab and Professor of Urban Theory, UCL STEaPP;

[Paul Honeybone](#), Research Associate in the UCL City Leadership Lab and Doctoral Researcher, UCL STEaPP/CEGE;

[Katrien Steenmans](#), Research Associate in the UCL City Leadership Lab and Doctoral Researcher, University of Surrey;

[Jenny McArthur](#), Research Associate in the UCL City Leadership Lab and Doctoral Researcher, UCL STEaPP/CEGE;

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Executive summary

The UCL City Leadership Laboratory (CLL) developed a method and conducted a pilot assessing the ‘governability grip’ to test the utility and viability of the method to provide insights into the governability of critical infrastructure resilience and fragility, with a view to inform future directions for improved system coordination. This method was piloted on select Combined Authorities and City Councils to assess their governance fundamentals for integrated urban infrastructure oversight.

Building on the *Research and Methodological Brief* (February 2017), where the governability grip concept and the methods employed to develop the concept and assessment framework are summarised, this report provides a more detailed explanation of the conceptual development of the assessment framework as piloted on four UK city-regions, and a plan for future development and potential international application.

The focus

The current state of the integrated governability of ‘nexus’ infrastructures in select UK city-regions (being the critical infrastructures of water, energy, food and waste).

The rationale

To establish a base-case to monitor, identify early insights and scope future research into directions for system coordination improvements.

The context and emerging opportunities

In the context of UK devolution and the potential for localised empowerment of economic, urban and infrastructure development, regional resilience building is a fundamental component of strategic foresight and delivery.

Attending to the stability of existing key infrastructure foundations, bolstering the dynamic strength of these systems, and realising new potential to unlock growth requires intentional steps given institutional histories and current coverage of the ‘nexus’ of provisions that underpin successful long-run regional development.

Extending the scope and integrative power of Combined Authorities to use their new role – and leverage potential leadership – of

local governance functions, working from areas such as local transport and business incentives as part of driving industrial strategy, can open up new investment strategies and a multitude of opportunities.

A transfer of power to revitalise regions, with enhanced regional governance capabilities to lead develop with a primary economic and labour market orientation, presents the opportunity to dovetail integrated regional resilience strategies alongside strategic leadership and planning system improvements to present a step-change.

Lessons learnt from the pilot phase

- Infrastructure resilience for all people and activity is intrinsic to urban and regional development. It underpins industrial growth aspirations in the UK.
- It is too early to see the potential for developing integrated economic, social and environmental strategic planning that progresses long-term integrated decision-making in the UK based on current reforms.
- There is very limited evidence current available to support the idea that Combined Authorities are the new nodes of governance for strategic long-run investment in integrated regional resilience.
- This does not limit the possibility of working with Combined Authorities to create strong and coherent platforms that produce understanding of the socio-economic benefits and costs, so risks and opportunities can be monitored for the overall health and wellbeing of regional resilience.
- As it stands, it is plausible to claim there is a ‘governance deficit’ or an ‘ungoverned’ aspect of integrated infrastructure investment for high performance long-term growth. There are gaps between the spatial concerns of local Councils and the emerging regional interests of Combined Authorities, and the national interest orientation of central government (notwithstanding the important and new work programme of the National Infrastructure Authority).
- There is potential to develop a firmer and legitimate governability grip on integrated infrastructure planning, investment and service delivery.

Introduction

Sustenance and prosperity in cities and regions are built upon well-functioning infrastructure. Yet can local government control, shape and orient these vital systems in ways their citizens expect of them for seamless and accessible service provision into the future? The purpose of this research is to investigate the ‘governability grip’ on the integrated oversight and management of infrastructure in cities.

The proposed value of the project is two-fold: local government can benefit from understanding the fragility and resilience of critical infrastructure networks to ensure informed local governance and their ability to respond to unforeseen economic, environmental and social shocks. This can help to constructively advance overall infrastructure system performance and the associated benefits, as well as add to the wider working reservoir of public good and civic engagement in our cities and regions.

The nexus perspective

A ‘nexus’, defined in this report as an integrated urban system), viewpoint brings attention onto how robust systems are in a particular location, and to what extent they are adequately understood and made transparent for improving integrated management, maintenance and investment decision-making. Nexus is here understood, in line with the UK’s Engineering and Physical Research Council (EPSRC), as the confluence of water, energy, food and waste systems that underpin our cities.

Understanding the nature and governance of current nexus systems and testing the direction required for improved oversight, will help reveal interdependencies that can highlight governance challenges, risks and opportunities. While doing better can potentially help inform priorities to mitigate short-run problems (crisis and emergency management), our interest is in the strategic medium to long-term city-regional level role of public governance. An emphasis on assessing the ‘governability grip’ through the current and emerging institutional architecture brings into focus the ‘direction of travel’ for infrastructure system performance improvements that can lead to integrated and resilient outcomes.

Method overview

The project takes place in three general steps: 1) assessment method development (the ‘Governability Grip’ assessment framework); 2) preliminary testing; and 3) internationalisation

and wide application. This report summarises phases 1 and 2. The Lab team will next concentrate on further research in the UK city-regional context and testing international applications.

The work to date offers, along with an assessment methodology, a preliminary view of the state of their fundamental nexus resilience or fragility, with an assessment of their ‘grip’ on the issues, and new insights for advancing governability and coordination. The project pursued an understanding the nature of accountability as it stands, and looked to test what it might mean to improve oversight and management.

Governability, the nexus and resilience

The nexus

For this research the critical infrastructure provisions called the nexus are the sectors of energy, food, water, and the resulting household waste outflows. These four core flows were selected because these provisions are fundamental to life in an urban world; food and water are vital to human sustenance, with energy used to produce, distribute and consume these resources, and waste generated as part of these processes. Within this research these are defined as follows:

- **Energy:** gas and electricity supply;
- **Food:** supply of food;
- **Water:** supply of potable water; and
- **Waste:** as produced by these three sectors.

The particular types of waste in focus are: *Energy waste:* greenhouse gas emissions; *Food waste:* includes both organic and packaging waste, therefore covered by non-hazardous waste; and *Wastewater:* covers sewage water.

Resilience

Resilience has become a mainstream concept in city infrastructure to signal flexibility and capacity to absorb and recover from system stresses and failure. An integrated approach to resilience is considered a mainstream requirement for stable, sustainable and enduring urban platform.

The UK operating environment

The research sits within a context of the present wave of early and emerging devolution. Local government has a long and esteemed presence in the UK, and have been under pressure to deliver

more with less. Councils and Combined Authorities are working to maintain services and delivery standards, while entering a new phase of re-organisation and strategic alignment. It is in this context that the intertwined issues of governability, the nexus and resilience are considered in the pilot. With these developments and pending Mayor elections (5 city-region areas in 2017)¹ signalling the next stage of devolution, this transfer of power and governance responsibilities offers a new round of strategic impetus to achieve integrated and long-sighted development for a strong future. The governability grip assessment framework can be a particularly useful tool for local governments to understand and build capacity, as devolution deals have been done on a consensual basis with individual areas with little uniformity across the country, resulting in an uncertain context.

Case areas: four summary profiles

The research focuses on and pilots our research across four case studies in England. It examines four Combined Authorities, Greater Manchester Combined Authority, Liverpool City Region Combined Authority, Sheffield City Region Combined Authority and West Midlands Combined Authority, and a city council within each of these, Manchester City Council, Liverpool City Council, Sheffield City Council and Birmingham City Council respectively (illustrated in Figure 1).

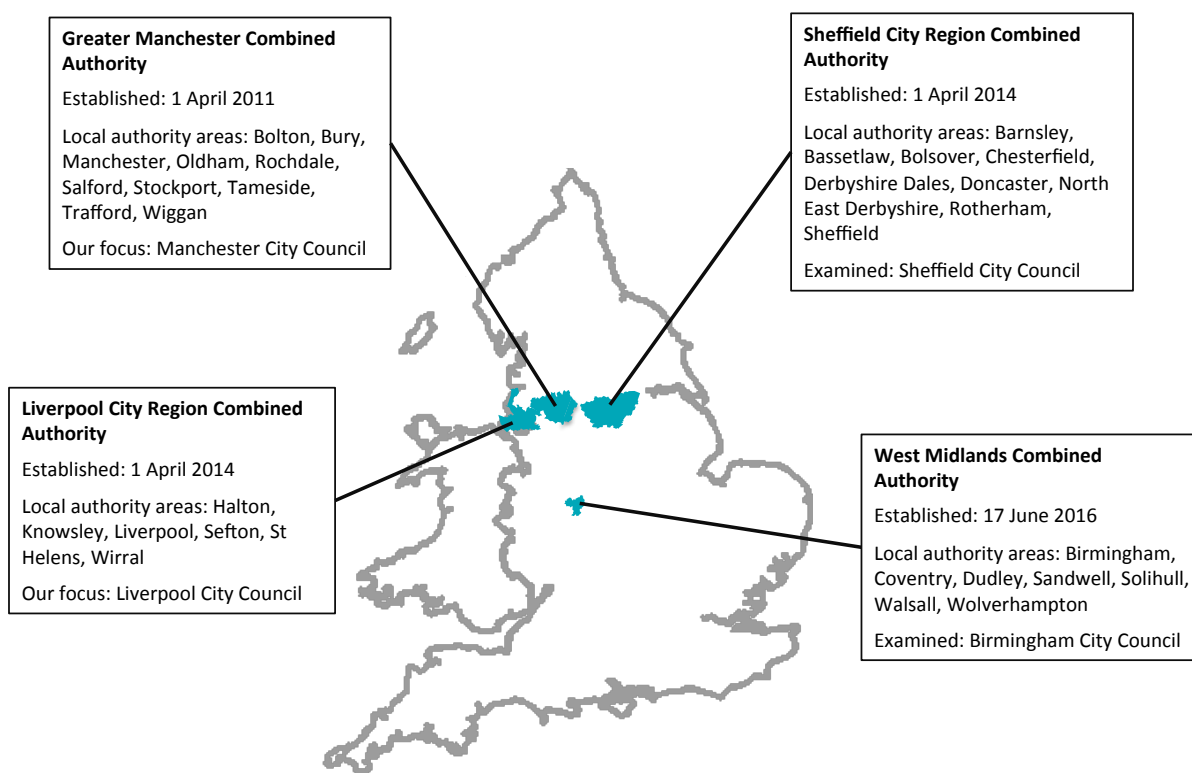


Figure 1. UK Pilot case profiles.

¹ Initially 6 mayoral elections were intended, but the mayoral election for the Sheffield City Region Combined Authority has been postponed until 2018.

The Assessment Framework

Framework development

A governability grip assessment framework was developed, building on previous research carried out by the City Leadership Lab (CLL) in collaboration with C40 and Arup on powers (*Powering Climate Action: Cities as Global Changemakers*, 2015). This was combined with a literature review on governance. The assessment framework comprises governance and power dimensions, as these are “inextricably linked”, with the fundamental elements of governance “centrally concerned with powers” (Barnett and Duvall 2005:2). This link has also been highlighted within the particular context of resource nexus governance, with Marx (2015:80) stating that when examining nexus governance, the political dimension also needs to be considered as “distribution of resources also has to do with power”.

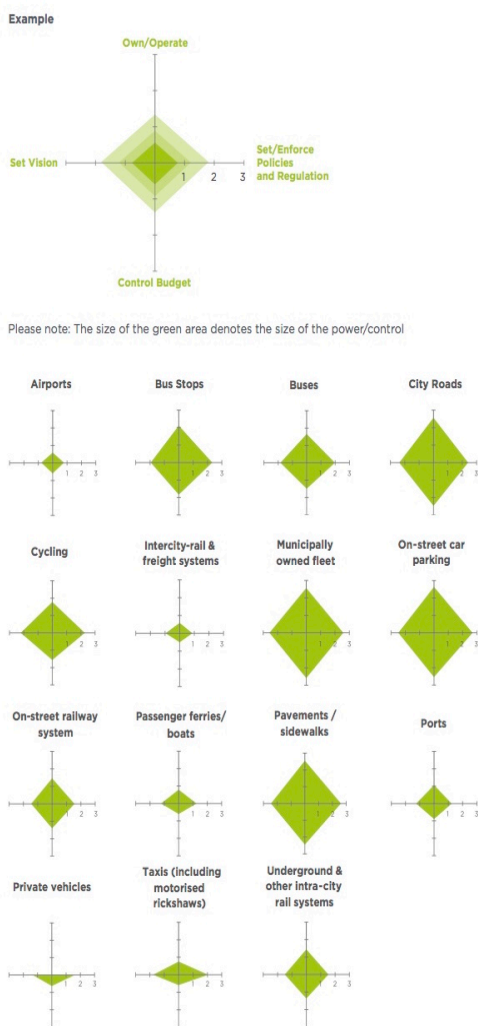


Fig.1: the assessment method deployed in *Powering Climate Action* across a variety of sectors.

In the C40 and Arup report (2015), power was categorised in four dimensions: own or operate, set or enforce policy/regulations, control budget, and set visions. Within the context of this research, these have been adopted and changed to:

1. *Long-term strategy setting* focuses on the level of control local authorities have over long-term strategic plans. A strategic plan is defined as a document that sets out strategies to achieve vision(s) and objectives.
2. *Policy enforcing* covers the level of control local authorities have over policy setting. Policies are defined as the particular rules set to deliver action.
3. *Budget control* considers the level of control local authorities have over budgets.
4. *Service operation/ownership* focuses on operation and ownership of the related infrastructure services rather than ownership of the asset itself. Ownership of energy, food, water and waste are not considered in this research as these form the basis of numerous academic studies.

The governance dimension of the framework comprises:

1. *Accountability* understood as the transparent relationship between local authorities and external actors to the local authorities (e.g. citizens, universities, NGOs), where the local authority is responsible and answerable to the external actors for their actions.
2. *Participation* of external actors in strategic decision-making.
3. *Connectivity* in relation to the functional connections between the nexus sectors through joint strategies and joint planning.
4. *Interdependencies* in terms of governance and management connectivity. These are explored through examining joint investment and joint management (i.e. shared mechanisms of management).

Framework outline

During governability grip assessments, each component is allocated a score between 0 and 4 (and in survey there was also an option to not answer or select other). For the power dimensions, a score of 0 indicates no influence or control, 1 and 2 indicate partial and strong influence respectively, while 3 and 4 indicate partial and strong control. For the governance dimension, 0 indicates no governance capacity, 1 and 2 indicate degrees of low governance capacity, while 3 and 4 indicate high governance capacity. The detailed scoring is set out in Figure 2.

GOVERNABILITY FRAMEWORK								
POWER DIMENSIONS				GOVERNANCE DIMENSIONS				
	long-term strategy setting	policy enforcing	budget control	service operation/ ownership	account-ability	participa-tion	connect-ivity	interde-pendencies
4	Autonomous strategy on nexus sector exists	Sets and enforces policies	Controls budget	Sole operator/ owner	Compliance monitored, enforced and disclosed	Full engagement with >2 ext stakeholders	Joint strategies & planning across all	Joint investment & management across all
3	Main focus area of existing strategy	Particular policies exist; cannot enforce	Substantial influence over budget	Controlling interest	Compliance monitored and enforced	Considerable engagement with > 2 ext stakeholders	Joint strategies & planning across some	Joint investment & management across some
2	Covered in existing strategy	General policies exist; specific to be developed	Some influence over budget	Shared equal interest	Compliance monitored, not enforced	Considerable engagement with 1/2 ext stakeholders	Some joint strategies/ planning across some	Some joint investment/ management across some
1	Not mentioned in existing strategy	General policies exist	Nationally controlled budget	Minority interest	Compliance monitored but not enforced	Little engagement with 1/2 ext stakeholders	Few joint strategies/ planning across some	Little joint investment/ management across some
0	No general strategy exists	No policies set	No budget	Not service operator/ owner	Compliance not monitored	No engagement with external stakeholders	No joint strategies or planning	No joint investment or management

Figure 2. Governability grip assessment framework

Assessment tool

During governability grip assessments, each As an assessment tool, spider diagrams can be produced for each of the sectors, or across the sectors for a City Council or Combined Authority. There are a myriad of possible combinations.² Possible overall summary level options include:

- Uniform governability – where same level of power and capacity of governance across all components;
- Some influence (i.e. weak power) – but high capacity of governance, or substantial control (i.e. strong power) but low capacity of governance.
- Mixed governability – where no trends across either the power or governance dimension.

These potential options are illustrated in Figure 3.

We anticipate that the application of this assessment to city-regions will reveal a range of specific scenarios. With the benefit of collating a

sample of cases in a region or country, it will be possible to form a typology to represent the range of governability grip evident, including transparent and open city-regions with high accountability and participation, or areas with low governance capability and limited capacity to direct and control infrastructure integration and development.

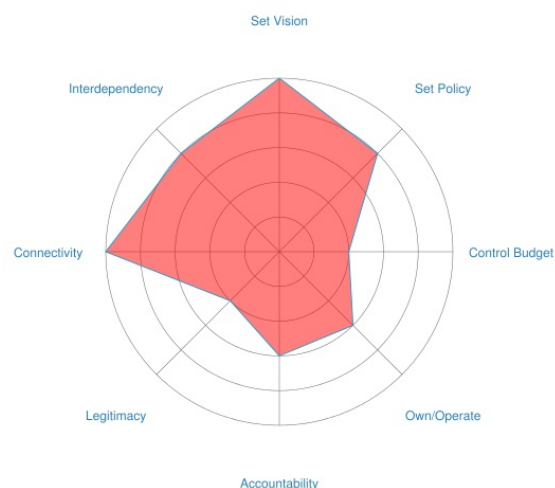


Fig.4: sample of summary governability gap assessment.

² 5 possible options for each of 8 components, resulting in 390 625 options.

Learning from the pilot

Assessment framework

- General concepts, such as accountability, are readily understood broadly but are more difficult to specify for scaled categorisation (e.g. what is one and what is four in practice on the accountability scale, and how is this described given applications in different organisational contexts with their own understanding and meanings).
- The power dimensions (long-term strategy setting, policy-enforcing, budget control and service operation and ownership) provide a cleaner shared understanding. These are easier to uncover through desk-based analysis.
- The governance dimensions that are important to reveal understanding about infrastructure resilience and its oversight, proved more interpretative and hence increased subjectivity. This can be managed by deeper case development and professional judgement (from e.g. interviews) enriching survey or tool based findings.

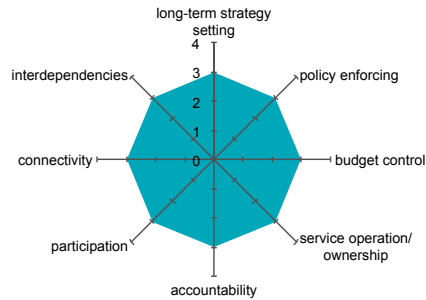
Field engagement

- Difficulties with access where local government capacity is under stress due to organisation structures and levels of funding.
- Struggled with getting commitment to categories and questions - participants were reluctant to commit to representing a particular sector despite their role. In our view this is both on the downside, a reflection of risk aversion in an operating environment subject to change, and on the upside, an awareness of and indication that issues are interconnected.
- Long-term relationships and value creation may take research investment time over the life of a programme.

Uniform substantial governability



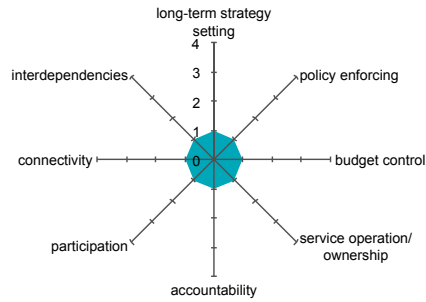
Uniform significant governability



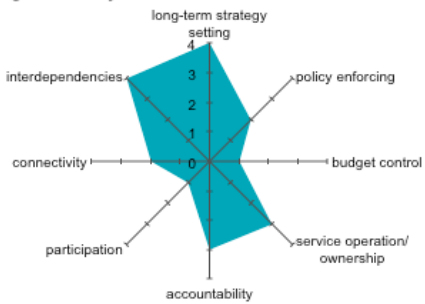
Uniform partial governability



Uniform limited governability



Mixed governability



Mixed governability



Substantial control, low governance capacity



Some influence, high governance capacity

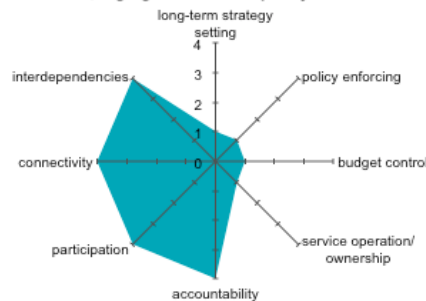


Figure 3. Illustrative representation of governability grip results

Future application

To take the pilot forward, the CLL will investigate and test the following strategies:

Development pathways in the UK

- *Regional development* – there is an opportunity for a more applied and detailed levels of work to produce knowledge to inform the case areas investigated. This can also support comparative analysis between city-regions.
- *London piloting* – it is proposed that researching London as a base case, in light of the similarities and differences, will provide a full nationwide benchmark for internal purposes and international comparison as it has significant scale and complexity to test the framework. A London pilot should have the caveat that other areas in the UK do not necessarily have the same needs as London.
- *CLL research programme on urban infrastructure* – further work is planned with field-based and academic outcomes over 2017-18.

Potential for international application

There is potential for international application of the governability grip assessment framework. The power dimensions have previously been developed and applied by the CLL in

international fields of practice (e.g. C40 and Arup 2015) and governance dimensions were developed based on international literature.

Application is primarily dependent on:

- *National contexts and institutional cultures* – negotiating access and adding value in developing nations and regions
- *Transparency of information* – access and a key determinant of potential application of the assessment framework.

Solutions and scenarios for development

To add value nationally and internationally, piloting confirms:

Team Assessment process – this offers a comprehensive base level understanding that can be done remotely and via communications.

Workshops for deeper learning – to complement and add depth to the survey, face-to-face workshops in key areas with the stakeholders identified will ensure (a) full knowledge of the current state, and (b) the opportunity to develop a shared understanding of future possibilities.

Self Assessment Tool application – the online survey offers the potential for ‘self-application’. To this end we are now able to offer a tool to support learning and assessment for city regions.

Appendices

A. References

Barnett M and Duvall R. 2005. Power in global governance. In: Barnett M and Duvall R (eds). *Power in global governance*. Cambridge: Cambridge University Press.

C40 and ARUP. 2015a. *Powering climate action: Cities as global changemakers*. Available on: http://publications.arup.com/publications/p/powering_climate_action_cities_as_global_changemakers.

City Leadership Laboratory. 2017. *The “Governability Grip”: an Assessment of Infrastructure Power in Cities*. Available on: <http://www.cityleadership.net/nexus-urban-infrastructure>.

Marx S. 2015. Governing the nexus for sustainability. *Journal of Change and Adaptation in Socio-Ecological Systems* 2: 29-81.

B. Pilot engagement

Approach

The governability grip framework was developed and piloted in the UK. The process is summarised in Figure 4.

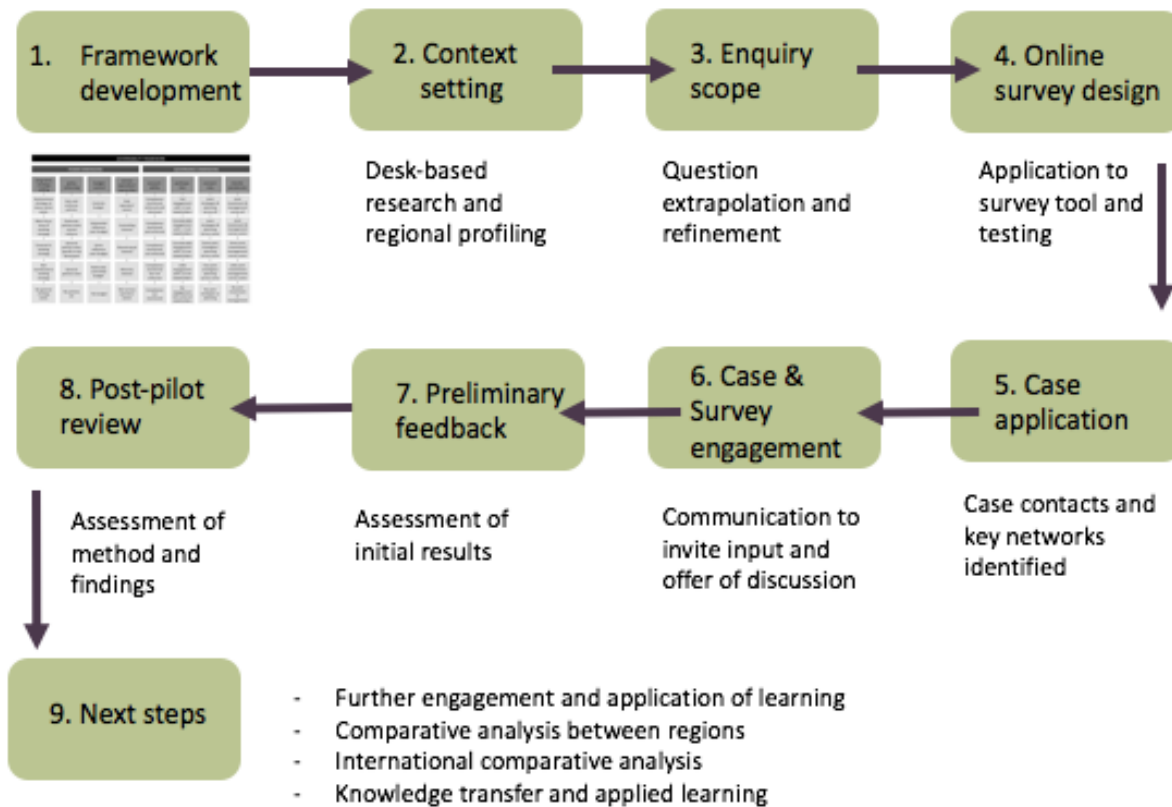


Figure 4. The pilot development method overview

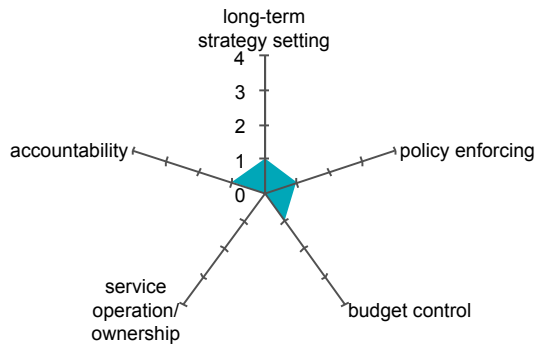
Findings – example of Trial Case A

Given at this stage we only have preliminary results from piloting engagement, this section illustrates the format and tenor of findings emerging in the programme. In applying the assessment framework to Trial case A (a Combined Authority), results indicate substantial scope for a stronger governability grip of the nexus.

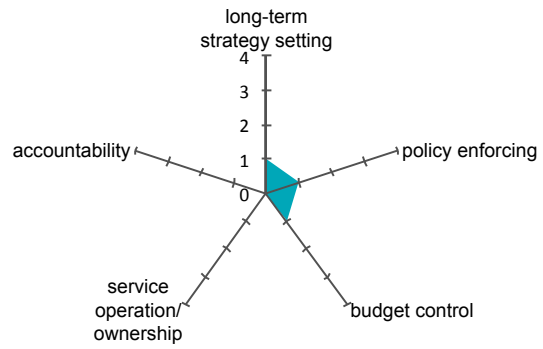
The resultant spider diagrams show that across all nexus sectors there is a low mixed governability grip in Case A. The case generally has low to medium influence over the power components. Case A somewhat guides the nexus sectors through strategy setting and policy enforcing, but has a very limited role in provisions in relation to budget, service operation and ownership. The nexus sectors of energy and the waste it produces is clearly the main focus, with food waste also the nexus sector where it has a higher governability grip.

There is no coding for the participation, connectivity and interdependencies components in the spider diagrams. This is because solely desk-based research would give strong and skewed responses for this (as these are the less transparent during online research) and no survey responses on these components were received.

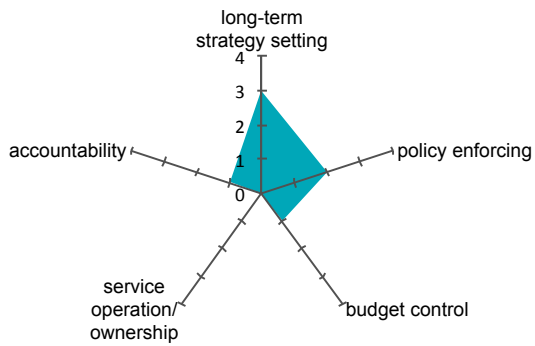
Water



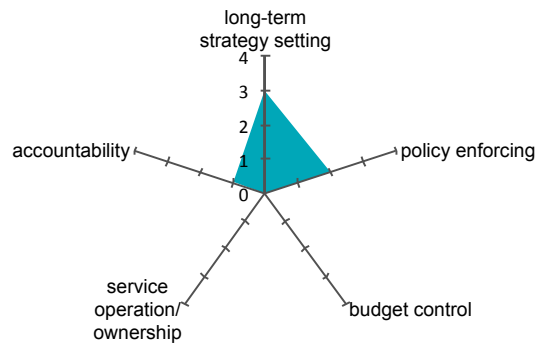
Wastewater



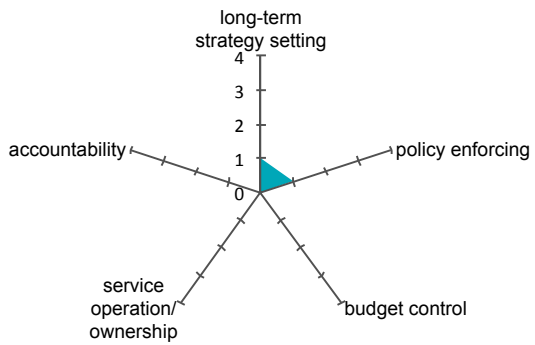
Energy



Energy waste



Food



Food waste

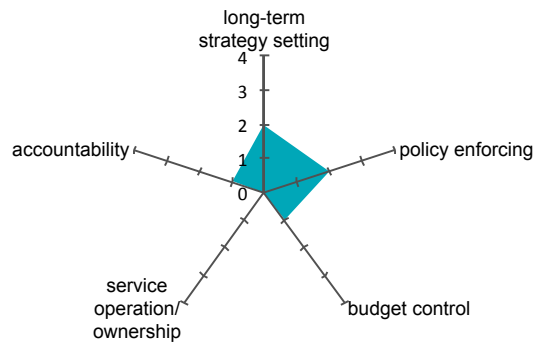


Figure 5. Case A findings

C. City Leadership summary brief: April 2017



UK research pilot testing infrastructure governability ‘grip’

The research

The UCL City Leadership Laboratory developed a method and conducted a pilot assessing the ‘governability grip’ of Combined Authorities and City Councils and their governance fundamentals for integrated urban infrastructure oversight in relation to water, food, energy and waste.

What is the focus?

The current state of the integrated governability of ‘nexus’ infrastructures in select UK city-regions (being the critical infrastructures of water, energy, food and waste).

Why research?

To establish a base-case to monitor, identify early insights and scope future research into directions for system coordination improvements.

What is the advice to date?

- Regional resilience building of critical infrastructures is a fundamental component of economic, urban and infrastructure development now for the future.
- It is too early to see evidence at a regional level to support the idea of developing integrated economic, social and environmental strategies to progress long-term integrated decision-making.
- As currently configured, Combined Authorities are not clearly positioned as the new nodes of governance for strategic long-run investment and integrated regional resilience.
- Better strategy and delivery could extend the scope and integrative power of Combined Authorities to utilise their role to leverage leadership for significant integrated infrastructure provision and performance improvements.
- As it stands, it is plausible to claim there is a ‘governance deficit’ or an ‘ungoverned’ aspect of integrated infrastructure investment for high performance long-term growth.
- There are gaps between the spatial concerns of local Councils and the emerging regional interests of Combined Authorities, and the national interest orientation of central government.

What does this mean with Combined Authorities Mayoral elections in some UK regions?

- There is scope to take the opportunity to dovetail integrated regional resilience strategies alongside new leadership and planning for economic and whole-of-system improvements.
- The current degree of devolution and power-sharing arrangements between local councils and Combined Authorities will need to develop and mature to get genuine coordinated and coherent investment planning for improved economic performance and community resilience.
- There is potential to develop a firmer and stronger governability grip on integrated infrastructure planning, investment and delivery.

