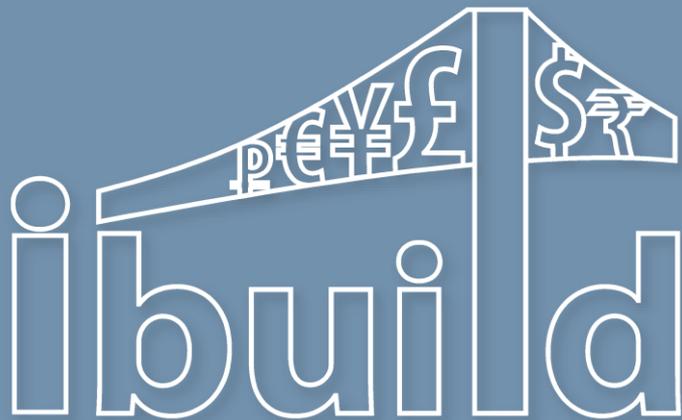




Infrastructure  
BUbusiness models, valuation  
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# Infrastructure **BU**usiness models, valuation Innovation for **L**ocal **D**elivery



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- Creating, delivering, capturing values over infrastructure life cycle
- Impact the use, quality and equity of infrastructure provision
- National importance of the local
  - Cumulative economic contribution of many small infrastructures
  - Higher jobs multiplier
  - Quality of life



# Infrastructure business models



# Are you being served?

Alternative infrastructure business models  
to improve economic growth and well-being



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## Are you being served?

Alternative infrastructure business models to improve  
economic growth and well-being



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EPSRC

Engineering and Physical Sciences  
Research Council



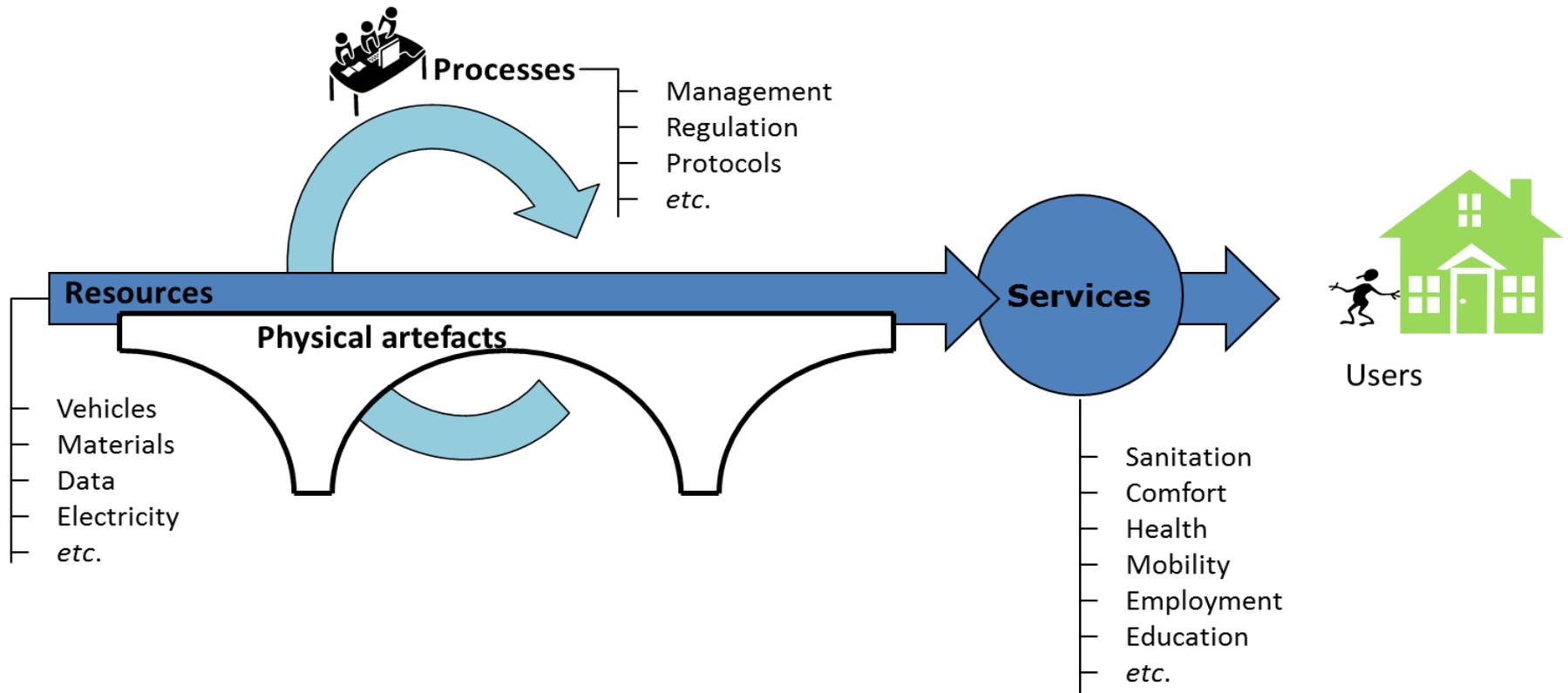
1. Have a broader, integrated appreciation of infrastructure
2. Enable action at the local scale that connects with the national
3. Capture long-term value of every kind
4. Deliver more efficient planning, procurement and delivery
5. Accelerate the uptake of innovations through practical action and demonstration

# Have a broader, integrated appreciation of infrastructure



# Have a broader, integrated appreciation of infrastructure

*Open up opportunities for alternative business models – by shifting from assets and projects to thinking about services and values.*



# Capture long-term value of every kind



## Where next?

iBUILD approach to handling systemic economic effects fed into HM Treasury guidance on infrastructure appraisal - providing early iBUILD insights on economic resilience.

Integrating new approaches into a coherent Infrastructure Valuation Framework:

- Systems of Provision,
- Social Accounting,
- Environmental Accounting,
- Life Cycle Analysis, and,
- Infrastructure Resilience.



Valuing infrastructure spend:  
Supplementary guidance to the  
Green Book

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# Review of alternative business models

## Luchtsingel Bridge, Netherlands



## SMART Tunnel, Kuala Lumpur



## Broadband for the Rural North



>100 case studies: <http://ceg-research.ncl.ac.uk/ibuildDemo/>

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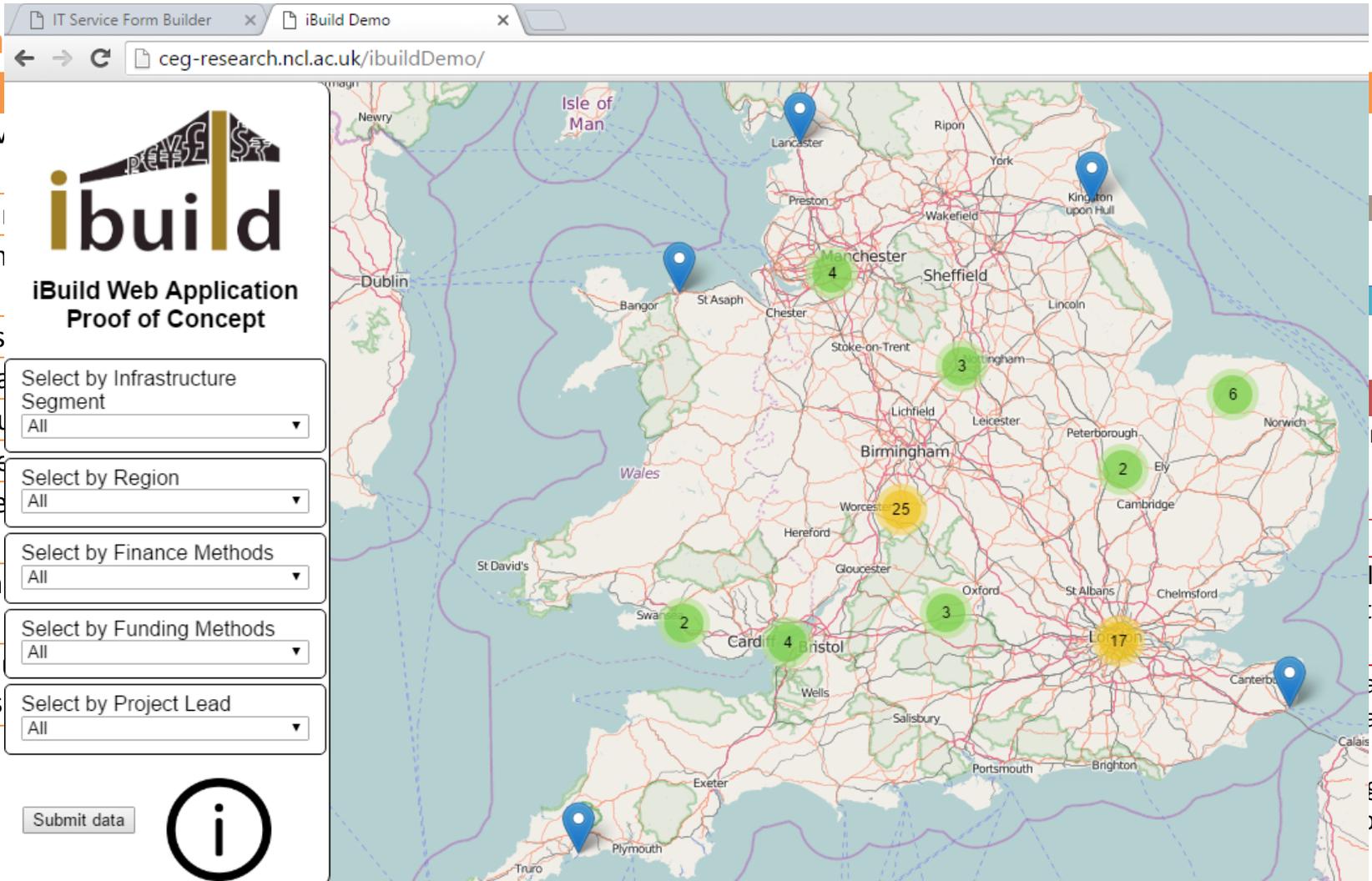
Revenue

Multiple

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High val

projects



The screenshot shows a web browser window with the URL [ceg-research.ncl.ac.uk/ibuildDemo/](http://ceg-research.ncl.ac.uk/ibuildDemo/). The page features the iBuild logo and the text "iBuild Web Application Proof of Concept". On the left, there are five dropdown filters: "Select by Infrastructure Segment" (All), "Select by Region" (All), "Select by Finance Methods" (All), "Select by Funding Methods" (All), and "Select by Project Lead" (All). Below the filters is a "Submit data" button and an information icon. The main area is a map of the United Kingdom with several project locations marked by blue pins and green circles containing numbers. The locations include: Lancaster, Preston, Wakefield, Kingdon upon Hull, Manchester (4), Sheffield, Lincoln, Stoke-on-Trent, Birmingham (3), Lichfield, Leicester, Peterborough, Norwich (6), Worcester (25), Hereford, Gloucester, Oxford, St Albans, Chelmsford, Cambridge (2), Bristol (4), Cardiff (4), Wells, Salisbury, Portsmouth, Brighton, London (17), Canterbury, Plymouth, Truro, Exeter, and Plymouth. The map also shows the Isle of Man, Wales, and St David's.

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- A guidance document for use of alternative infrastructure business models – drawing on:
  - A number of (generally sectoral) local infrastructure case studies across energy, transport, water, waste etc.
  - Newcastle Science Central 10Ha site
  - Garden City in Ebbsfleet Valley

Fiscal decentralisation, complemented by a stronger and statutory devolved role for cities and localities in the planning, development and delivery of infrastructure.

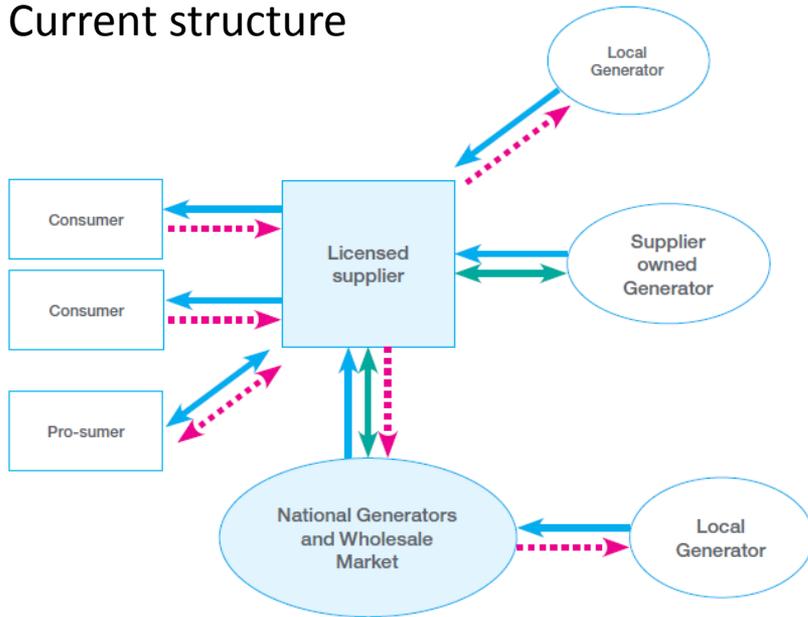
City Deal area	Elected mayor	(Proposed) Combined authority	LEP-Led	Earn-Back	Tax Increment Financing	Economic Investment Fund	Rail Devolution	Local Transport Major Funding	Low Carbon	Broadband
Liverpool	X	X				X				
Bristol	X					X	X	X	X	X
Greater Manchester	X	X		X		X	X			X
Leeds City Region		X				X	X	X	X	X
Sheffield City Region		X			X	X	X	X		
Newcastle & the North East		X			X	X			X	X
Greater Birmingham & Solihull			X			X		X	X	X
Nottingham					X	X			X	

*New funding pledged varies from <£3m to ~£1bn*

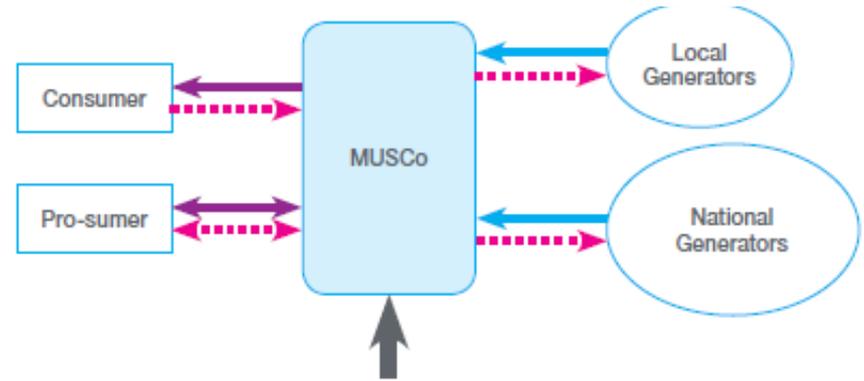
- Decentralisation: Issues, Principles and Practice
- Management and valuation of public assets

# Alternative local infrastructure business model structures

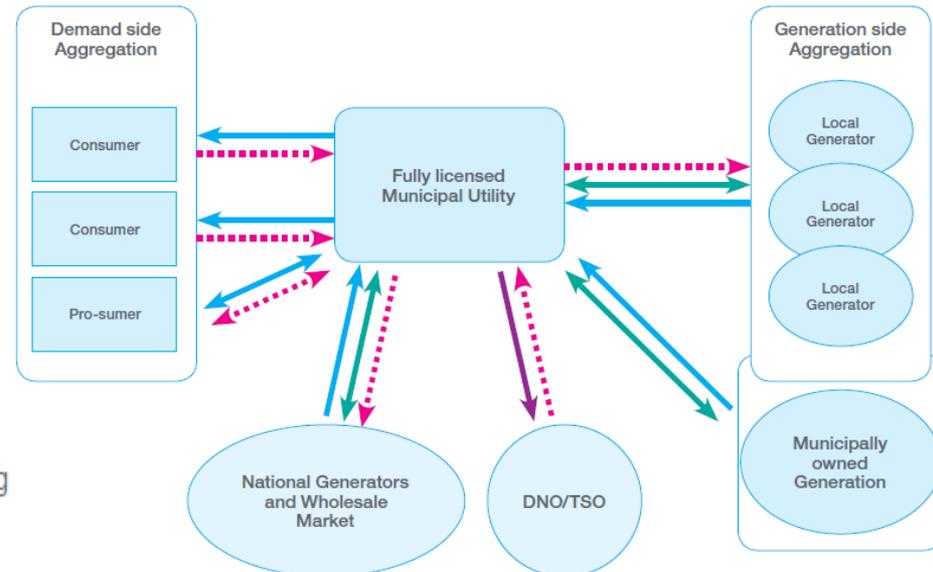
## Current structure



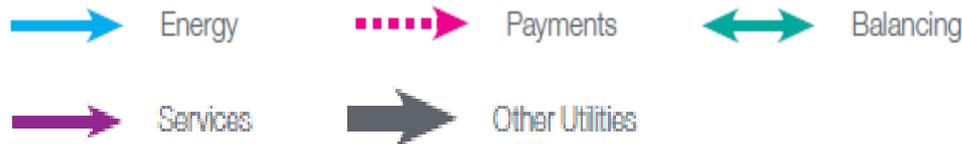
## Multi-Utility Service Company (MUSCo)



## Municipal Utility



### Key



## Where next?

Improved approaches to:

- Infrastructure valuation
- Structure of alternative infrastructure business models,
- Governance of infrastructure, and,
- Understanding infrastructure interdependencies,

Are a pre-requisite, but not a guarantee, for improved infrastructure delivery.

Integration of these methodological components is creating a new process for infrastructure systems engineering.

Three initial case studies: Green infrastructure; Electricity supply; Streetworks – with more complex cases sought in collaboration

## Consultations, committees and policy documents



Valuing infrastructure  
spend:

Supplementary guidance to the  
Green Book



Government  
Office for Science

Foresight



Communities and Local Government  
Committee



Infrastructure UK

LONDON 2050 BIGGER AND BETTER  
MAYOR OF LONDON

## Case studies and secondments

- Office for Low Emissions Vehicles & Ofgem – Energy/transport interdependencies
- Department for Transport – Infrastructure resilience
- Major Projects Association – Procurement and delivery
- Adaptation Scotland – Local infrastructure financing
- Arup – Valuing green infrastructure
- Infrastructure UK – Metrics for infrastructure performance (with ICIF)
- Newcastle City Council – Local energy networks
- Utility companies – Real costs of third party strikes
- Leeds City Council – District heating
- Tipping Point – Art and infrastructure
- *Etc. ....*

# Collaboration, co-creation and dissemination

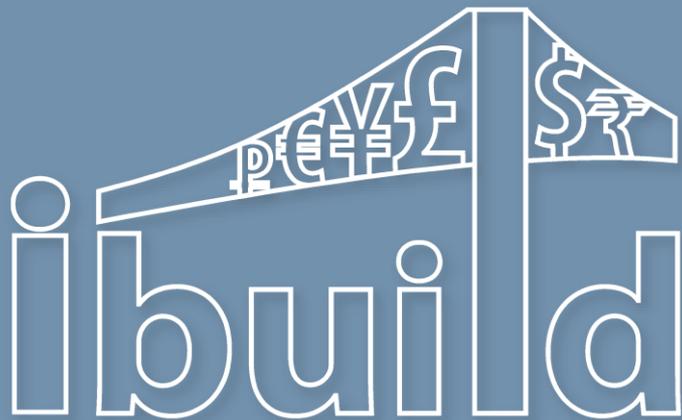




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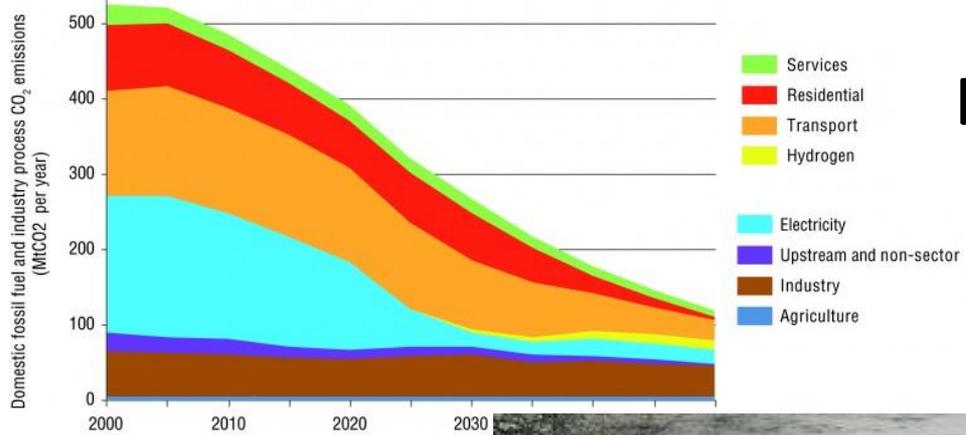


# Powerhouses

“...transform Northern growth”

“...rebalance the country’s economy”

“...attract investment into northern cities and towns”



# Decarbonisation



## Resilience and adaptation

## Community and liveability



# Breakout Discussion

- What are the major challenges and opportunities for delivering this theme in the context of regional powerhouses?
- To what extent does this conflict with, or complement, the economic drivers of powerhouses?
- How does this conflict with, or complement, other important drivers?
- What are the gaps in our knowledge and understanding to be able to develop and deliver the necessary infrastructure to deliver this and other objectives?

## Future events

- Thematic workshops (from October)
  - Private Finance
  - Engineers
  - City policy making
- March 2017: Conference on Valuing Infrastructure, Leeds
- May 2017: Final workshop, London

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