Theme 1: Resilience – infrastructure impacts of recent extreme weather events

How to value resilience

Social capacity.

Network reliability.

Wider catchment, land uses etc.

Time frame - Long term decision-making.

- One day event vs six month event vs repeated events.

Trade-offs: Change the system, change the risk.

Exploit interdependencies.

Four key questions

Intro from RD – recent examples of flooding had obvious effects, but also further afield. Increasing attention. More strategic regional and national issues arising from interdependencies.

HK – temporal scale of adaptation strategies. Could spend a lot of money on something which could turn out to exacerbate other aspects of CC in future.

RP – threats much wider than CC, threat indiscriminate. It is a network and systems issue

HK – need to consider both threats and making network more resilient.

Exposure to risks

RP – lessons from cold winters 5 years ago, initial figures suggested percentage points of GDP. Threshold (unknown) for length of disruptions

AC – what happens if a region is cut-off for longer terms. How do we value existing infrastructure, rather than spend on new infrastructure. Value of local assets in resilience.

Can we differ between resilience of networks and their functions?

RP – certain systems have limited modes of function

AC – transport we often chase the last problem

RD – rural areas often experience more interruptions and so cope better with resilience than urban areas. Do we need to focus on personal and community resilience capacity buildings. What do we

need to do in this situation – information sources being in the places where people's infrastructure allows them to access it. Reliance on communications

Build in capacity and knoweldge of what to do in communities – e.g. of new York, one food dsitrubition centre using JIT was cut –off and controlled 60% of food for city.

LD – any differences in who and what was impacted between Yorkshire/Northern floods and Somerset?

RP – hot-spots in analysis – between conurbations in North.

CB – instead of focussing on networks, what about the surrounding land and the contexts?

Issue of scale, LRFs and resilience coordination in terms of devolution?

AC – Cambridgeshire, HCA looking to build new houses. 15,000 homes, on Fends. Flood risk high. Deal with Cambridgeshire, planning permission should make interventions secure adaptation for wider communities, not just immediate one of focus. How do you spread costs between New Build and existing users/buildings?

RP – civil contingencies might have answers on resilience coordination

RD – how should and how much should people pay for some level of resilience? More resilient communities should have longer-term productivity, but may have higher short-term costs

RP – where is the system boundary? Distribution network or including user – in the latter case India might be equally reliable to the UK because of personal generators.

CB – do we need to invest in more personal resilience?

HK – is that efficient or cost effective? We need to ensure the system works.

CB – think about reducing demand to reduce extra investment in infrastructure

James – offices shut, people worked from home at a key location. Can work around issues with planning

RD – Carlisle 2005 floods, business couldn't return to work and capacity of businesses and people to absorb shock.

James – risk is a mixture of probability and consequence.

RD – does depend on context of company, e.g. those with physical stock and who are small.

CB – Lancaster Uni example – timing allowed them to cope because students were going away.

AC - investment banks spent a lot on resilience. Single points of failure in small businesses. No back-ups

RD – fibre to home is more resilient than to cabinet because of a battery back-up

Do ESCOs make a better job of resilience or clients?

RP – not really, it is just tinkering at the edges.

CB – ESCOs might cope better.

RD – We don't know how to measure the value for resilience and who pays and integrate social a capacity with systemic and network issues.

RP – local network resilience, changes risk environment for operator. Risk mgmt is still often guesswork.

AC – if you keep devolving infrastructure - changes ability to deal with things on a national level. I s responsibility being devolved?

RP – some local networks are dependent and vice-versa with national networks.

HK – what about prevention/intervention., e.g. from green infr in floods.

Two key points: how to value resilience and tradeoffs.