The social sciences, climate change and transport

UKTRC Scanning exercise: results from interviews with academics

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UKTRC Scanning Exercise

What can the social sciences contribute to thinking about climate change, energy and transport in transport research and beyond?

– Results from interviews with 20 senior academic scientists
– Use interviews (+ literature review) to identify factors that a framework should accommodate to address the complexities of CC mitigation in the transport sector
Interviewees

20 Senior (UK) Academics:

- Sociology
- Innovation studies
- Human Geography
- Psychology
- Economics
- Business studies
- Urban studies
- Environmental studies
- Climate Science
- Energy studies
- Political Science
Interview topics

A. Perceptions of transport researchers’ engagement with issues of energy and climate change

B. Contribution of the social sciences

C. Differences in understandings of climate change, its urgency and actions needed between and within different groups of stakeholders

D. Integration of action between transport and other sectors
A. Perceptions of the transport community

- Technocratic
- Economistic (+ pre-occupation with modelling)
- Individualistic
- Light on theory
- Insular
- Lacking in profile with regard to climate change

‘It sort of all depends on where you draw the line as to what is transport, who are transport researchers and what is transport research.’ (R1)
Perceptions: Technocratic

‘There is this sort of inherent optimism that says we can find ways around resource shortages without fundamentally changing the structure of the system.’ (R4)

‘Electrical engineers treat EVs as mobile batteries.. if that becomes the dominant research strand in thinking about EVs rather than what they are for .. they are not there to provide a cushion back to the power system, they are there to transport people.’ (R9)

‘Even though they talk about socio-technical systems socio is part of making the technical.’ (R2)
Perceptions: Economistic

‘There’s sets of *modelling work* going on reconceptualising transport within a broader debate about economy and carbon inventories’. (R6)

‘Long history of working with *pricing*, of advocating pricing measures ..that is being reinvigorated with the whole debate about carbon taxes, carbon budgets.’ (R4)

‘The research method is often *surveys*, asking people what they are willing to pay. We know all of the methodology caveats [of] surveys, I mean they are notoriously unreliable and are sort of pretty static obviously.’ (R3)
Perceptions: Individualistic

‘You get a hard science input, you get economics input and then human behaviour and it normally is conceptualised as a sort of individual thing rather than a social issue and as a sort of annoying complexity... people not doing what they ought to do in a rational system.’ (R9)

‘My feeling is that it is mainly sort of behavioural economics, so very much individual, or psychology, how individual people make decisions, so not that much about the broader sociological approaches or governance approaches or cultural studies’. (R3)
Perceptions: Light on theory

‘Transport and sustainability or environment or climate change – they are sort of interdisciplinary spaces focused on a particular issue. My concern is ... they are big enough to sustain an internal debate which somehow fails to learn from broader [disciplinary] debates.’ (R4)

‘The first point to make is that a lot of the work is not really theoretically, has a very weak theoretical underpinning, it is really empiricist and is based in some form of microeconomic utility theory.’ (R1)
Perceptions: Insularity

The issues of climate change and transport are embedded in a much wider set of concerns:

‘There’s too much transport in transport research.’ (R1)

• Incoherence between instruments, techniques, policies
• Absence from important debates (eg fuel poverty)
• Separation from the energy system

‘Yes, they say “well we have to do integrated land use transport planning” but that’s basically it.’ (R4)
Perceptions: Lacking in profile

‘I just don’t think it’s as high profile enough as the other areas of work around climate change ... most of the work would be around housing, energy and even biodiversity and carbon sequestration before it’s around transport’ (R5)

‘Do these concerns [about CC] fit into existing debates in transport or are they creating new debates?’ (R2)

‘the issues which have mainly attracted social science attention have been away from transport ‘(R5)
B. Social science contributions

Render thinkable ‘some of that bigger picture’ (R15):

- Interdependence of society and transport
- Transitions and dynamics
- Governance at multiple scales
- Thinking and (in)action w.r.t. CC and transport
- Social equity and environmental justice
Interdependence of society & transport

‘You can’t just say “well we’ll have the same transport system but change the technology of the vehicles within it” - that's not the way socio-technical systems work.’ (R9)

‘It’s much bigger than that, it's about the co-ordination of practices not just individual users of technology but practices of society.’ (R2)

‘Behaviour is governed by a much wider range of factors and understanding how those factors work and how they take effect and up to what point.. transport hasn’t grappled with that yet and maybe that's where the frontiers of the debate are.’ (R4)
New mobilities paradigm

‘In transport there is very little interest in questions about everyday life.’ (R2)

‘There’s quite a lot more to say about what mobility means to society.’ (R5)

‘I know there’s been quite a lot of interest in the mobilities turn. My impression is that it may well still be separated from the mainstream work that’s going on in transport, that would be my impression.’ (R6)
Transitions and dynamics

‘How you think in a more systemic way about different social interests, commercial, regulatory and public interests who are trying to mediate between production and consumption in terms of trying to organise some sort of system change?’ (R6)

• Transition theory
• System changes
• Process dynamics
• ‘Hype’ cycles
• Social movement theory
• Dimensional framing

‘People began to feel well these are not just abstract concepts but if you apply them, they show you something new. ’ (R3)
Governance

‘The sites and sources of power are multiple and many’ (R2)

• Capture full extent of governance processes:
  – All actors/agents involved
  – All geographical scales

• Consider actors situatedness and limits to enact change

• Brings into focus a whole gamut of techniques

• Sensitises to unintended effects

• Adopt a critical ethos
  – Look at who is disconnected, excluded, not given a voice
  – Consider new types of actors
‘Manchester Congestion Charge - was a very good example of an infrastructural transition that had very strong societal dimensions in terms of its implications and consequences that was implemented as an elite narrowly constituted techno-economic transition... It didn’t relate to issues to do with climate change, it didn’t embed itself in context, it didn’t attempt to negotiate technological possibility through embedded social relations, it didn’t find a way of developing any sort of meaning effectively.’ (R6)
Social equity & environmental justice

‘The SOCIAL sustainability and the whole social equity question has become very much marginalised.... What does this kind of socially just transport system look like?’ (R5)

‘Is transport and climate change ever going to be enough to change those big decisions [school choice, housing choice, choice and freedom]? It needs to be coupled with a fundamental belief that we ought to have a fairer society or a more equal society or more liveable cities at a less subjective level.’ (R4)
Summary: Conceptual lenses

Multiple frameworks exist for thinking about climate change mitigation, adaptation and transport:

- **System approaches**
  - Socio-technical transitions
  - Complexity theory and related approaches
- **Practice theories**
- **Governance theories (incl. Multi-level approaches)**
C. Differences in understandings of CC

- Climate change, its urgency and the type of action varies across (and within) types of actors.
- Social and cultural dimensions of transport should be studied among all the actors involved:

  ‘It is so weird when people talk about social and behavioural that they always associate with consumers but of course policy makers are also social and have behaviour and industry as well... Of course you can study policy and industry in the same way, look at the interpretation, the paradigms, the power struggles going on, the agenda setting.’ (R3)
D. Integration with other sectors

New dynamics cutting across systems/ sectors
- Energy
- Agriculture
- Built environment

New identities, experiences and meanings
- ‘pro-sumer’, contraction of users and producers
- EVs

Piggy backing/ overlapping policy agendas
New dynamics

‘The whole issue of policy integration and joined up thinking in government and how to get environmental and climate better represented in agriculture and transport and housing and so on has been discussed for years. ... I think there’s more potential in that area than there is in mainstream climate policy.’ (R4)

‘Most transitions in transport will not just come from innovation in the transport domain but probably from developments outside so indeed energy but maybe also agriculture and urban planning.’ (R3)
New Sectors

• Fuel transitions (EVs, Biofuels) = re-integration of transport with the energy system and other sectors
• Analytical perspectives need to capture increased interlocking of multiple systems

‘An EV effectively links [users] back into other systems of energy use, and then that sort of works across socio-technical systems. I mean, it may certainly make a whole set of energy relationships across the home more visible [and it] may make you kind of subject to other forms of demand management.’ (R5)
New identities, experiences, meanings

‘People should buy transport services rather than transport modes... when you buy a car you are buying privacy and comfort and mobility but maybe you can provide privacy and comfort and mobility in different ways which are less sort of intense... that sort of service shift, decoupling aspect is kind of interesting I think.’ (R4)

‘How people start to respond to the notion of an EV, what it means to their lives, how it will reshape their forms of mobility, how it effectively links them back into other systems of energy use.’ (R5)
Integration across policy objectives

Other policy objectives

• Links between transport and economic development
• Energy security and peak oil
• Health & Wellbeing
• The organisation of productive systems
• Tourism, leisure and entertainment
• ICT

These condition and enable thinking about and action with regard to CC and transport. On the negative side, they may displace the transport CC connection as other matters are more urgent, more visible, more here-and-now. On the positive side, however, they allow the piggy-backing of climate change mitigation and adaptation interventions onto other interventions.
Capacity building

‘How might you develop something that might be more transformational or configurational? What sorts of social interests would you need to involve in this that are currently missing from these sorts of debates?’ (R6)

‘[could] lead to social learning or capacity building or you know changes in our consciousness and awareness of things and that those sort of by-products of the process would then create opportunities for things which are not possible now.’ (R4)

‘Theories don’t provide answers but I mean they change agendas and sensitise you.’ (R2)
Tensions/ Barriers

- Interdisciplinarity & acceptance of Social Science
- Psychology vs Sociology (individual vs collective)
- Social vs technical
- Academically valued vs policy relevant research
- Lack of problem/ solution orientation
- Translating research into policy
Tensions: Interdisciplinarity and acceptance of the social sciences

‘It is about which is in the foreground and which is in the background.’ (R2)
Tensions: psychology vs sociology

‘**Attitudes and values**... focus too much on the cognitive and far too much about individuals.’ (R1)

As soon as you move away from the individualism typical of economics or psychology, you’ve got a kind of anthropology, material cultural studies, actor-network theory ..[this] *sensitises you to different kind of issues.*’ (R2)
Tensions: socio-technical

In the transitions literature there is still this **dichotomy implicit between the socio and the technical.** They talk mostly about the technical, whereas one of the appeals of practice theory is that it brings the cultural, the procedural and the material together.’ (R2)
Tensions: academically valued or policy relevant?

‘In many of the social sciences the traditions are that engaging close to policy work is a bit *grubby*... Government policy makers find the outputs of social science quite *difficult to interpret into concrete policies* and actually most social science researchers are a little bit, or many, are a little bit reluctant to have their ... carefully honed theoretical, theoretically justified ... outputs *mangled* in the way that they inevitably will be in a policy debate.’ (R9)
Tensions: too few ‘solutions’

‘There is a sense from my perspective that social scientists are better at explaining why other people are wrong than having concrete ways forward’ (R9)

‘Some of the mobility stuff shows maybe how things can’t change rather than what can.’ (R3)
Tensions: Integrating Social Science into Policy ...

Chief Sociological Advisor - The new CSA?

‘There’s no good reason why [government] shouldn’t have a cadre of sociological advisors as opposed to having economic advisors or scientific advisors or all the other groups of specialists who inform government’
Conclusion (1): Social science contributions

- Big picture thinking
- Ask different questions
- Recognise heterogeneity in understandings
- Consider the uneven distribution of impacts
- Think relationally in terms of complexity and uncertainty
- Consider the dynamics of change over time
- Think in terms of problems
- Induce learning and capacity building
- Communication of inherent risks and uncertainties