

Understanding low energy innovation in urban mobility

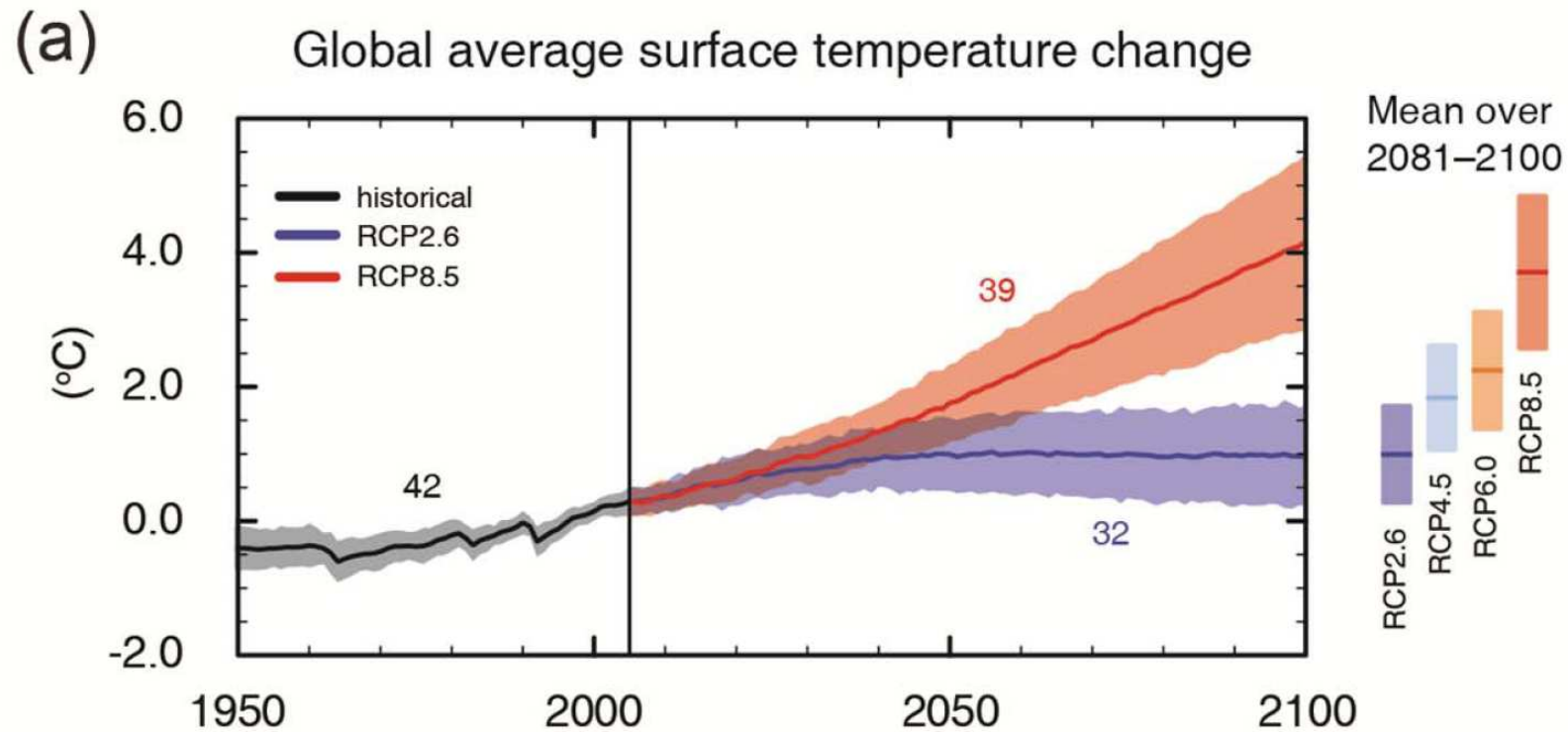
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The need to curb GHG emissions



Source: IPCC (2013: SPM-33)

Case study city-regions

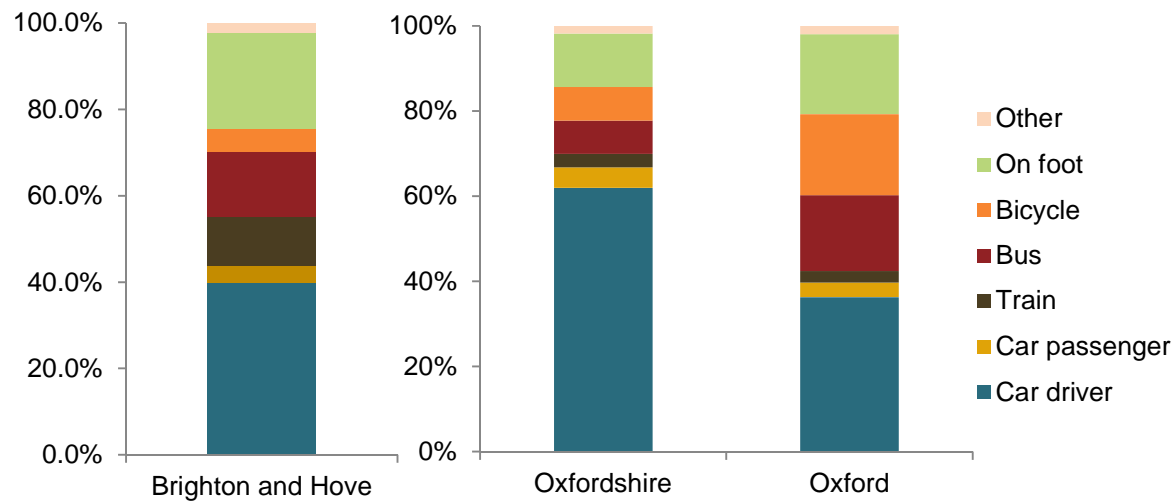
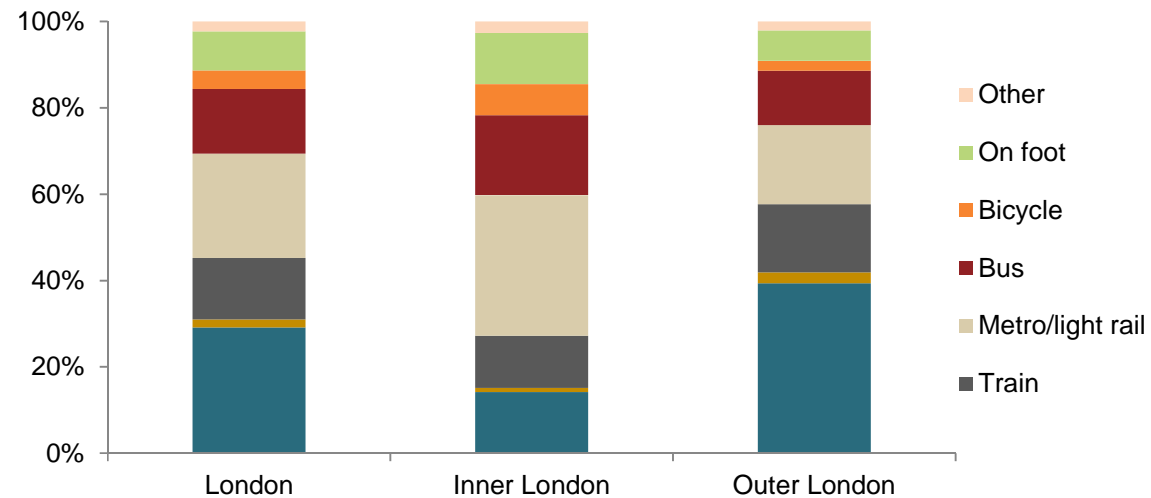
Three front runners:

- a) **Greater London** (9.8m inhabitants) – widely hailed for success in sustainable transport policy (congestion charge, cycling)
- b) **Greater Brighton** (474k inhabitants) – widely known for comprehensive approach to encouraging cycling
- c) **Greater Oxford** (244k inhabitants) – widely known for bus and P&R systems and high levels of cycling

All: South East England; fast growing; large shares of high tech industry, creative sector, higher education and tourism



Modal split, commuting (2011 Census)



Primary interest

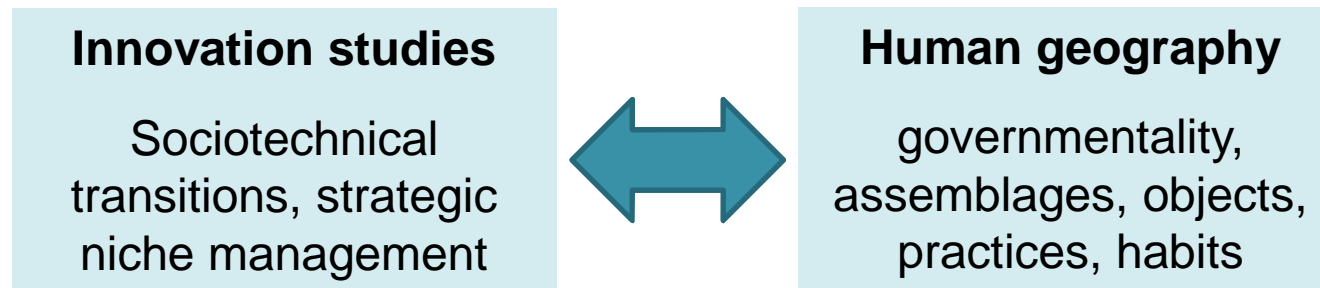
Innovation activity = diversity of initiatives to create a low energy/carbon mobility system in a given locality

Why?

- a) Individual initiatives are often interlinked
- b) Selection: many (most) initiatives will fail to transform automobility \Rightarrow greater diversity increases the odds of systemic change

Theoretical framing

At the intersection of innovation studies and human geography



To understand emergence, development and energy implications of new initiatives in urban mobility, we need to:

- a) Move beyond user adoption or user practices to consider all relevant agents
- b) Understand innovation as an ensemble of events that emerges, develops and generates effects among all kinds of actants (Latour) and objects (Harman)

Preliminary findings

- a) High level of diversity of innovations in each city, greater involvement of 'private sector' in London
- b) Significant role of 'incumbents'
- c) Contingency of city level action upon national (and EU) level funding

Innovation activity

	Automobile				Cycling					Public transport				Etcetera
	EV infrastructure	Car sharing	Reduced road space	Etcetera	Infrastructure	Bike sharing	Bikeability	Events	Etcetera	Biofuels (buses)	Real time information	Light rail	Etcetera	
London	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Brighton	Y	Y	Y	Y	Y		Y	Y	Y	Y	Y		Y	Y
Oxford	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Two caveats:

- a) Difficulty of (meaningful) quantification
- b) Risk of 'fallacy of misplaced concreteness' (Whitehead 1926)

The importance of 'incumbents'

Incumbents ≈ mainstream actors who are critically important to the re-creation of automobility and old habits in and practices in public transport systems

They affect the futures of 'radical' innovations in multiple ways, including by:

- a) Offering financial support
- b) Changing existing and inventing new regulation

Car sharing:

- a) Uncertainty & learning among local government
- b) New logics and practices due to car manufacturers and rental companies

Funding

Especially in Brighton and Oxford, financial support by local government for innovations in low-energy mobility is contingent upon success in competitive bidding for national (and EU) level funding – 2 implications:

- a) Capacities of cities to lead on GH emission reduction in mobility cities should not be overestimated – these are to a considerable extent configured elsewhere
- b) The risk is that short-term, ad hoc support prevails over long-term, persistent support for low-energy mobility

Final remarks

- a) Most of the research remains to be done – this includes looking at and conceptualising ‘users’ and ‘user practices’
- b) Experimenting with low energy mobility at the urban level is extensive – but is it enough to meet the ambitions articulated by UK government, EU and IPCC?

Thank you

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