Low-energy innovation in urban transport

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Meeting with Brighton & Hove City Council

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Energy use reduction in transport

Why focus on cities in UK?

a) Majority of trips within urban areas

b) Top-down processes in government:
   i. Climate Change Act 208
   ii. Decentralisation of responsibilities and localism agenda (2011 White Paper)

c) Bottom up processes: more pro-active approach to create sustainable transport at urban level by local government, private sector and civic society since ±2000

d) **Variations between & within cities** regarding initiatives that (may) reduce energy consumption and GHG emissions

Aims of project

a) Identify factors and processes that **explain differences between & within urban areas** in emergence and development of low-energy innovations

b) Understand to what extent those factors and processes are **transferable** across urban areas

c) Offer **suggestions to (local) governments and other stakeholders** about how low energy innovations in urban transport can be stimulated

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Approach

a) In-depth study of **four case studies** using **document analysis, interviews & focus groups** rather than quantitative study of many UK urban regions

b) Focus on '**innovation activity**' = diversity of initiatives to create a low energy/carbon mobility system in a given locality

c) Focus on developments **since 2000**, plus **city** as a whole and **locations** ('neighbourhoods') within the city

d) Focus on **many different stakeholders**: national/local government, public transport providers, entrepreneurs, civic society, media, consultants, transport system users

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Walk-to-school initiatives

Battery electric vehicles

Bike sharing

Transit-oriented design

***E*-bikes**

Bike infrastructure

Car clubs/sharing

Parking restrictions

Bike events

Mobile phone apps

Autonomous cars

ITS

Road space reallocation away from private vehicles

Urban light rail

Road pricing

Bikeability initiatives

Hydrogen vehicles

Bike repair/ maintenance initiatives

e-commerce/ services

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Case studies

a) **London** – ‘extreme case’: global city, international reputation for innovation in transport, unusual levels of institutional capacity and resources, strong differences between central and outer London

b) **Merseyside** – post-industrial legacy, strong links between transport and welfare policy, car-oriented physical structure, limits on institutional capacity and resources

c) **Oxford** and **Brighton & Hove** – knowledge economies, high receptivity to ‘green’ arguments and lifestyles, well-developed alternatives to car use ⇨ favourable settings for flourishing of low-energy innovations in urban transport

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Some early findings

a) High level of diversity of innovations in each urban area
   - Marked differences between location in each urban area
   - Greater involvement of ‘private sector’ in London

b) Significant role of ‘incumbents’ ≈ car industry, bus sector, local government ⇨ enough space for radical innovations by new players?

c) Contingency of city level action upon national (and EU) level funding ⇨ does shift towards short-term, project oriented external funding offer sufficient possibilities to offer persistent support for low-energy mobility?

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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
Merseyside	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
B&H	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

- London is class of its own
- Some local specialisation in Brighton & Hove and Oxford – driven in part by success in bidding for external funding