Urban mobilities in the smart city: what about the 'user'?

The Open University

Panoptic or co-created? Alternative models for Smart City mobility

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MK:SMART

The Panoptic Smart City

- Smart city, big data, approaches are ‘panoptic’ – they are about being able to see everything (or at least a lot) and act accordingly
- How this is viewed can vary - depending on who has the power to observe and the rights of those observed

Drift towards ‘Big Brother’

- ‘Smart’ tends to be a vision of corporations and city authorities seeking efficient, sustainable and productive cities
- Big data seen as their domain and as benign and neutral
- Users need educating to be smart consumers – otherwise seen as passive and complaint
- In practice there is deep distrust, resistance and (on occasions) rebellion

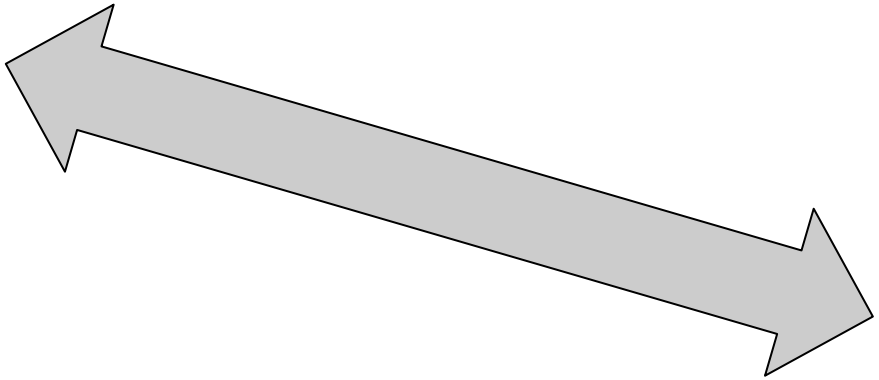
The co-creation alternative

OSM

Web culture: Participative, empowering data-use to allow non-experts to participate and benefit.

Smart City Models, Intrusion, Value, and who gains…..

Passive/
Centralised



Participatory/
Decentralised

Initial work on MK:Smart envisaged a spectrum between Smart City approaches

Smart City Approaches

Rob Kitchin (2014) identifies three approaches:

1. Instrumentation and regulation

- Cities composed of ICT ‘everyware’ sensors, devices and management software

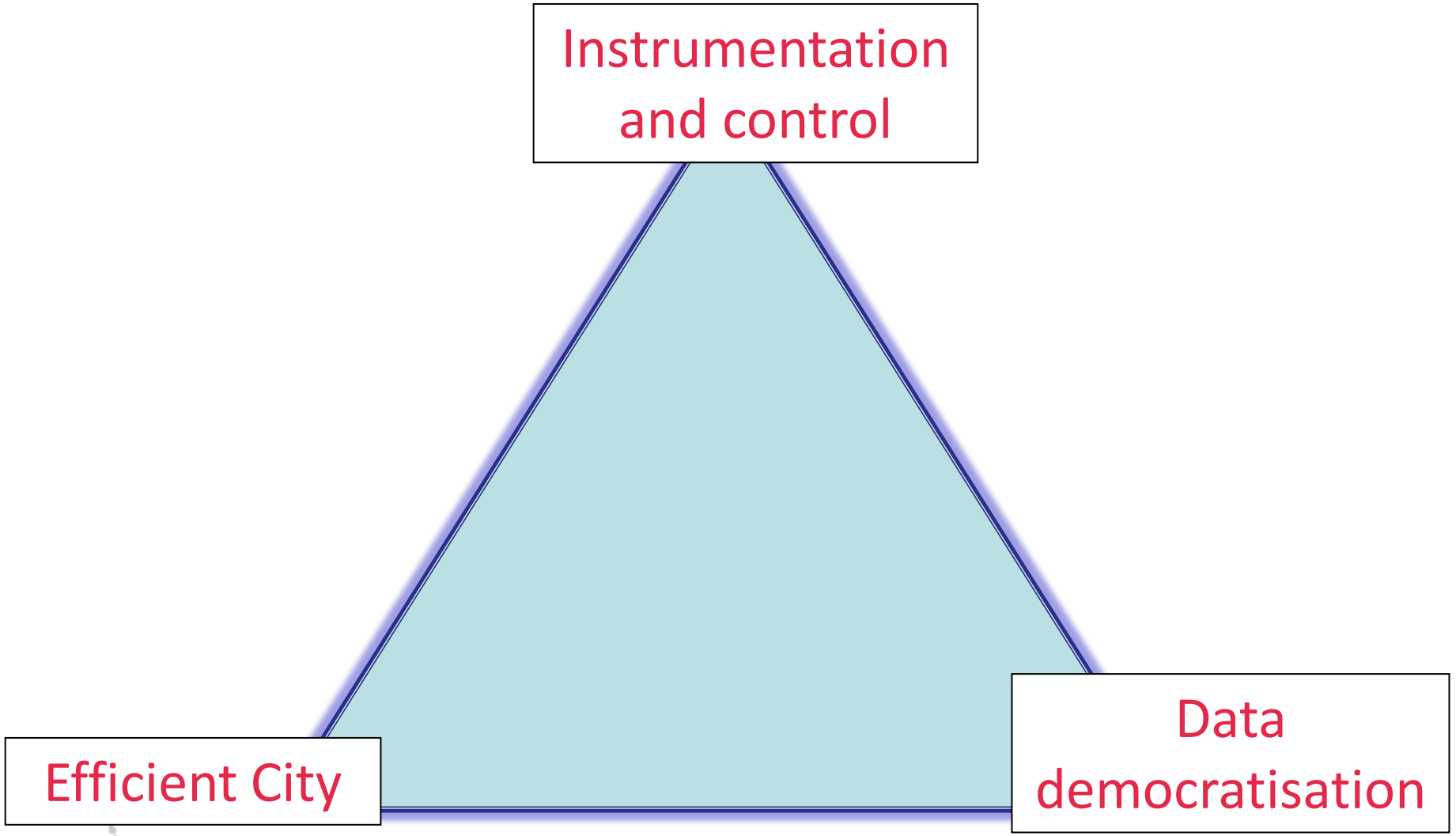
2. Policy, development and governance

- Cities as competitive, entrepreneurial, knowledge-driven systems

3. Social innovation, civic engagement and hactivism

- ICT provides means for transparent and accountable governance with new forms of civic participation, better informed citizens

Mapping the models



Milton Keynes

- Very successful new town with UK's highest rate of job creation and largest number of start-ups outside London

Milton Keynes' smart city transport challenge

- Population set to grow by 40,000 to about 300,000 in 2026 and jobs grow by 42,000
- Urban design is very car-oriented
  - Low density/dispersed structure is hostile to good conventional public transport and has low level of walking and cycling
  - 60% traffic growth to 2026 expected to overwhelm road network
- Other places are increasingly like this - the peri-urban problem (Hall, 2013)

‘Test-bed’ Milton Keynes

- Milton Keynes has developed a culture of innovation
  - In first phase of Plugged in Places (2010)
  - The first commercial electric bus (2013)
  - Driverless Pods (2015)
  - Ultra low cities (2016)
  - City bikes (2016)
  - DRT and PRT may emerge soon

Source: OneMK

- Seeking systems appropriate for 21st century travel patterns, not trying to make people and economies conform to 19th century service designs

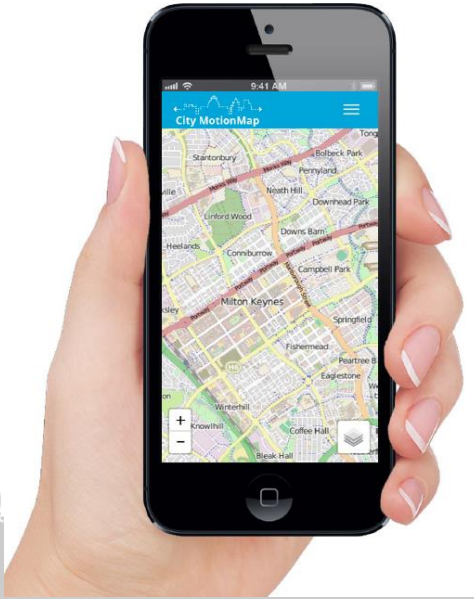
- Open University-led £16m Smart Cities project to develop big data projects in Milton Keynes
- Funded by HEFCE around ‘efficient city’ model
- But MK:Smart ethos is a ‘living laboratory’ approach for citizens, businesses, social organises etc. to co-create big data-based services products and societal infrastructures.
- Seeking a data democratisation approach
- MK Data Hub to serve range of applications
- Transport package is to develop a platform for co-created transport solutions

Motion Map

For details and introductory video go to:
http://www.mksmart.org/transport/

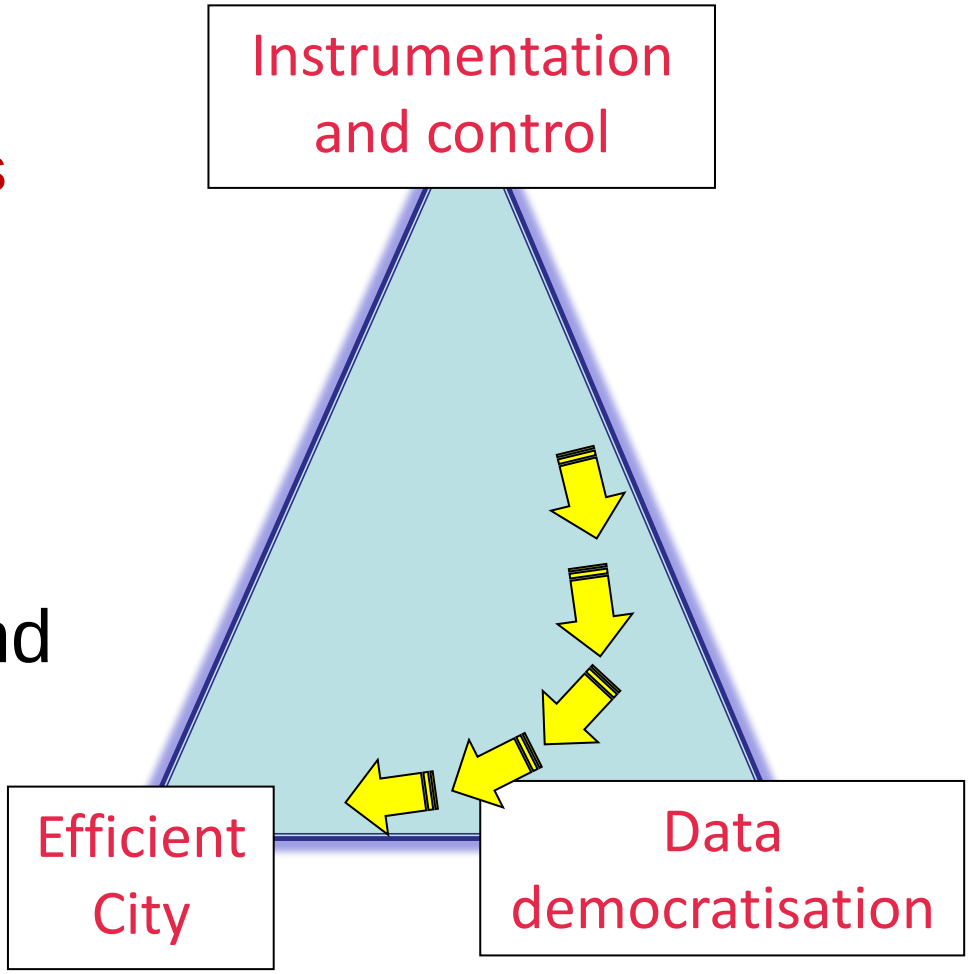
Motion Map

- Presently in development
- Looks like a highly integrated localised GPS app
- Has distinctive real time features around concept of ‘busyness’ - providing a real-time Personalised Travel Planner
- But is also to facilitate co-created transport solutions from users, community groups, SMEs and other actors
- MK:Smart Workshops with users, run by Community Action MK, inviting challenge project bids and gamification of MM development all seek to develop this approach



Sense and Sensorbility*

- MM served by large network of sensors (parking, roads, cycleways and on buses)
- Can seem an instrumentation and control/efficient city approach
- But is part of open database and programme to empower users
- Need instrumented platform to get user involvement



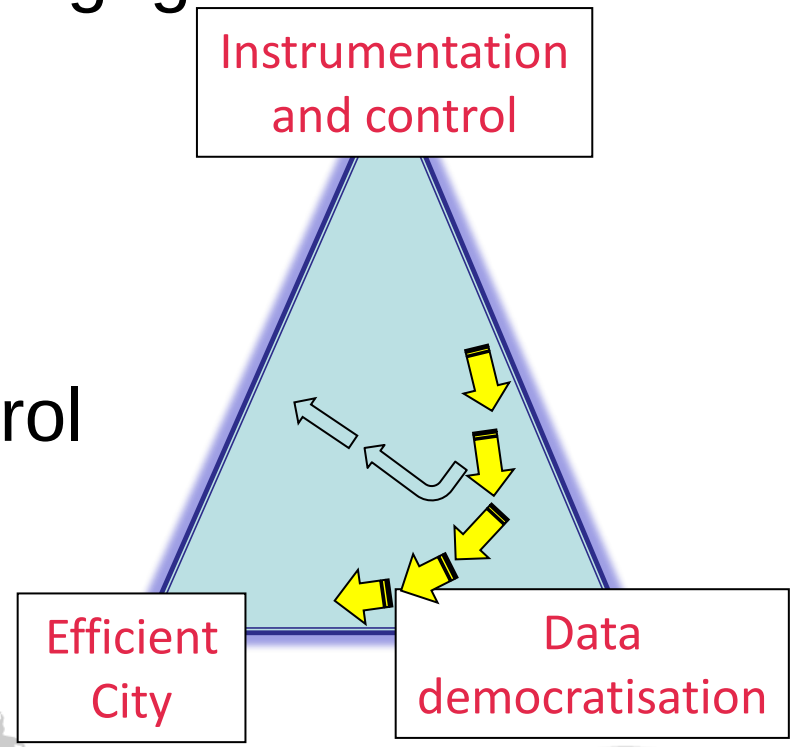
* With sincere apologies to Jane Austen

Observations

- Users accept intrusions on privacy if the benefits surpass the perceived loss of control over personal information (cf smart phones)
- Active involvement in generating data and having a say in the system are valued
- Benefits are not financial but on issues of quality and influence such as
  - Real time congestion information
  - Reporting incidents and need for repairs
  - Bus reliability and seat availability
  - Using smart big data systems to hold authorities and corporations to account

Developing user participation

- User sensor monitoring combined with developing user participation features could be an optimal blend
- But sensor-based system is needed first to have something with which the user can engage
  - So maybe start at instrumentation model but design to shift to a balance with user inputs
- This is tricky – and can easily divert to a practice of top down control



User participation model

- Users need educating, not in accepting corporatist smart data systems, but in how to engage in a co-creation approach
- Existing lobbyist user groups may not be able to adapt to a co-creation approach
- Providers need educating as well in user participation
  - This is not recognised

Implications

- Effective user participation develops a new form of democratisation, bypassing existing hierarchical structures
- For example, it could lead to user-led initiatives that challenge status quo (e.g. uber-style alternatives to bus services)
- This challenges the present nature and role of transport planning
- Future funding is still heavily focussed on smart city infrastructure development
- Research and development crucially needed on user enablement and transition processes

Questions/Discussion

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Big data without Big Brother: emerging issues in smart transport in Milton Keynes http://oro.open.ac.uk/41925/

Exploring participatory visions of smart transport in Milton Keynes http://oro.open.ac.uk/44907/