london transport museum

INTERCHANGE
moving thinking forward

FUTURE OF URBAN MOBILITY:
How will changing user demands and expectations change our core transport system?

Tuesday 4th July 2017
8.00am-9.45am, London Transport Museum

Panel

- Richard Bruce, Director of Energy, Technology & Innovation, Dept. for Transport
- Dr Ron Oren, Principal Analyst (Strategy), Transport Systems Catapult

Chair

- Mark Garrity, Director Strategy, Sales and Marketing, Thales UK

OVERVIEW

How can we accurately forecast our future transport requirements? Certainly 'big trends' – including electrification, new business models and new market entrants – are disrupting the transport landscape. But added to this are the changing demographics and expectations of transport users. What is the relationship between these forces? And how much control do we really have on the outcome?

Our wide-ranging discussion on the topic of changing user demands coalesced around five interlinked topics: cities, regulation, user data, future wants and needs and the role of technology. The arguments and perspectives of the group are summarised below.

1) What role will cities play in steering transport innovation?

Cities, rather than national governments, will lead change and innovation in our transport systems. Less constrained by regulations, city Mayors and authorities have more freedom to deal with innovative transport providers or directly with original equipment manufacturers (OEMs). This will require a shift in the way that city Mayors and government departments work together.

Recognising the differences between cities, their users, and their specific mobility cultures is important: re-creating what has worked for London, for example, will not necessarily work for other cities. Given changes in demand, city-*specific* innovation is a key factor. Yet this raises questions around interoperability. New urban transport systems, for example electric bicycles, are likely to grow and interact. Post-Brexit, given the potential absence of an overriding rules-based philosophy, a joined-up regulatory approach will be increasingly important to make sure different systems work together.

There will also be an increasing blurring of the lines between public and private transport, and a move towards an integrated service economy. For example, first and last mile partnerships between ridesharing services and mass transit operators.

2) When and how much regulation is required?

In terms of city interoperability, regulation could in fact restrict innovation and competition. Furthermore, some suggest that the regulatory framework protects vested interests rather than the user, particularly given the merging of public and private transport modes. We need to allow innovation, but tax it at the same time.

Technology, for example autonomous vehicle (AV) design, is advancing quickly. Will it move ahead of consumer acceptance and the regulatory framework? Before the infrastructure for shared AVs is built, users will spend their money on the transport options that best suit them, whether a new Tesla or an Uber trip. But the right policy interventions and regulation is needed to make sure, for example, that buses aren't killed by congestion. At some point regulation will have to say 'this is the infrastructure'.

3) Is user data an effective proxy for user demand?

Capturing and understanding users' requirements, and hence future infrastructure needs, is a contentious issue. To date, the transport sector has not been user-centric, with pain-points reported in the majority of trips. But – enabled by smartphones – anonymised user data is now being used strategically by both the private and public sector to understand patterns of user demand in order to improve services, e.g. TfL, Uber and Citymapper. This could in turn inform supply as part of a demand-responsive transport network.

Yet data has its limitations: it shows how people are using transport now, not how they would use it in the future; its collection raises privacy concerns; and it assumes that the resulting analysis will inform adaptation, despite major public infrastructure such as roads, rail and metro lines being fixed.

Techniques such as virtual reality environments provide another means of eliciting user behaviour. However, in seeking to understand user requirements, some suggest there is still a disparity between the techniques that we currently have and the questions that we need to ask.

4) What are the fundamental user wants and needs that will dictate the shape of our transport systems?

It is very difficult to predict what people will want in the decades to come, but there are some user requirements that appear to remain constant: people live in one place and work in another; fewer people own cars; cities will remain critical as places of human interaction. Indeed it could be argued that user demand, along with urban density, changes very slowly.

However, in the longer term, some user trends will require fundamental shifts in transport provision. These include the ageing population and their physical requirements; the expectation of increased personalisation, led by the rise of digital natives who demand constant and reliable connectivity; and changing perceptions of ownership informed by the

sharing economy. And while cities will still need to move millions of people, they can be moved at different times.

5) Will future demand need to be met by technological solutions?

Some argue that the role of technology in meeting user demand has been overstated, particularly given interventions and policies, for example in the Mayor of London's Transport Strategy, that prioritise walking and cycling. Demand on the system changes slowly and incrementally. For example, technology enabling working from home has had a negligible impact on demand. The biggest changes are in the built environment not the digital space, with the real challenge of cities being about making the best use of limited space.

Another view is that demand responds to supply, and demand would change more quickly if supply changed. If we enabled demand-responsive transport we could see big changes in how people use the system (like Uber). We should be thinking about what our goal for demand is and what sort of future we want to create.

Others suggest that if urban transport is to remain viable for different user groups – whether rush hour commuters, older people, night workers or international tourists – we will need multiple adaptable solutions. And that this demand responsive approach to transport can only be met with new technology, and with public and private modes working together. In this sense, technology could help us use our existing infrastructure more efficiently, through ride-sharing for example. Likewise, new technology, whether electric vehicles or data-led efficiency gains, could also help to meet public expectations around reduced congestion and improved air-quality.

ARUP GOWLING WLG THALES

FUTURE OF URBAN MOBILITY REPORT

In Feb 2018, London Transport Museum in collaboration with Arup, Gowling WLG and Thales UK will publish a report on the Future of Urban Mobility. We will host three discussion events, the outcomes of which will inform our research. The first of these events was held on 4 July 2017, and will be followed by events on 12 September 2017 and 12 October 2017.

For more information on the Museum's Interchange thought leadership programme, please visit www.ltmuseum.co.uk/support-us/corporate/thought-leadership or contact:

Katie Fitzsimons
Development Manager
London Transport Museum
E: katie.fitzsimons@ltmuseum.co.uk
T: 020 7565 7284