london transport museum

INTERCHANGE
moving thinking forward

SMART FUTURES: SMART TRAVEL
How will technological change shape the way we travel?

Wednesday, 13 June 2018
08:30 – 09:45, London Transport Museum, Covent Garden, London WC2E 7BB

Panel
- Steve Gooding, Director, RAC Foundation
- Daniel Hanson, Director of Policy & Strategy, PwC

Chair
- Mark Garrity, Director of Strategy, Sales & Marketing, Thales

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About the session
Attended by about 25 specially-invited participants with an interest in the future of London and its transport system, this roundtable was part of London Transport Museum's ongoing Interchange programme of discussions and debates. Like the other sessions in the series, the event brought together leading experts, thinkers and decision-makers to consider the challenges and opportunities facing cities, transport and infrastructure, both today and tomorrow. The agenda was to explore technological change and assess its impact on the journeys we make and how we make them, including focusing on questions like:

- How will digitally-enabled/autonomous vehicles change mobility and travel patterns?
- How will technology help us determine what infrastructure and transport services are needed?
- Could advances in vehicle technologies open up new ways of financing transport networks and infrastructure, such as road pricing?
- As cyber threats grow, how can we make the most of new technology while keeping passengers – and their data – safe and secure?

The session on transport was the first of three Interchange roundtables to be held over the Summer of 2018, with the other two set to look, firstly, at technology's role in reshaping cities and the lives of people living in them, and then at how technology will impact the world of work

Setting the scene

As the influence of digital technologies on citizens' transport options and choices continues to grow, the 2018 series of Interchange roundtables aims to elicit and capture insights to build on London Transport Museum's 2017 research report, Rethinking Urban Mobility.

Against the background of the ongoing public and political debate on the future of cities in general and London in particular, the thinking from all three sessions will be fed into a new "Smart Futures" report on mobility. This first session began with two expert presentations on the future of transport, each providing very different viewpoints, before the floor was opened up for the debate. The Interchange sessions are conducted under the Chatham House Rule, so no comments in this summary are attributed to any specific attendee.

The debate: a holistic view of the future

Stimulated by the opening presentations, the discussion among the attendees ranged widely across the future of mobility, touching on related issues such as people's emotional attachment to different modes of transport, their varying perceptions of relative costs, their working patterns, ongoing shifts in social attitudes, political and funding challenges, and individuals' concerns over losing control to technology. As one delegate commented: "Everything is joined up. From a technological point of view, you really can't look at transport in isolation. People are trying to solve similar problems in areas like healthcare and energy – and there's a need to engage with developments in these areas as well."

An overarching message throughout was that people trying to predict the future of transport must look beyond their own likes and preconceptions to consider wider society. As a number of attendees noted, the views of younger citizens are likely to be quite different from those of many people in the room – and even the attendees themselves find themselves prone to rapid changes in what they like and think. A number of participants described how one-off experiences have changed their own perceptions and even behaviour in areas like home or remote working and technology.

A very different landscape…

These changes directly affect the transport arena. If people demand different things, then experience shows that the market, together with the government and society generally, will respond to cater for these new demands. Fusing these dynamics with ongoing rapid technological innovation and other "megatrends" in the economy – from demographic shifts to the magnetic pull of cities – means we end up with a future of mobility that's likely to be much more different from today than many people currently realise.

As one speaker commented: "If the underlying demand for trips changes quite radically, then to remain fit for purpose the underlying models for responding to those needs must change too." The question is how sweeping that change will need to be. With the hydrogen cell versus plug-in battery debate currently being likened in some quarters to the VHS versus Betamax in the 1970s, an attendee pointed out that today's leading-edge technologies may be as obsolete in a few years' time as videotape is today. "Sometimes today's technologies can blind us to what's coming down the line," said the delegate.

…with divergent possible pathways

However, while there was general agreement that change is coming, views around the table diverged sharply on what the resulting landscape will look like. "The question we're being asked is how technological change will reshape how we travel," said a delegate. "That's actually the wrong question: it should be, how might technology change how we travel."

Some issues attracted especially strong opposing opinions. On road pricing, one speaker thought this would be an unworkable model because politically it's too toxic. "For road pricing to succeed in reducing congestion, somebody has to decide they can't afford it any more," he added. But others regarded the implementation of road pricing as inevitable. "With shared autonomous vehicles, you wouldn't even know you were subject to road pricing at all," commented another speaker.

There were also opposing views on the future for automated multi-modal travel planning services. Some regarded these as a natural monopoly where having a single central provider would be the best option, while others said market competition should prevail. In light of such contrasting predictions, a number of speakers stressed the need for agility and flexibility to "future-proof" transport strategies and planning, by equipping them to respond to unanticipated developments in the future, including new technologies. One speaker highlighted the disjuncture between multi-year, monolithic transport infrastructure projects, and the fragmented and fast-changing world of consumer apps: "When planning investment, we need to understand how people will actually consume transport services and put demands on the network."

Three key themes: perceptions, cultural change, and funding models

As the debate ranged across all these issues and more, three underlying themes came to the fore. The first was the importance of people's perceptions around transport – and the need to develop solutions that work for them as individuals, and might change those perceptions. Several speakers highlighted that people's attitudes to car ownership, for example, are not entirely rational, partly because owning a car can bring a sense of status and is perceived as the social norm. "Until people live in a society where car ownership isn't taken for granted, they won't really think about the fixed costs it involves – just the variable ones like fuel," commented a speaker.

Such perceptions must change if behaviour is to change. "The question is how technology will alter the costs to the individual, which in turn will alter how they travel," commented one delegate. Another painted a picture of a future in which shared autonomous vehicles, accessed by citizens through multi-model Uber-style apps, will reduce the demand for road capacity through having fewer vehicles and enabling them to drive closer together, while also cutting costs per mile by 50%. Additionally, people's time in transit would be freed up to do other things, boosting the value to users still further. Delegates also highlighted the potential for artificial intelligence to distribute traffic better, further improving the experience of autonomous transport. And, when people do have to wait or queue, people should be kept informed about the reason for it.

The second theme that emerged was the need for cultural change – not least in the workplace – to encourage and enable people to change their lifestyles and travel behaviours. "Today's technologies mean we can work from anywhere," said a delegate. "But despite this, many managers still feel they need to have people there in front of them to see they're doing the required hours and being productive. To really boost productivity they should look at outcomes, not inputs. The technology is here, and we need to focus more on the cultural aspects." Another added: "Demand for transport has everything to do with work. If people can have jobs that don't require them to go to a particular place, that will make a huge difference."

The third theme was the thorny issue of funding: how new transport infrastructure will be financed, what business models will be used, and the extent to which government will be willing and able to continue to pay towards transport infrastructure and services. While opinions on road pricing were divided, the majority view was that it will be important, alongside other technological advances. "Technologies will play a key role in determining how we finance transport networks and infrastructure," commented a speaker. "If there's one thing private investors need, it's clarity over the risk and rewards they'll be exposing themselves to." There was general agreement that the key source of value in the transport systems of the future will be the data they generate on people's movements, behaviour and lifestyles. While this will provide commercial opportunities and analytical insights to help guide investment and meet people's needs, it also brings risks – not least around privacy and security.

Cyber security: winning the arms race

In this context, the pivotal role of data in future transport systems was reflected in the critical importance that the delegates attached to robust cyber security. "If we don't get the cyber security right, we could be looking at catastrophic failures of the system," one delegate warned. Another agreed: "Preventing disruption and large-scale hacking will be critical. So, in many ways, the transport systems of the future depends on the good guys winning the data security arms race. If technology is to enable us to choose and be able to travel in a mode-agnostic way, then the data will have to be secure, and we will all have to have confidence in the system." This view attracted unanimous agreement around the table.

The next Interchange session: Smart Cities
The next roundtable in London Transport Museum's Interchange series will be on smart cities – looking at technology's role in reshaping cities and the lives of people living in them.

The discussion takes place on 12 July; please email rsvp.events@ltmuseum.co.uk to request details of the event and to register your interest in attending.

GOWLING WLG THALES pwc

SMART FUTURES REPORT

In early 2019, London Transport Museum in collaboration with PwC, Gowling WLG and Thales UK will publish a report on Smart Futures. In the preceding six months we will host three discussion events, the outcomes of which will inform our research. These events will be held on 13 June 2018, 12 July 2018 and October 2018. A half day workshop will be held in November during which some of the key themes that emerged from the discussions will be explored in more detail.

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

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