



# Government Office for Science

## Foresight Future of Mobility project

### Sustainable Transport Roundtable

28 September 2017, 1030 to 1145, 1 Victoria Street

Chaired by Professor Phil Blythe (Chief Scientific Adviser, Department for Transport)

This is an abridged summary of the roundtable, and in the spirit of free and open discussion, comments have not been attributed to specific attendees.

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The roundtable was structured around three main questions regarding sustainable transport:

- How can we make transport more sustainable, and increase active travel?
- How can we improve air quality and decrease carbon emissions in the transport system?
- What is the role for government/private sector in moving to a more sustainable transport system?

#### Key points

- Transport takes advantage of our shared space and atmosphere - emissions, road-use and space-based charging are possible ways to price this in and encourage more efficient travel.
- Connected and Autonomous Vehicles (CAV) are touted as transformational, but what effect will they have on congestion, and is there firm evidence that they will be safer than drivers?
- Harmonisation between transport and land use planning is essential in order to encourage sustainable transport solutions.
- Active travel needs to be encouraged as a lifestyle rather than a behavioural change to be effective, and its wider health benefits should be taken into account.

#### Trends in transport

How is transport likely to change?

- Assume that we will travel less in the future, with roads a finite resource, and congestion pressures reducing travel.
- There is a 'tragedy of the commons', in that road space and the atmosphere are shared resources which are taken advantage of by transport.
- Mobility per head is going down, but logistics traffic is increasing.

- The percentage of people using cars for short journeys, and travelling generally, are going down<sup>1</sup>.

### The impact of Autonomous Vehicles (AV)

- Powertrains are moving to electric, but autonomy seen as the key technology.
- Some viewed AV as no more a solution than private cars were in the 1960s
- Where is the evidence that AVs will be safer than drivers?
- There will need to be a different focus to implement AVs and Mobility as a Service (MaaS) in ex-urban and rural areas, and the borders between them.

### Planning policy and sustainability

Is the planning system set up to encourage sustainable transport?

- In current system, no weighting is given to sustainable transport schemes.
- Local authorities have no powers to monitor, evaluate or enforce transport schemes promised by developers.
- Transport schemes therefore stand or fall on the good intentions of the developers, and tend to be introduced after unsustainable transport habits had already embedded themselves.
- Harmonisation of transport and planning policy was seen as desirable.
- Need to make all areas appealing to be in, to cut down on travel.

### The role of freight

Are trends in freight deliveries sustainable?

- Further fragmentation of deliveries will lead to more emissions and congestion.
- Needs to be work on the re-aggregation and consolidation of logistics.
- However, consolidation brings additional burdens in time, flexibility and cost.
- Automation of freight handling and delivery was seen as a workaround.
- Local planning shouldn't encourage people to drive somewhere to pick up their parcels.

How could more efficient freight and logistics be encouraged?

- Most freight is volume limited, not weight limited. One policy lever is to tax void space on goods vehicles.
- Going further, emissions, road use and space-based road charging were suggested in order to encourage sustainable transport use.
- Electric Vehicles (EV) are a good economic proposition for transport in that fuel costs are low, but the infrastructure is lacking.
- Similarly, alternative fuels (such as Liquefied Petroleum Gas (LPG) and natural gas) have an infrastructure problem.
- Most drivers take their vans home at night, and don't have charging facilities.

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<sup>1</sup> As measured by the British Social Attitudes Survey and the National Travel Survey

## **Cycling and active travel**

What role do cycles have to play?

- Expanding the hyper local would encourage more cycling.
- Must be able to develop a personal mobility solution with broader appeal than just bicycles.
- e-bikes were seen as an interim step between bicycles and cars.
- It was thought that scooters and e-bikes should be developed further to encourage their use.
- Expand intelligent cycle-share schemes to eke out more use per bicycle.

How do we encourage active travel and sustainable transport behaviours?

- Need to think in terms of 'lifestyle' rather than 'behaviour' changes.
- The United Nations Environment Programme (UNEP) has included this in their new Integrated Environmental Assessment framework.
- There needs to be a different way of appraisal that's not just about Value for Money (VFM).
- How do we include the wider benefits, including things like mental health and use of space? How much do we think these are worth?
- What health impacts might the 'uberisation' of travel have?

Air quality

- It was claimed that 90% of PM<sub>10</sub> particulates<sup>2</sup> come from brake and tyre wear.
- How much do traffic calming measures contribute to this? However, we can't discount the safety benefits.
- EVs brake less due to regenerative braking, which might reduce the problem.
- Need to account for ozone emissions, brake and tyre wear, whilst being properly technology neutral.
- We are seeing the same things happen with Combined Heat & Power (CHP) as happened with diesel engines.

## **Visions for the future**

- Think about intercity travellers and exurban populations. Must put the customer at the heart of how the system is set up.
- Raise freight/transport productivity by optimising aggregation.
- Embrace the industry vision of shared use of cars.
- Recast the planning system, with more instruments like the London Mayor's transport strategy.
- Update the taxation system and use it more effectively to drive sustainable transport behaviours, by charging for space and road use.

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<sup>2</sup> Airborne particulates of less than 10 micrometres in diameter

We would like to thank the following organisations for participating:

BMW, the Centre for Sustainable Transport, the Chartered Institute of Logistics and Transport, Clean Air in London, Cycling UK, Ford, Go-Ahead, oBike, the Road Haulage Association, Sustrans, the University of Cambridge, and the University of the West of England (UWE), Bristol.

The views and opinions expressed during this discussion do not reflect official or company policy, or the position of government.