



Government Office for Science

Foresight Future of Mobility project

Data for Transport Roundtable

11 September 2017, 0830 to 1000, 1 Victoria Street
Chaired by Mark Walport (Government Chief Scientific Adviser)

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.

The roundtable was structured around three main questions regarding data and information sharing:

- What are the opportunities for improved connectivity of transport services?
- What are the barriers to data sharing?
- How can data collection and analysis be used to improve the operation of the transport system?

Key points

- Increasing amounts of data flow through the transport system, with some Local Authorities (LA) unprepared to take advantage, whilst others stovepipe data, preventing it from being used for wider benefit.
- Clear ownership and conditions of use are key to enabling data sharing, with Distributed Ledger Technology (DLT) a possible solution.
- Public attitudes to data sharing have relaxed, as long as there is a clear benefit, however fully integrated transport systems could tip the balance.
- Despite the increase in data generated by transport, there are several areas where industry felt that more data would be beneficial.

Transport and Data

How is data affecting transport?

- Certain sectors still running on legacy business models, didn't foresee the deluge of data which would be generated.
- Autonomous Vehicle (AV) manufacturers siloing data from telematics, GPS and autonomous systems due to its perceived commercial value.
- Any single person's travel data is not hugely valuable, but aggregation provides insight and protects individual privacy (to an extent).
- Second order data derived from analysis and combining datasets is considered to generate the most value.
- How can we assist those holding the data to make the most of it?

- Local authorities often lack the expertise to exploit their data, and consequently sign away their access rights to private companies.
- A taxonomy of data users was suggested: data generators whose business model is exploiting data (e.g. Facebook, Google); data generators whose business model doesn't exploit the data they generate (transport operators, infrastructure companies); and new entrants who would like access to data to develop new business models.
- The relationship between these is key to generating value from transport data.

Changes in mobility

Will new transport models change how data is used?

- Likely to see AV roll out first in private hire cars ('robotaxis), with fully autonomous personal vehicles taking longer.
- Pricing of these services could be used to balance public and private objectives.
- Parity of access to new mobility services will be an issue – what about those without access to smartphones?
- Less connected people may not show up in the data, leading to withdrawal of services on which they rely.
- Some Mobility as a Service (MaaS) models may not be viable outside of urban areas – how do you then integrate it with traditional transport?
- Will there be monopolisation of large datasets by individual companies, allowing them to influence and take advantage of traffic patterns, or to promote their own mobility offering?
- Counteract this by transparency around the terms and conditions on use of data generated by public systems.
- How do you incentivise the release of private or proprietary datasets? Provide reward for sharing data and contributing to the public good.
- Distributed Ledger Technologies (DLT) could be used to mark individual items of data, and set out conditions under which they can be shared, sold or transferred in accordance with the owner's preferences.

Attitudes to Data Sharing

Will the public's attitude to the use of their data change?

- People are more relaxed about sharing their data, though are expecting something in return – “what's in it for me?”
- Even aggregated data can affect personal privacy, but privacy isn't binary.
- Technology companies such as Google have vast amounts of personal data, and can paint detailed pictures of their behaviours – would this be the goal for transport operators?
- New payment options (such as Android Pay or Apple Pay) bring big data concerns around geolocation and privacy into transport.
- Sharing data is not without risk, and there is a need to balance customer confidence against the commercial and societal benefits of data sharing.
- Also have to consider security of infrastructure when sharing data.
- The full implications of the General Data Protection Regulations (GDPR) are yet to be felt – how will this affect data sharing?

Innovation in transport and data

The roundtable discussed innovation and productivity in transport systems

- The incumbent operators were felt to be in a powerful position, with onerous regulations dissuading new entrants.
- The desire of disruptors to try new things, and only keep what works, was contrasted with transport users' desire for stability and predictability, giving rise to a tension with innovation.
- It was acknowledged that regulations should be sense-checked.
- Operators are required to measure outputs in great detail in order to justify investment to government. Are LA aware of the productivity of local transport?
- In some areas, the analysis would benefit too few people to be justified.

Data for the future

The roundtable was asked what types of data they would like to have in future

- Standardised data on fares, which will be required by Mobility as a Service (MaaS), and to head off difficulties as dynamic pricing becomes widespread.
- As much data as possible, to combine in new ways and generate value.
- Full, native digitisation of transport schedules – only at 30% currently.
- Improved granularity of road transport data and modal choice.
- Emissions data and improved data on disabled passengers.
- Open and equitable terms and conditions for use of datasets, along with standardised metadata for transport.
- Data on mass transit loading, incident data and improved incident processes.
- Additional release of electromagnetic spectrum frequencies for data.
- Only one attendee was content with the amount of data they had access to.

Unanswered questions

Attendees raised the important questions they felt needed answering

- How will mass transit operate in a future system of MaaS and AVs?
- How will the industry cope with the seismic shift likely to occur in the next five to ten years?
- How will the road tax and regulatory systems be updated to cope?
- How will pricing work in future transport systems?
- How will future vehicles be powered?

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