

Commission on Travel Demand

Understanding Demand

Evidence Session 1

Summary

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The overarching aim of the evidence session was to understand the practice of thinking about demand futures, the assumptions which sit under the approaches adopted and the strengths and weaknesses of different approaches. This note summarises some of the key outcomes of the discussion and will inform the Commission's future work programme. The report does not imply consensus amongst all of the participants of the evidence session and the opinions shared, whilst not attributed, were those of the individuals rather than the organisations they belong to.

There is considerable uncertainty about how demand is changing

Throughout the presentations and discussion there was acknowledgment of uncertainty in how to explain recent changes in demand, what this means for future demand and how one might incorporate future uncertainties (such as rising ICT use or automation) into our understanding of demand futures. There has, for example, been a tendency over the last 10-15 years to underestimate growing rail demand. Some key uncertainties, which are not mutually exclusive, include:

- a. Differences in how and how much people do some sorts of activities and the changing role of mobility in this
- b. Differences across age groups in the population but also in how these differences might be carried forward through cohorts
- c. Apparently significant divergence in travel patterns spatially, particularly within core urban areas
- d. The impacts of a changing mix of technologies in everyday life including anticipated major shifts in future mobility.

Notwithstanding some important studies which have been completed and which are underway in to recent trends, the uncertainties require much deeper exploration. It appears, for example, that some national trends or associations such as that between GDP growth and travel may not hold when considered at a more disaggregate scale. The changing trends which have been observed today are not yet fully accepted as 'how things are' by policy makers and the Commission's activities should seek to raise that level of awareness.

Communicating to decision-makers when, where and why uncertainty matters is a major challenge

The discussions showed general agreement that despite the levels of uncertainty in understanding demand futures are currently higher amongst the technical community than in previous decades the approaches and methods used to analyse uncertainty and formulate advice have not developed significantly.

It would be useful for the Commission to further explore the sources of uncertainty and to consider later in the programme of meetings how uncertainty might matter to different types of decision. For example, short run decisions such as whether or not to put on extra services on a rail line may best be informed by recent evidence from elsewhere. Such a decision could, in any case, be reversed easily if the expected outcomes are not delivered. However, decisions which are irreversible and rest on longer term assumptions about demand may require different assumptions on the scale and importance of uncertainties.

The development of any understanding of uncertainty needs to be handled carefully. In any analysis of change there will also be substantial continuity, particularly given slow changes in many infrastructure systems and land uses. There are risks in losing the trust of key actors including politicians, the media, markets and the public by overstating uncertainty. However, there are also risks to the credibility of policy making if we gloss over uncertainty and are undermined by observable realities. Understanding how best to communicate uncertainty to decision-makers would also be a useful outcome of the Commission.

Our modal institutions contribute to a fragmented world view of demand futures

There is currently a national road traffic forecast and a separate passenger rail demand forecasting handbook. Whilst the National Transport Model that produces the national road traffic forecasts incorporates other modes to some degree it is not advised to be used, for example, for rail forecasting. Walking and cycling is not forecast at the national level as the scale of strategic modelling tools is too coarse. Private bus companies have been reluctant to share information which is potentially commercially sensitive. The Passenger Demand Rail Forecasting Handbook, whilst an excellent resource, is restricted in its access. Not all local areas develop transport models nor do they collect large sample travel surveys. The National Travel Survey has a significant time series and captures information about modes and activities and a range of associated variables but, unless additional samples are purchased, cannot be used at a local scale. The divergence of evidence on demand trends within and between different cities means there is a need to try and pool understanding of how demand is changing in different contexts.

Different approaches to decision-making under uncertainty exist and are more widely applied in some other sectors

Current approaches to forecasting can always be improved and DfT has a significant programme underway to do this. However, this does not remove uncertainty from future outcomes. Alternative decision-making approaches have been developed to deal more explicitly with more uncertain futures or the need to create more desirable futures. Some of the value of these approaches has been in the participation of stakeholders in considering the range of issues at stake. The discussions suggested that rather than critiquing specific tools as being good or bad attention should focus on when it is appropriate to apply different types of tool.

Looking to longer term futures exercises, different options could be chosen to facilitate decision-making if a single 'preferred' forecast is no longer deemed tenable. These range from probabilistic analysis, creating plausible or desirable futures or robust decision-making where projects are selected on the basis of their fit to a range of potential futures. Understanding how these tools are applied elsewhere is important. Concern was expressed about the time, resources and capacity to change current practice given the development needs of the day, also seen as a key issue in the recent CIHT FUTURES study. How the decision-making environment could be adapted will require further attention.

Futuring is policy

In different ways, the discussion identified challenges to seeing forecasting or any other form of futuring as a purely technical exercise designed to provide neutral projections of a likely future.

Setting out a vision for a city, for example, is about what kinds of activities might be encouraged where, about how that might be facilitated or discouraged and what outcomes it will support. What kind of futures does an accessibility rather than a mobility led world view create for example? Scenario exercises invite participation in imagining alternative demand futures which could be one way of drawing decision-makers in to understanding the nature of some critical uncertainties. Forecasting is no different to other methods in being a way of projecting some future world view for policy. Forecasting approaches presume that the nature of demand today will be the nature of demand in the future, but influenced by a range of inputs which will vary (e.g. GDP, fuel prices etc.).

Demand is not therefore exogenous to futuring of any sort but part of it. Imagining a different (or similar) future is part of a process of shaping the system to support a particular type of demand. By extension, therefore, the type of approaches we use to look at demand futures are a statement of what the policy world view of demand is. Is it something to be shaped or something to respond to? At the moment there seems to be a gap between a raft of local or regionally inspired visions to do things differently which are underpinned by a view of future demand which is tied to current conditions.

Acknowledgments

The report was assembled by Greg Marsden based on the rapporteur notes provided by Ersilia Verlinghieri. The workshop participants are gratefully acknowledged for their contributions. The report is agreed as a summary of the meeting by the Commissioners and we are responsible for any omissions or factual errors.

Programme of Day

Tuesday 7th March

Room 1.11 Institute for Transport Studies

1330 - Welcome and Commission Aims (Greg Marsden)

1340 – Session 1 – Issues from Practice

1340 – 1350 Mark Ledbury DfT

1350 – 1400 Nicola Kane, TfGM

1400 – 1430 Discussion

1430 – Session 2 – Approaches to Thinking about Demand

1430 – 1440 Richard Batley, ITS

1440 – 1450 Matt Watson, University of Sheffield

1450 – 1520 Discussion

1520 – 1540 Coffee

1540 – Session 3 – Approaches to Demand Futures

1540 – 1550 Glenn Lyons, UWE

1550 – 1600 Charlene Rohr, RAND

1600 – 1610 Robin Hickman, UCL

1610 – 1640 Discussion

1640 – 1700 Key Take Away Point for Commission

Attendees

Alistair Kirkbride - CarPlus

Alwyn Spencer – National Infrastructure Commission

Anesu Bwawa – National Infrastructure Commission

Charlene Rohr - RAND Europe

Elaine Seagriff - Independent

Glenn Lyons - University of West England

Greg Marsden - University of Leeds

Holden Hilary - Cambridgeshire City Deal

John Dales - Urban Movement

Mark Ledbury - DfT

Matt Watson - University of Sheffield

Nicola Kane - TfGM

Nicola Spurling - Lancaster University

Peter Jones - UCL

Richard Batley - University of Leeds

Robin Hickman - UCL