

A fresh look at transport appraisal

Conference summary and notes

■ FOREWORD

Encouraging debate

By Peter Stonham, Chairman, Landor LINKS

This document provides a report of the conference *Transport Investment Appraisal: A Fresh Look at the Right Approaches* organised by Landor LINKS/Local Transport Today on 19th September 2018, and issues arising from the themes discussed. The event was held independently to encourage and stimulate debate on the subject, though with the support of the Department for Transport and University College London, and sponsorship from consultants Peter Brett Associates and Systra.

The event explored the broad concept of transport scheme evaluation and investment appraisal, of particular immediate importance due to the DfT's consultation on a potential update of its WebTAG processes.

The presentations and debate were aimed at placing this review in the broader context of ongoing professional discussions amongst the transport planning and economists' community, across the topics of transport options development, scheme selection, resource allocation, decision-making and delivery, both in the UK and internationally.

It also sought to explore interfaces between the transport sector and those in parallel areas where issues interact with transport concerns (including land development and housing provision) and where similar resource allocation tools are applied (for example the utilities, the health service, and resilience infrastructure).

An underlying theme was to identify the most appropriate formulas, inputs, values and decision-making processes in the context of changing political and social expectations and values, and the interface and interactions between public policy considerations and private sector approaches to investment criteria and decision-making.

The organisers much appreciate the willingness of the Department for Transport to support the preparation of this report on the ideas discussed at the event for wider distribution and to encourage continuing debate on the subject.

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This report has been prepared by Landor LINKS on behalf of the Department for Transport's Transport Appraisal and Strategic Modelling (TASM) division, which maintains and develops DfT's guidance on modelling and appraisal for transport projects, including WebTAG. The views expressed do not necessarily reflect those of the DfT or of the other organisations mentioned

■ INTRODUCTION

Emerging key themes

By Peter Jones, Professor of Transport and Sustainable Development, Centre for Transport Studies, University College London

There is currently considerable professional and public debate about how best to provide for our future mobility needs nationally and locally, and about the ways in which transport schemes and policies are appraised and decisions taken. Changing demographics, advanced technologies, new patterns of travel in response to economic and social change, and the impacts of various potential transport supply disrupters have all created a challenging landscape for decision-making. The Department for Transport (DfT) is to be congratulated on initiating a major consultation exercise during 2018 around how best to improve modelling and appraisal processes and techniques, and in supporting discussion and ideas-sharing initiatives such as the ones reported in this document.

For reasons of practicality, the conference organised by Landor LINKS/Local Transport Today (summarised in this report), were each based around a set of topics. But, in reviewing the discussions, it is evident that there were recurring themes of debate across many of the events. I was invited by Landor LINKS to contribute an overview of the key issues that have emerged, and will briefly touch on five of them here – recognising that they also overlap.

First, people and place. Reflecting a strong view in government that transport needs to work for people, the question raised here is whether our current modelling tools are able to capture user needs and preferences (for example through appropriate disaggregation and taste variation) and to appraise schemes in ways that align with personal attitudes and priorities for people's wider lives and values; for example in the environment in which they live and undertake activities, and the quality of their journeys, etc. There is also a growing awareness that transport infrastructure is both an important component of, and a shaper of, public places; for example, urban streets represent the bulk of urban public space, and major transport schemes can have a major regeneration – or blighting – impact on the surrounding areas. Yet the various place impacts of schemes arguably remain poorly captured, compared to our appraisal of movement-related benefits and disbenefits.

A related issue concerns the interest in explicitly recognising and analysing cross- sector impacts – both of transport schemes on other sectors of the economy and of the consequences of decisions taken in other sectors for passenger and freight travel patterns. The latter problem is well recognised – in cases when new housing and hospitals are built on greenfield sites located well away from sustainable transport modes – but not easy to address. This is partly a technical challenge, in terms of better tracing, documenting and monetising these impacts, but also a major administrative challenge in attempting to line up policy interests across governmental sectors. In the latter case it is probably the major cities led by mayors with cross-sector responsibilities that may be best placed to take the first steps in this direction.

Another recurring theme around the notion of ‘reaching out’ further than the current modelling and appraisal procedures has been captured in the phrase ‘moving beyond the BCR’. This has several facets, from giving greater attention to the strategic business case and an objectives-led assessment, to making the whole process easier to understand and more transparent, taking account of non-monetary preferences, extending the breadth of the analysis to incorporate some of the wider impacts noted above – and generally to give more weight to the broader, non-movement consequences of transport schemes in any benefit-cost analysis.

Two other themes have been frequently raised during the conference and across the workshops. The first is proportionality. A common view is that the effort which scheme promoters feel they have to put into modelling and appraisal can be disproportionate to the size and cost of a scheme – with a concern that adopting a simplified approach might penalise the promoter for not being sufficiently rigorous in ‘ticking all the boxes’ in bidding for funds for small schemes. DfT have been refreshing clear that proportionality is to be encouraged not discouraged, that suitably validated simplified procedures are to be welcomed, and that the department could help by providing case study examples.

Uncertainty is probably the theme that has been most commonly raised across all the different modelling and appraisal events; occurring in a number of guises. For example, how will travel demands change in the future (e.g. will the recent declines in trip rates continue?); will the trend from ownership to sharing fundamentally affect future levels of car ownership – and in which locations? How disruptive will autonomous cars and drones be to current passenger and freight movements? Will conventional urban public transport systems be undermined? Will other new technologies lead to significant changes in travel behaviour – or modify the need and desire for travel? Clearly there are no simple ‘answers’ to such questions, but moves by DfT towards sensitivity testing and scenario-based forecasting should provide a much more appropriate framework for exploring such issues. Whilst professionals are grappling with these complex situations, the real problem may lie in politicians’ (and mainstream media’s) desire for a single number forecast, or a right/wrong answer. There is a potentially significant educational challenge here!

Against the background of such issues, these, at times intense, discussions were held in a very supportive and constructive environment, fostered by the openness with which DfT has approached this whole exercise. As a consequence it has led to some very productive results, in terms of suggestions, a fair degree of consensus, and a willingness to continue work on approaches that meet emerging new circumstances. This will, I believe, help to foster a closer, on-going communication between DfT and those at the sharp end of the transport profession - which should help us all better meet the challenges that lie ahead.

Widening the context

As the Department for Transport (DfT) notes, the appraisal environment has changed considerably since the last major review of key evidence base five years ago, and the future of travel is perhaps more uncertain than ever. Ensuring that it keeps pace with these changes, and that its guidance on conducting transport appraisals, WebTAG, remains best practice, the DfT launched a consultation on priorities for a new Appraisal and Modelling Strategy in June 2018.

A Fresh Look at Transport Appraisal, an event organised by Landor LINKS and held in London on 19 September 2018, aimed to place in context this consultation into transport appraisal methodology – and particularly the WebTAG processes – and also to extend its range by exploring views on how the appraisal process could be both broadened and simplified. It sought to encourage debate around how best to improve modelling and appraisal processes and techniques, and to support discussion and insight-sharing initiatives, as reported in this document.

Thoughts from speakers at ***A Fresh Look at Transport Appraisal*** are summarised in this document with wider comments and discussion related to the key themes outlined in the consultation. The report ends with the DfT's commitment to taking this forward.

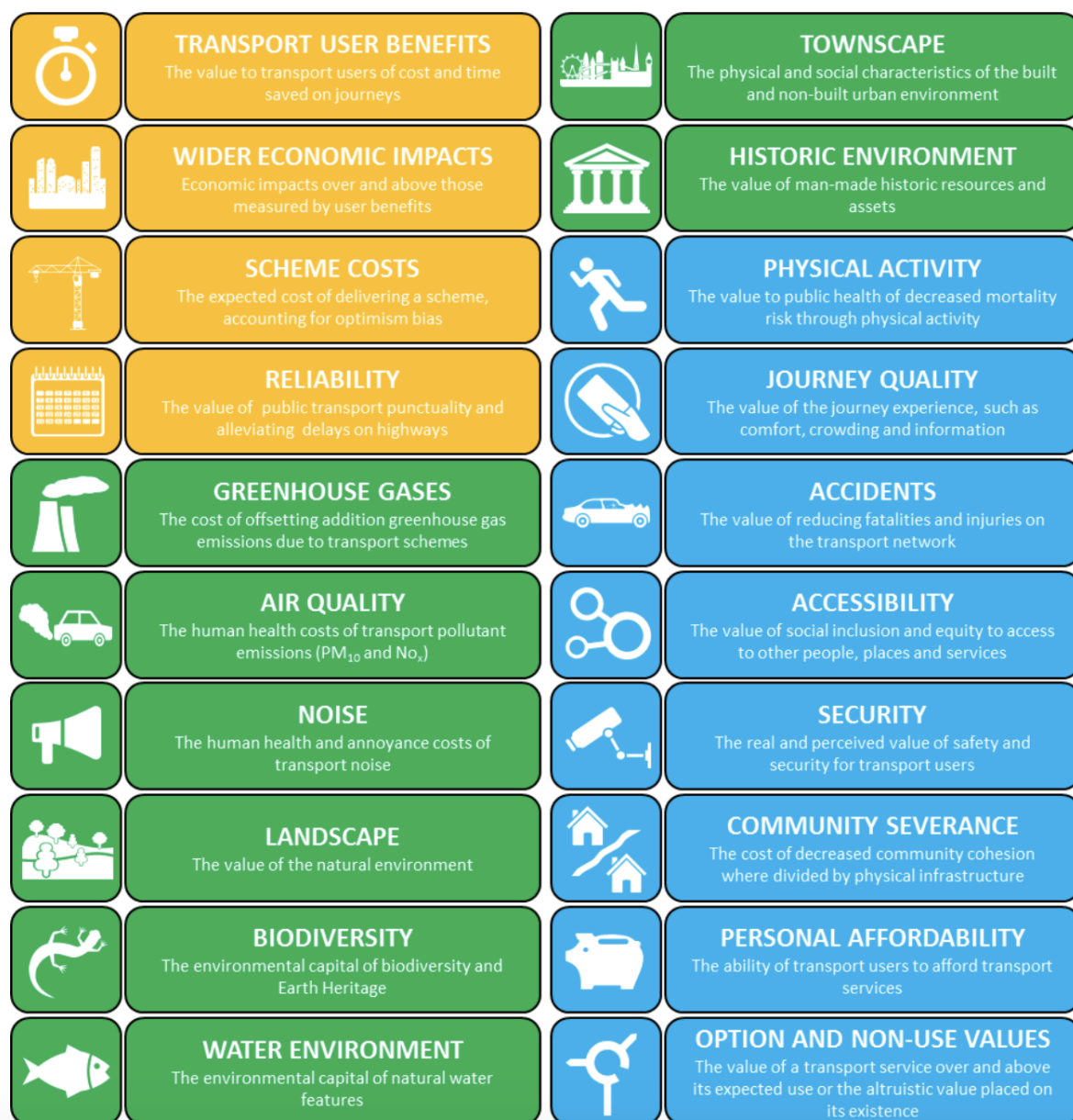
The DfT's appraisal framework aims to provide as full a view as possible about the wide range of impacts transport has on the economy, environment and society. Its guidance on how to conduct transport appraisals, WebTAG, draws on best practice in government, academia, and industry, with the aim of ensuring that it reflects the latest evidence and appraisal methodologies.

This latest consultation sought views on the main themes and priorities for developing the evidence base underpinning our appraisal guidance over the next five years. The DfT has also sought views on how we can make the guidance more user-friendly.

Amanda Rowlatt, DfT Chief Analyst, stated in June 2018 in her introduction to the consultation, that:

“It is vital that we have a robust understanding of the wide-ranging impacts that transport investment has so that the best investment decisions can be made. Our appraisal framework aims to provide as full a view as possible about the wide range of impacts transport has on the economy, environment and society. The appraisal environment has changed considerably since the last major review of our evidence base five years ago, and we are facing significant uncertainty over the future of travel. In order to keep pace with the changes and ensure our guidance remains relevant and robust in an ever changing world, I am delighted to present this consultation on priorities for our Appraisal and Modelling Strategy. The aim of the strategy will be to equip us with robust, flexible and easy to use appraisal and modelling tools relevant to the policy and investment decisions which will be made over the next five years. Consulting on the strategy will allow us to better understand your evidence needs and draw out areas of best practice across the industry”.

WebTAG provides guidance to those producing and delivering analysis of the impacts of transport interventions. Primarily, it guides the user in summarising these impacts into an Appraisal Summary Table (AST), which describes the impacts across a holistic range of economic (yellow in the diagram below), environmental (green) and social indicators (blue). Source: Appraisal and Modelling Strategy, Informing Future Investment Decisions, Moving Britain Ahead (DfT June 2018)



Noted the Chair of *A Fresh Look at Transport Appraisal*, Professor Peter Jones, University College London: “Place quality, the environment and public wellbeing are assuming greater priority for many decision-makers, and appraisal frameworks must provide a better fit between local circumstances and broader economic and social agendas. The debate around an appraisal focus on Value of Time (VoT) inputs is moving towards giving greater emphasis to land value uplift, while discussion around sources of investment finance are exploring whether this should be coming from users, the private sector or the Treasury.”

Professor Jones summarised his view of the consultation: to give more account to place, the environment, people and societal needs. The 90 attending delegates certainly seemed to echo this notion, with a clear consensus emerging over the day: a widening range of stakeholders, in and beyond the transport professional community, need an appraisal environment that makes it easier to do things differently, for example making better use of more explicit guidance and evaluation evidence.

The DfT commitment to improving the process

In setting the scene for the discussion, Robin Cambery, Chief Transport Modeller and Head of Modelling and Appraisal Methods at the DfT, said transport appraisal must not only be able to take account of both short and long term wider economic impacts such as land value uplift, but also what the DfT refers to as “second and third order impacts” such as quality of place, the environment, liveability and wellbeing. “Transport is,” said Cambery: “a system or means of conveying people or goods from place to place. It is fundamentally important to measure first-order impacts to understand the efficiency of investment in facilitating this, which forms the basis for appraisal of second-order impacts, but first-order impacts are not the exclusive consideration”.

“What outcomes do we want to achieve, and how should we be measuring them?”, he asked. Cambery acknowledged that “the industry collectively needs to be more engaged and involved in prioritising people-centered decision-making, rather than persisting with the incorrect perception that only transport user benefits are accounted, continuing to build the evidence base to strengthen social and distributional indicators in appraisal”.

The DfT view of this process underpinning appraisal guidance, whilst making it more user-friendly, is focused largely on promoting better understanding of the strategic case and how to connect it with the economic case, as well as encouraging decision makers to own uncertainty. The strategy outlined in the DfT consultation aimed to address a number of emerging opportunities and challenges, and how to prioritise the development of tools to take account of these.

Developing the appraisal framework: improvements to date

The appraisal framework aims to support the Treasury's 'Five business case' model, which the DfT uses for appraisals, with WebTAG representing international best practice for conducting transport appraisals. Significant enhancements delivered in the last five years include work in key areas:

- Wider Economic Impacts
- Values of Travel Time Savings
- National Trip End Model
- Value for Money Guidance

There has also been active engagement with stakeholders. DfT developed the following five themes for consultation, based on its assessment of the changes in the appraisal environment and discussions with stakeholders, including the Joint Analysis Development Panel.

- People & Place: capturing the impacts relevant to transport policy
- Reflecting uncertainty over the future of travel
- Modelling and Appraising transformational investments and housing
- Supporting the application of WebTAG and making it more user friendly
- Developing and maintaining modelling tools that meet user needs

The Green Book refresh provides a stable base for further development of WebTAG, and DfT continues to invest in its evidence and methods and to respond to the needs of users and stakeholders. The DfT also noted that modelling activity is in a period of ambition: it has a team of 22 modellers working across modes from train travel to aviation infrastructure, and is working on a joint air quality model with Defra as well as updating appraisal and modelling strategy and guidance. One key area of this focus will be impacts on, and for, future mobility. The DfT acknowledges that the transport sector faces an unprecedented scale of change, due to new technology such as Autonomous Vehicles and emerging travel trends and modes based around sharing, all of which it is exploring through its Future of Mobility Strategy and wider Industrial Strategy.

National perspectives: how do key players view the current appraisal processes, and the need for change?

Sarah Rae, Head of Modelling and Analysis Team, National Infrastructure Commission (NIC)

While appraisal helps the NIC to prioritise between sectors (investment in flood management or faster broadband, for example), there is a need to think differently about appraisal, given that there is real scepticism about the ability to translate a wide range of long-term benefits from major transport projects into a simplified framework. There is a need to focus on ensuring that, within each sector, appraisal tools and process are robust, whilst acknowledging that with new techniques, making a case for funding no longer needs to be so time- and resource-hungry.

The NIC is aware of a need for more post-evaluation evidence, suggesting that the evidence from major schemes is not sufficiently robust, especially when many schemes are appraised using a range of different approaches. During its own consultation processes, NIC has noted scepticism the many long term benefits of something a major, complex scheme can be ‘translated’ into a simplified framework. There is no belief in ‘boiling down complex analysis into a single number’, noted Rae, and work needs to be done to ‘shift the cynicism’ of simply playing a numbers game,’ she added. Timeframes also need to be tightened, with the NIC stressing that Government has a responsibility respond to NIC recommendations within six months.

It was also noted that a more integrated approach would be welcome, for example NIC is aiming to think of EVs and grid interaction as a single system, rather than two different sectors. Devolving more funding to cities and regionals will make a positive difference as they are best placed to make their own decisions, including re-prioritising major spending from interurban to urban schemes: the point of the NIC is to attempt to make a robust comparison between schemes when each sector and regional may well be using different approaches and ideas to appraise.

James Angus, Principal Policy Lead, System Operator, Network Rail

What is required is a ‘big vision’ approach that considers, at the outset, what kind of future we wish to bring about, rather than predicting the future and asking what difference will this make at the margin.

The appraisal framework, as it stands, is useful for many tasks, including being a good cost-effectiveness tool – and many decisions are in fact about cost-effectiveness rather than cost-benefit. It is also good at supporting value management in developing projects, if not at giving an absolute value. However, it is no longer suitable for guiding the many transport investment decisions that now need to be made, including welfare benefits. Key points included:

- Economic development / re-balancing the economy: does re-balancing the economy have an actual value?
- Devolution: transport authorities now hold budgets for all but the biggest schemes, but regions have different aims and visions
- Step changes in technology: digital railway, de-carbonisation, connected / autonomous vehicles: much of the planning for future mobility is still in the ‘realm of magic’

Evidence-based decision making in this context:

- Start (and end) with objectives
- If we can't model key outcomes well, then:
 - do the best we can
 - do the research to improve
 - don't model something else instead because we can model it better
- Be wary of over-complicating modelling to support strategy development
- Work more closely with those developing proposals and with decision-makers

Stephen Elderkin, Chief Analyst, Highways England (HE)

There is a need to focus on the importance of assessing interconnected schemes with overlapping impacts. Simpler is better, and there is a key role for early stage assessment based on Multi-Criteria Analysis. It is more important to ensure that all relevant impacts are captured on a consistent basis, quickly, than to achieve highly precise estimates.

New HE guidance explains how to assess and report programme-level impacts in a proportionate way, and to rank options and not focus on one absolute value. HE views appraisal on three levels:

Strategic level: prioritisation

- This is about making the macro case for investment and ensuring that the right things make it into the investment pipeline, for example the Road Investment Strategy 2 (RIS2) filtered down 1,300+ ideas to less than 60 in around 12 months
- The RIS2 approach is different: it understands that big schemes don't necessarily deliver benefits unless complementary smaller schemes are also completed
- Regional Traffic Models can speed up analysis, yet the RIS2 analytical platform takes 12 weeks to run
- Key role for early stage assessment based on Multi-Criteria Analysis
- It is more important to ensure that all relevant impacts are captured on a consistent basis, quickly, than to achieve highly precise estimates
- There is an important role for economic narrative, which attempts to link project outcomes to policy objectives in a rigorous but accessible way – the common sense test
- The goal is to be approximately right rather than precisely wrong

Programme level: coherence and strategic intent

- Encourage a coherent programme of investment
- Build towards strategic corridors/connectivity
- Is the WebTAG focus on projects appraised in isolation? Projects interact – the whole may be greater (or smaller!) than the sum of the parts
- Guidance should explain how to assess and report programme-level impacts in a proportionate way
- Regional Traffic Models make programmatic appraisal feasible within a reasonable time-frame. Examples: A303 corridor (RIS1 & RIS2) and A12/A120 Corridor, Smart Motorways Programme (on-going), Junction investment schemes (there is no point investing in one location only to push the problem down the road)

Scheme level: choose the right option and realise the greatest benefits from investments

- The goal is to deliver best option with available resource, but the temptation may be to make the appraisal increasingly complex, in order to reduce uncertainty and strengthen the economic case
- In general, simpler is better, unless simplification ends up biasing scheme prioritisation and/or option choice, or the funding decision

John Elliot, Communications Officer and Vice Chair, The Local Government Technical Advisors Group

Elliot noted that the funds available for local authority transport projects, coming from the funds including the Transforming Cities Fund, National Productivity Investment Fund, Housing Infrastructure Funding, Local Growth Fund, Sustainable Travel Access Fund, Local Major Funds, Safer Roads Fund, Potholes Action Fund, Local Highways Maintenance Funding, Local Growth Fund and the Sustainable Travel Access Fund, amount to a fraction of Highways England's funds despite local authorities being responsible for a network that is 40 times the length of that managed by Highways England. He noted that modelling, while it can only be a guide, is a necessary process, however much base data used in models has many inaccuracies. Human behaviour response to changes is very complex and can vary by person, age group, by time of day, who is paying for the trip, and by culture. He also noted that 'natural' traffic growth is not inevitable, but induced traffic growth is. London's population has increased markedly, he suggested, but since the mid-1990s, the integrated approach of stopping major new road construction, effective parking enforcement, extension of controlled parking zones, bus lane implementation, travel planning type initiatives at workplaces and other land uses, improvements to public transport services, the Central London Congestion Charge, the removal of excess road capacity, along with an awareness of the effects of CO₂ and a cultural change away from car ownership have been able to reverse growth.

Not all transport investment helps the economy, and schemes that do not help meet local and national objectives (reducing peak hour car commuting and congestion, CO₂, NO_x and particulate matter), should be discounted. Key points included:

- Value of Time (VoT) savings offer little benefit to society in general, but only to those individuals driving cars
- 'Natural' traffic growth is not inevitable, but induced traffic is, as figures show, and London has succeeded in reversing growth
- Major schemes don't deliver benefits unless complementary small schemes are also delivered
- We need to properly maintain existing assets before spending to increase the maintenance burden
- We need to minimise overhead costs for any intervention
- Any modelling or appraisal should be explainable and understandable to decision-makers: WebTAG is complex and opaque
- Funding and decision making needs to be delegated to the people who know and understand the problems in their area
- Base data used in modelling has many inaccuracies. Human behaviour response to changes is very complex and can vary by person, age group, by time of day, who is paying for the trip, peer example and culture. How can we move from where we are now to a whole new approach to local analysis, scheme choice and decision-making?
- Except in the largest authorities, there is currently a need to appoint expensive consultants to deliver models
- The highest benefit/cost interventions (bus lanes, parking enforcement) are not favoured over road schemes
- For road schemes 'economic benefits' are of little real benefit to society (peak times and 30- 60 years in future)
- The current framework delivers little confidence in understanding what works best locally

Challenges and priorities: potential new steps

A professional practice view

Keith Mitchell, Director, Community Development & Infrastructure, Peter Brett Associates

It seems that there is the beginning of some real recognition that changes are afoot – and that these changes will inexorably require there to be serious methodological changes to the appraisal process – just perhaps not all at once. The calls for change are now coming from the establishment and private sector promoters, as well as practitioners and academia. Not everyone holds the same views, but the general thrust of comment and observation is all in the same direction. There is now wide recognition that there have been major changes in travel patterns, and that these are set to continue as technology, policy and behavioural responses lead to substantially different, and unexpected outcomes. We are working in a world of far greater uncertainty, and we need to work out how to make transport investment decisions in this context.

A key part of this problem is that we need to be discussing both the planning process and the appraisal process together. Without this, we are not going to be able to make the breakthrough we need. With recent changes to the The National Planning Policy Framework and transport appraisal consultation being seen as completely separate challenges, this is simply not going to happen.

Development planning done wrong (and the view seems to be that it often is), risks saddling new communities with inflexible, car-based lifestyles, with poor social, health and wellbeing and environmental outcomes. There is a need for more cross-sector working, for example, The Ministry of Housing, Communities and Local Government should be part of the transport appraisal discussion. Until this becomes a combined endeavour, we will not solve the appraisal conundrum – how do we get both the land uses in the right places in relation to the transport systems, and the right transport systems supporting new communities?

There was a great deal of conversation at this gathering about the over-emphasis on measurable outcomes in decision-making, and in particular the Benefit Cost Ratio (BCR). Whilst this is not the intention of WebTAG, it is common experience. More mature decision makers must become better able to focus on the Strategic Case – the rationale for a project – and understand that the economic case is there to support the strategic case for the scheme. There needs to be a determined programme of training for decision makers so that this is more widely understood. Key points included:

- The most effective appraisals, with the clearest Strategic Case, are based on clear and robust objectives – determined through the fire of the democratic process. London's London Plan and the Welsh Future Generations Act were two examples quoted as providing this democratic direction. Without these clear objectives, it is difficult to prepare a convincing strategic case, or judge when it has been successful. Those organisations now responsible for decision making need to have a clear view of the vision and objectives they should be working towards
- Objective setting however, needs to be a contextual, cross-sectoral activity. We heard about cross-sector activity across transport and energy. We are told that there is cross-sector debate across planning and transport in central government, but this needs to feed into plan-making at the local level, so that the local objectives set for infrastructure projects are properly informed;
- Uncertainty was another key theme, with option and scenario testing offered as a way of resolving this issue. There will need to be collaborative learning and sharing of good practice so that it can be done at the local level, without it becoming over complicated and costly;
- There is still a large proportion of decision-making taking place within a sceptical frame, doubting the ability

of sustainable mobility to support changes in demand arising from economic growth or housing. There is a urgent need for us to learn from experience, and to compile the evidence of what works and what doesn't, so that decision makers are better informed about matching transport investment to today and tomorrow's challenges

- There is a need to demystify WebTAG. WelTAG, the Welsh version of webTAG, provides a timely reminder that this is not just a process for professionals. Local communities, politicians and decision makers need to be involved, and it needs to be made more accessible. The independent panel review adopted in WelTAG seems like a good way of testing this accessibility, as well as ensuring longitudinal learning from experience
- There is an equal and related urgency to address the assessment and appraisal of development. Development in the wrong place, or of the wrong form, will simply not support sustainable mobility solutions, and in turn will lead to anti-sustainable, poor health and other societal outcomes

An economist's perspective

Paul Buchanan, Director, Volterra

Land owners can be the biggest beneficiaries of new transport infrastructure, but they rarely contribute towards the cost of delivering it. The 'power of leverage' should be taken into account when seeking future investment. Key points included:

- Decision-makers should 'keep their options open; as there is more at stake than maximising time savings.
- Pursuing a positive BCR, as consultants can frequently be encouraged to do, should not be about re-working inputs, it should be about clarifying and outlining the assumptions that would need to be delivered on the ground to make the given BCR figure realistically viable.
- There is value in setting up options: stakeholders will pay to secure a choice that they want.
- It can be tricky dealing with private sector: investors have sued if the promised infrastructure is not delivered, punctual and functional.
- Think early about transport investment: a focus only on the Value of Time creates a fixed way of planning, while exploring land value taxation offers different options.

A professional advisory perspective

Keith Buchan, Director of Skills, Transport Planning Society

Key transport objectives aim to improve accessibility, reduce carbon and pollution and severance, and to support place-making and health as well as economic activity. But what we actually do is to measure travel time rather than access between places. Key points included:

- There is a failure to integrate transport planning with land use planning, and severance is not properly accounted for
- There is a poor understanding of carbon budgets and schemes that fail to meet anti-pollution targets. We do not properly include the negative impacts of motorised personal travel in our appraisals, although health improvements from active modes are beginning to be better understood

Appraisal of impacts			Development of evidence for business case				
Study outputs			Strategic case	Economic case	Financial case	Delivery case	Commercial case
Guidance available in WebTAG	Stage 1: Option development	Outputs from Early Assessment and Sifting Tool (EAST)	✓	✓	✓	✓	✓
		Options Assessment Report	✓	✓	✓	✓	✓
		Appraisal Specification Report					
	Stage 2: Further Appraisal	Appraisal Summary Table	✓	✓	✓		✓
		Transport Economic Efficiency table		✓	✓		✓
		Public Accounts		✓	✓		
		Analysis of Monetised Costs and Benefits		✓			
		Greenhouse gas worksheet	✓	✓			
		Noise worksheet	✓	✓			
		Air quality worksheet	✓	✓			
		Social Distributional Impact worksheet	✓	✓			
Other guidance & tools	Social Research evidence, guidance and tools		✓				
	Carbon Tool for Local Authorities		✓	✓			
	Value for Money guidance			✓			
	Advice on Public Private Partnership (PPP) and Private Finance Initiative (PFI)						✓
	DfT's Evaluation guidance including evaluation plans and benefits realisation					✓	
	Office of Government Commerce's Gateway Review guidance					✓	
	Network Rail's management & control process for enhancements (GRIP)		✓	✓	✓	✓	✓
	Highway Agency's project control framework (PCF)		✓	✓	✓	✓	✓

Current practice: tools and guidance produce evidence that can be used to answer questions posed by each case within the Five Case Model. Source: Transport Appraisal Guidance, DfT, January 2014

- Travel time is a current focus, rather than access between places, and there is no account of substitution (especially relationship with mobile and fixed connectivity without travel)
- There is marginal change in carbon and pollution between schemes which fail to meet targets
- Transport appraisal is not undertaken together with land use planning, and severance is not properly accounted for
- Health improvements from active modes are included, but not the negative impacts from motorised personal travel
- The Strategic Case should define showstoppers/red lines – guidance could set this out in terms of national objectives
- The 'do minimum' which fails to achieve carbon or health targets is not the best counterfactual. The cost of carbon or ill health from failing to meet targets should be in the 'do something' box
- Comparison of the merits of schemes objectively needs to be done across a range of criteria
- Isn't it time we dropped 60 year BCRs altogether?

An academic perspective

Tom Worsley, Visiting Fellow, ITS Leeds University

Worsley presented a series of key points relating to appraisal. There is an absolute need to retain the fundamentals of an appraisal framework, he stated, as ministers need to trust in an agreed way of presenting information on a level playing field. Noting this, the issue is whether the DfT is looking for tweaks or for fundamental change. The economy is highly complex, and not just about agglomeration.

Fundamentals of an appraisal framework

- A coherent theoretical framework
- Predictive modelling populated by data and validated against evidence
- A set of social values or weights
- Agreed methods of presenting information to decision-makers
- Acceptance of this information as relevant to the decision

Worsley noted that there is a need to strengthen links between appraisal and evaluation, and also that the Treasury needs to understand that travel and societal trends are changing ever faster. He suggested that the nature of decision-making itself is complex and variable, with decision-makers typically finding it easy to like numbers rather than scenarios. However, there is a real need to ensure that infrastructure investment makes sense in terms of an overall strategy, and that it builds in resilience in a common sense way. With this in mind, Worsley suggested that the strategic case is complex, and not well understood. Measuring multiple objectives is simply terribly complex, he stated. Transport is a necessary, but not sufficient, predictor of growth, and needs to be embedded in a sound governance and planning framework, set within a viable and clear vision. Worsley suggested that the Treasury should not leave it to transport planners to deliver economic growth. Key points included:

Where will people live and work?

- A range of forecasts for housing growth – all suggest the need for increased transport capacity: how might such increases be made sustainable?
- Densification or decentralisation?
- Devolution, coordination or centralisation of planning?
- Implications of alternative scenarios for transport and other infrastructure – are WebTAG appraisal methods adequate?
- Is there a political willingness to explore regional planning policy options?

Wider impacts and the effect on GDP

- Significance of TAG units A2.1- A2.4 for strengthening the Economic and Strategic Cases
- Yet estimating impacts, especially at Level 3, is very challenging
- At what spatial level should the impacts on GDP be estimated- local, sub-regional, regional or UK plc? From where is activity displaced?
- What information is useful for decision makers – is the PV of GDP discounted over 60 years a meaningful concept

Uncertainty in transport futures needs to be appraised against a range of scenarios, but Worsley noted that designing more options is costly, and that engineers typically prefer more detailed designs rather than a greater number of options.

The treatment of uncertainty in appraisal

- The current approach is to test each project's 'robustness' to a range of input assumptions: could this be extended to consider a portfolio of projects?
- Should different packages be tested for their sensitivity to a range of scenarios – scenarios that include economic growth, geographical distribution and the transport budget?

The role of evaluation

- DfT's evaluation strategy needs development
- Limitations of POPE: more work to be done
- Strengthening the Links study – learning how to improve appraisal and/or validate the model's estimates
- Three key evaluation challenges:
 - Are generalised costs a reality?
 - Do transport users respond as in TAG M1.1?
 - Does transport have the effect on agglomeration given in A2.4?

Embracing wider dimensions: public and private sector views

Ryan Taylor, Business Case Manager, Transport for London

Safety, health and time have differing values to different groups. Wider Economic Impacts methodology is 'too technical', and too focused on the wealth of the nation, and not on passengers or on society. Public value solutions are needed, to which a high BCR is not the only answer, for example safety, health, time and leisure.

- We need to pay more attention to the Strategic Case, and to how it supports visionary indicators as set out by political leaders, such as the London Mayor's Transport Strategy and the Healthy Streets framework. The maturity and confidence within the region, and the maturity of many of its key decision makers, enables this process
- Better data and better quantification is needed on the reprieved value of some aspects of travel, for example active travel and step-free access, for which we don't yet have tools
- Positive place effects are too difficult to express positively in the current framework. There is scepticism of Wider Economic Impacts frameworks as too technical, and focused on wealth for the nation and not for the passenger or for society

Roger Madelin, Head of Canada Water Development, British Land

Every recent successful transport-focused development scheme was started speculatively, and developers need to take big risks. If there is a wish to capture the benefits of transport, don't tax up front. Key points included:

- Rent and rates do not always follow the predicted value created by transport, and timing is critical
- Developers need a (low) sustainable entry price. Many large scale developments fail, so developers should not rely on valuations to borrow – King's Cross land value dropped from £600m to £54m
- Developers need input in infrastructure spending by others: For example, £300m of public money was spent in Birmingham, and £3bn in King's Cross
- Each development phase may be the last phase (for a while), so each must create a 'place' in itself and the first phase should be major, and set a high standard

Toby Cuthbertson, Director, SYSTRA

In the recent past we have had to adapt to many significant changes that have affected the behaviour of models and the accuracy of forecasts, but these have tended to be refinements that left the fundamentals unchanged. Behaviour, in other words, has remained relatively consistent, and that consistency has enabled us to build models that can be adjusted with at least some confidence to reflect relatively gradual and predictable change. But new technology is disrupting long established patterns. Autonomous vehicles are becoming a realistic prospect that will potentially change private car use out of all recognition and, in turn, trigger changes in behaviour and demand. Accurate appraisal outcomes will certainly become ever more challenging.

The days of 'less congestion, more traffic, faster' are now behind us and the industry has responded well to new regeneration and sustainability agendas which prioritise place-making and environmental protection. But the pressure to develop schemes that actively promote economic and social growth, for a new generation that make very different decisions from the past, is only going to get more intense. Evaluation, meanwhile, grows ever more stringent in the age of austerity.

To meet these challenges, we will have to:

- Step forward and embrace uncertainty. Instead of providing a detailed, highly analysed 'correct' solution, we can instead work to a scenario planning model along with policy makers from the onset.
- Evolve the culture of forecasting for appraisal. Taking the scenario-based approach, which acknowledges different plausible outcomes, is one way to enable decision-makers to consider the drivers of change.

The technologies that are disrupting transport behaviour and appraisal are also tools that can be adapted to shape it; as part of a broad policy agenda aimed at creating liveable, economically thriving places. The danger is that, faced with daunting complexity of analysis, we retreat back to our comfort zone, to simpler models and ideas that have served us well in the past.

Martin Tugwell, Programme Director, England's Economic Heartland

England's Economic Heartland is focused on growth and transformational projects as opportunities, not constraints, but suggests that we need we need strategic decision-making frameworks rather than detailed appraisal toolkits: or 'one version of the truth' EEH encourages the use of scenario planning to create a framework and a direction of travel, acknowledging that when it comes to appraisal, capturing Wider Economic Impacts of major schemes in WebTAG is a challenge. Key points included:

- Robust appraisal is crucially important in large scale infrastructure investment, with an urgent need to better align transport and non-transport objectives and impacts
- Transformational schemes are pushing the boundaries of conventional appraisal approaches, for example HS2
- There is increased focus on understanding the contribution of cross-sector packages of investment
- New institutions and governance has created new stakeholders with different perspectives, such as the National Infrastructure Commission
- There is greater capacity and capability within supply chains to implement new methods and innovate

Helen Bowkett, Senior Technical Director, Arcadis

As former Head of Transport Evidence, Welsh Government, Bowkett explained how the slimmed down WelTAG 2017, based on WebTAG, aimed to move beyond economic impacts. WebTAG, she felt, was too complex and created a barrier to involving people and to being a ‘person-centered approach that provided common ground for stakeholders’. In line with the Welsh Wellbeing of Future Generations Act 2015, which considers all aspects of social equity and liveability, WelTAG is short and simple (it is able to reference WebTAG for the complex technical guidance) and places the transport case in the context of evidence for a range of options, including – but not focused on – economics and the BCR. One issue that does need to be addressed, noted Bowkett, is the major skills gap in thinking more broadly about transport impacts. Transport solutions can deliver a wide range of benefits if they are planned and delivered in a way which reflects considerations wider than just transportation infrastructure or systems. Bowkett quoted Sophie Howe, Future Generations Commissioner for Wales, writing in the Foreword to WelTAG 2017: “Transport solutions can deliver a wide range of benefits if they are planned and delivered in a way which reflects considerations wider than just transportation infrastructure or systems. This guidance encourages you to consider proposals in light of the benefits they may bring to all social, economic, environmental and cultural elements of well-being of Wales.”

Well-being of Future Generations (Wales) Act 2015

The Essentials



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Advisory Panel



Annual Report



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Carry out Reviews



Collaboration



Future Generations
Commissioner for
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Future
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Report



Future Trends
Report



Integration



Involvement



Long Term



Make
Recommendations



National
indicators &
Milestones



Prevention



Public
Services
Boards



Research



Responding to
the Future
Generations
Commissioner



Sustainable
Development



Sustainable
Development
Principle



Transparency



Well-being Duty



Well-being Goals



Well-being
Statement

WelTAG is based on five principles:

- an evidence-based process
- a collaborative process
- a proportionate process
- a decision-making process
- a learning process

There are five cases:

- Strategic case
- Transport case
- Delivery case
- Commercial case
- Financial case

There are five stages:

- Stage 1: strategic outline case (consider many options)
- Stage 2: outline case (consider several options)
- Stage 3: full business case (consider one option)
- Stage 4: implementation (monitoring)
- Stage 5: post implementation (learning)

What Wales is trying to achieve, noted Bowkett, is greater involvement of other disciplines / groups / stakeholders, especially in the Transport Case – which sets out the social, environmental, economics and cultural impacts of potential projects, who is affected, and how. An Independent Review Group, at the end of each of the five stages, can approve methods that can be used to gain additional evidence. In all, the process is aligned towards becoming a more ‘person-centered’ approach, having regard to the Wellbeing of Future Generations Act.

Derek Halden, Director, DHC Loop Connections

Halden referenced positive placemaking as a key element that needs to be reflected in the appraisal process, and noted the fact that economic benefits reflect more than the sum of their parts. ‘Transport factors are necessary but not sufficient,’ noted Halden, and ‘going slower often adds economic value’. The level of opportunities accessible by walking, increasing land values, number of jobs and their equitable distribution as well as access to opportunity (work, shopping, leisure, health, education) can be as important as the Value of Time. Making better business cases involves managing uncertainty and risk, and tactical issues include:

- Recognising polycentric power networks
- Scope for consensus-seeking
- Respecting context – remedial action and serial policy making
- Appraisal as part of social change, using meaningful indicators of impact
- Analysis design to be relevant, but rigorous

Beyond the framework: a focus on the strategic case

Discussion of the need to clarify and accentuate the Strategic Case formed a key element of this event. Throughout discussions, the series, it was acknowledged that the strategic case is complex, and not yet well understood. It was frequently stated that measuring multiple objectives is very complex, with one participant asking, is a job in Bradford better than a job in Manchester?

There was also acknowledgement that the nature of decision-making may prove a barrier to Strategic Case development in some regions, with stakeholders lacking clarity on what they are being asked to consider. A consensus view suggested that the Strategic Case should identify and filter out schemes which do not meet wider policy objectives, such as reducing carbon, improving air quality or promoting active travel, which is not yet the norm. These factors are also downplayed in the current Business Case analysis, noted participants. For example, while health benefits are a key component of the Business Case for walking and cycling, encouraging the use of motorised travel is not seen as a disbenefit.

Five proposed changes that the DfT plan to make to appraisal procedures in response to the consultation would further strengthen the Strategic Case:

- Guidance for appraising urban realm projects would be improved.
- More emphasis will be given to appraising schemes against different scenario tests, reflecting the DfT's move to scenario forecasts for road traffic. A number of plausible scenarios are used to reflect the uncertainty in the factors affecting road traffic demand. These scenarios have been updated since the Road Traffic Forecasts 2015 publication. National traffic and congestion is forecast to increase in all scenarios, but the size of that growth varies depending on the assumptions made about factors influencing future road demand
- New guidance will be prepared on the appraisal of 'transformational schemes', such as transport projects that open up land for housing development
- Guidance on proportionate appraisal will also be improved
- The Appraisal Specification Report (ASR), a tool to support proportionality, should specify how analytical methods are tailored to the issues and potential outcomes

WebTAG's purpose

It was noted that the purpose of WebTAG is often unclear or poorly understood, and needs to be promoted as an integral part of the planning process. This lack of clarity may play some role in discussions about the flexibility, proportionality and interpretation of WebTAG, though the term proportionality certainly requires definition.

A clear consensus on future development

- Interpretation and compliance: is WebTAG too often interpreted as a set of rules?
- Securing funding is too often seen as an over-riding objective without appreciating the wide role of modelling and appraisal in identifying gaps, sifting options and improving schemes
- Experienced practitioners rarely have detailed knowledge of more than one or two units, and need time and support to learn more or keep knowledge up to date
- Improvements to the accessibility, structure and presentation of WebTAG would help all types of users
- Despite some requests to make WebTAG simpler, practitioners felt that ‘dumbing down’ is not the right way forward; some things are inherently complex

It was noted that research and development is needed in many areas, for example new modes, changing travel trends and information technology, although initially the challenge is to give guidance on how these new areas fit within WebTAG, rather than to give definitive instruction.

The DfT commitment to taking the process forward

Mark Ledbury, Deputy Director, Transport Appraisal & Strategic Modelling at the DfT, closed the presentations, echoing his colleague Robin Cambery’s appeal to maintain the close level of engagement between DfT and stakeholders which has been built up during the consultation. Given the technical challenges it was important that the Department sought views and ideas from right across the industry. Modelling and appraisal really matters, he noted, and agreed that some of the most significant challenges around WebTAG arose as a result of misunderstandings about how it should be used. He spoke of fostering a more cross-sector appraisal approach between colleagues in housing, health and the environment. Other key challenges noted were finding ways to make modelling and appraisal simpler and less costly whilst remaining robust, and how best to reflect local and regional impacts within the appraisal framework.

Ledbury thanked the contributors for their views, and noted that they would be considered carefully as the Department prepared its response to the consultation.

In summing up, the event chair noted that speakers on the day aligned across three views: that we should be wary of over-complicating modelling and imagining there could be even more ‘perfect numbers’ to support the investment case; that we need to work more closely with decision-makers – including politicians – and those developing proposals; and that appraisal should be treated as a continuous assessment rather than a one-off set of final exams, reducing everything to a magic number that many find increasingly difficult to take seriously.

The DfT Consultation on Transport Appraisal and Modelling Strategy to inform future investment decisions closed on October 15, and the DfT have considered the points raised in this seminar alongside the consultation responses. The DfT will be publishing their response to the consultation during April, which will outline the priority areas for the development of transport appraisal and modelling methods over the five-year strategy period.

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