Incorporating Principles of Sustainable Development within the Design and Delivery of Major Projects: An international study with particular reference to Mega Urban Transport Projects for the Institution of Civil Engineers and the Actuarial Profession

Working Paper 4

## The Perspective of the Transport Planner

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## 1. Introduction

## About the Author/Reviewer

Peter is an Associate Director with Capita Symonds, a member of the Royal Town Planning Institute and a Fellow of the Institute of Highways and Transportation. He has previously worked in Hong Kong for twelve years on the New Towns Development Programme and has most recently been involved in the UK with the successful London 2012 Olympics Bid and subsequent delivery work, following the award of the 2012 Games to London in July 2005. In addition to regular participation in major town and country planning research projects and proposals and experience in environmental impact assessment, he has had considerable involvement with integrated land use/transport planning work, including strategic planning policy research and development into Transport Development Areas within the UK and overseas for the RICS/DETR, which examined the definition, role and practical application within the UK planning system at the national, regional and local levels of the concept of Transport Development Areas (TDAs). Peter was project director and principal report author, the full TDA Guide to Good Practice for Stakeholders being launched in June 2002.

## The Study Brief

In line with the Brief outlined in the invitation to tender letter received from the Institute of Civil Engineers (ICE) dated 20<sup>th</sup> June 2008, this study by the OMEGA Centre at University College London (UCL) is intended to examine how to incorporate principles of sustainable development within the design and delivery of major projects.

The proposal focuses on Mega Urban Transport Projects (MUTPs) as key examples of large, complex civil engineering projects (and/or bundles of such projects) that are attracting significant attention and concern both nationally and internationally.

For the purposes of this study, MUTPs are defined as large-scale (typically complex) land-based transport infrastructure link projects (and any services they may incorporate), including: bridges, tunnels, highways, rail links and their related transport terminals plus combinations of such projects, with construction costs *in excess* of US\$ 0.5 billion at 1999 prices<sup>1</sup>. They *exclude* major airports and seaports since these are deemed to be very different in character to the land based infrastructure link projects by virtue of the large scale urban agglomeration attraction forces they possess.

<sup>&</sup>lt;sup>1</sup> This definition is akin to that employed by the LASTIN Study of mega transport projects conducted at Aalborg University in Denmark in the late 1990's which provided the basis of the *Mega Projects and Risk: An Anatomy of Ambition* publication by Flyvbjerg et al, Cambridge University Press, Cambridge, 2003.

## **Overall Purpose of Working Paper**

As task 2.1 of this study, seven literature reviews are to be undertaken as commissioned Working Papers. Each paper will reflect the viewpoint of a different profession/discipline as specified in the study proposals and should review a selection of authoritative key documentation (including material on the internet) and report on methods currently employed to take social and environmental considerations into account within a sustainable development vision when appraising MUTPs. The Papers should focus on providing a critical review of traditional *and* non-traditional practices of project appraisal – i.e. project feasibility assessment exercises prior to project construction for mega projects, particularly mega urban transport projects (MUTPs). Each paper should also provide 15 selected recommended readings.

## Outline

This paper is a literature review of authoritative documentation (including material on the internet) reporting on methods employed to take social and environmental considerations into account within a sustainable development vision when appraising MUTPs, including a critical review of the traditional *and* non-traditional practices of project appraisal plus 15 selected recommended readings as undertaken by transport planners.

## 2. What Is Transport Planning?

Since this paper sets out to summarise a response to the key study question of "how to incorporate principles of sustainable development within the design and delivery of mega urban transport projects" from the perspective of a transport planner, it may be pertinent to begin by recapping upon the age old matter of "what is transport planning?" Rather worryingly, if you type "What is transport planning?" into Google, there appears to be only one direct search result which doesn't actually answer the question!

Once again though, Wikipedia rides to the rescue and, having been redirected to "transportation planning", one is advised that:

"Transportation planning is the field involved with the siting of transportation facilities (generally streets, highways, sidewalks, bike lanes and public transport lines). Transportation planning historically has followed the rational planning model of defining goals and objectives, identifying problems, generating alternatives, evaluating alternatives, and developing the plan. Other models for planning include rational actor, satisficing, incremental planning, organizational process, and political bargaining. However, planners are increasingly expected to adopt a multi-disciplinary approach, especially due to the rising importance of environmentalism, for example, the use of behavioral psychology to persuade drivers to abandon their automobiles and use public transport instead. The role of the transport planner is shifting from technical analysis to promoting sustainability through integrated transport policies".

Whilst this is not perhaps the greatest definition or description of transport planning to be found, it does correctly identify the increasingly multi-disciplinary nature of the task, the significance of environmental issues and the emphasis upon integration. It also mirrors the basic framework behind town planning (survey - analysis – plan making), to which transport planning is inextricably linked and, in many ways, opens up the further question of whether transport planning is a major determinant of development form and structure, almost as a rival to town planning, or a key and essential but inherently supportive and enabling function. This in itself probably then points towards the issue of why, if town planning and transport planning are so inextricably linked, why are they so often separated (as in, why is the Local Transport Plan not an integral part of the Development Plan?)?

That these questions should arise at all possibly goes some way to explaining why this particular study is examining how to incorporate the principles of sustainable development within the design and delivery of mega urban transport projects but, trying to get to a starting point in transport terms and opting for the 'support function' role, perhaps one of the simplest ways of considering transport planning, or just "transport", for the purposes of this review is that set out in the Transport Vision Network Report, Number Two, of April 2001:

*"Transport – connecting people and resources to opportunities" (World Bank Transport Division, 2001)* 

Notwithstanding the inherent simplicity of this definition however, the appraisal of transportation systems or projects is a multidisciplinary field which draws upon a wide range of related disciplines. A key element in the overall approach must always be the ability, whatever the particular methodology being employed, to view the transportation system or project as an integral component of a unified whole and to evaluate it within the context of the overall social, economic, and political system of a given geographical area.

In this regard, given the inherent complexity of the "bigger picture" in relation to the likely environmental and social impacts surrounding MUTPs which comprise of large, complex civil engineering projects and/or bundles of such projects, how can the principles of sustainable development be incorporated within the design and delivery of mega urban transport projects? Is it in fact possible to conceive of a truly sustainable MUTP, or are the potential contradictions always going to be too significant to be readily overcome?

# 3. The Context For The Application Of Appraisal Techniques To MUTPs

In order to establish context, in this case primarily within the United Kingdom (UK), it is useful to quickly look back at some of what has gone before. A review of the emergence of transport planning, transport strategy and the development of systems and methodologies for the appraisal of transport plans and projects leading to the current seemingly pre-eminent position of the New Approach To Appraisal (NATA) in

relation to transport planning and projects therefore forms the basis of this Working Paper.

## The Emergence of a UK Transport Strategy

Historical summaries prepared by the University of Nottingham (Nottingham University (unknown) to be found at:

http://www.nottingham.ac.uk/transportissues/appraisal history.shtml.(accessed April 2009) would suggest that most researchers now argue that the first signs of active overall transport planning on a significant scale and the preparation of a transport strategy for the United Kingdom emerged no earlier than the end of Second World War, at about the same time as the forerunner of the present town planning system (1948) was formally put in place. In the 1950s and 1960s the first transport planning strategies developed and these were primarily aimed at promoting use of the car through provision of motorways and trunk road improvements. This policy was implemented through predicting traffic levels several years ahead, and identifying congestion points on the road network. As the growth in vehicular traffic gathered pace, noise and congestion levels began rising to unacceptable standards and the governments of the day effectively chose to build their way out of congestion, using a 'predict and provide' policy. Available evidence suggests that at first, analysis and appraisal techniques concentrated primarily, in some ways almost exclusively, on the financial cost-benefit equation. As the 1950's turned into the 'Swinging Sixties' however, perspectives began to broaden somewhat.

The first generation of motorways to be built in England were the M1 (opened in 1959), the M6, M4, M62 and M5, which formed a box linking the country's major conurbations. The Buchanan Report of the early 1960's went on to identify situations in urban areas where road building would be needed to minimise the environmental impact of the car, in the form of urban motorways and flyovers. The University research notes that the report also made suggestions for setting up a road hierarchy and recognised the need for integration with land use planning. Interestingly, road pricing was also suggested in the 1960s, by Smeed, as a method of reducing traffic congestion in towns, but the idea was dismissed at the time due to technological restraints.

Rail meanwhile was in decline. Despite the modernisation plans of the 1950's/1960's and the end of steam in 1968, the rail network had suffered a series of extensive closures and significant retrenchment in the 1960's, due in large part to the now infamous Beeching Report.

## Changing Times for Transport Planning and the Environment

Road building continued into the early 1970s, by which time however public feeling towards new roads was changing, and this, accompanied by the 1973 fuel crisis, led to a cutback in the roads programme. By the mid-1970s, a new system of transport planning was introduced through which local authorities were required to recognise the significance of other factors such as the environment, land use and social equality in access to transport. This was perhaps the first stirrings of what might now

be termed 'sustainability' and, whilst road building was by no means off the agenda, the overall roads programme was becoming reduced in size.

The 1980s was a further decade of changing policies and key contrasts, dominated by a change in government but, unlike the early 1970's, a period when the real cost of driving fell due to a combination of lowering fuel costs, the impact of company cars and local government changes. Different transport sectors went their own way as buses became deregulated and other industries were privatised, all of this taking place however against a backdrop of continued and increasing public awareness of environmental issues. The Docklands Light Railway opened in 1987 (a trend which was to continue into the 1990's), the first statutory Environmental Impact Regulations came into force in 1988 and the final few 'first-generation' motorways were brought into operation, the last of which was the M40, completed in 1990.

## Trouble Ahead

However, there was potentially serious trouble looming, as the 1989 National Road Traffic Forecasts predicted a 142% growth in traffic levels between 1989 and 2025. The then Conservative government responded to this call by announcing a new £23 billion roads programme for the 1990s, with proposals for totally new routes as well as improvement to existing roads. This was however a key moment in UK transport policy history, since despite this announcement it was finally being recognised that whatever road construction policy was to be adopted, congestion would almost certainly increase. So, would this in fact be the end of the 'predict and provide' policy era?

Indeed it would, since although there was a substantial road building programme now getting underway, there would be dramatic cuts over the next 10 years or so and thus, throughout the 1990s, the roads programme suffered various set-backs with successive reviews in 1994 and 1996 shelving a variety of schemes. In contrast to this, Rail, in various forms, was returning to the transport stage with the Manchester Metro opening in 1992, the Sheffield Supertram in 1994, the Jubilee Line Extension in 1999 and the Croydon Tramlink in 2000. Commitments were also made to deliver the Channel Tunnel Rail Link (CTRL).

## Sustainability, SACTRA and the DMRB

Several reports were produced at this time which gave backing to the environmental voice, such as the Bruntland Report, 'Our Common Future' and the Agenda 21 sustainability plan. In 1994 the 'UK Strategy for Sustainable Development' and 'Planning Policy Guidance Note 13 (PPG13) were produced, the latter giving further advice on how best to integrate transport and land-use planning. The SACTRA report on trunk road assessment was considered by many to have provided substantive evidence that the predict and provide policy would not work and would lead to an increase, not a reduction in, congestion levels.

## **DMRB** The Aim of Assessment Reporting

#### The 3 Stages of Assessment and Their Scope

At each of the 3 Stages of assessment the objective is to ensure that assessment is sufficient to:-

**Stage 1** - identify the environmental, engineering, economic and traffic advantages, disadvantages and constraints associated with broadly defined improvement strategies. account in choosing alternative routes or improvement schemes and to identify the environmental, engineeering, economic and traffic advantages, disadvantages and constraints associated with those routes or schemes.

**Stage 2** - identify the factors to be taken into account in identifying alternative routes or improvement schemes and to identify environmental, engineering, economic and traffic advantages, disadvantages and constraints associated with those routes or schemes.

**Stage 3** - identify clearly the advantages and disadvantages, in environmental, engineering, economic and traffic terms, of the Overseeing Department's preferred route or scheme option. A particular requirement at this stage is an

assessment of the significant environmental effects of the project, including publication of an Environmental Statement. Assessment reports are required at the end of each of these three Stages.

The objectives of this guidance are to provide:

a) a consistent approach to project-based environmental assessment and its reporting; and

b) an approach by which the Overseeing Organisation can be assured that they have complied with all environmental regulations as well as their own polices and procedures.

Specifically, the guidance seeks to promote:

a) a level of environmental assessment that is appropriate to the project;

b) consideration of the likely environmental effects of possible alternatives to inform option and design choice in a way which enables the importance of the predicted effects and the scope for mitigating these effects to be assessed;

c) consideration and reporting of the likely environmental effects of possible projects so planning and design decisions can be made that promote sustainable development and other environmental policies;

d) opportunities for stakeholders, including the public and statutory environmental bodies to comment at appropriate times on proposals taking account of their environmental implications and the specific requirements of the Overseeing Organisation;

e) a basis for the development of environmental management measures responding to the environmental requirements of the project; and

f) environmental commitments which are carried through to the construction and operational stages of the project.

The DMRB focuses fairly explicitly upon the environmental assessment process and, in this regard, does not perhaps give as much consideration as might otherwise be expected to wider sustainability, spatial planning and social considerations.

The Standing Advisory Committee on Trunk Road Assessment (SACTRA) is, or was, an independent committee appointed by the Secretary of State for Transport (Department of Transport (Unknown), <u>http://www.dft.gov.uk/pgr/economics/sactra/</u>, date accessed April 2009) to advise on issues related to the appraisal of trunk roads and SACTRA's initial terms of reference can be simplified into the following strands:

- What is the nature and significance of the relationship between transport provision and economic growth?
- Is there scope to reduce the transport 'intensity' of the economy?
- What are the implications for the appraisal of individual transport schemes both of which seek to meet the demand for movement and of those which seek to reduce road traffic growth?
- What recommendations follow from our analysis of conventional transport appraisal for the Department's procedures and practice?

The Committee is not meeting at present - its work on the last remit having been completed in August 1999 with the publication of the final report. There are no current plans to provide a new remit. Whether this is significant or not, perhaps only time will tell.

Within the same broad timespan as SACTRA, and with specific regard to the assessment, or appraisal of major road schemes, the "Design Manual for Roads and Bridges" (DMRB) was introduced in 1992 in England and Wales, and subsequently in Scotland and Northern Ireland. It provided a comprehensive manual system which accommodates, within a set of loose-leaf volumes (and these days, a web-based format), current Standards, Advice Notes and other published documents relating to Trunk Road Works (Highways Agency (2009), http://www.standardsforhighways.co.uk/dmrb/, date accessed April 2009). It remains in use, in much modified form, today (see below).

The DMRB incorporates key sections on both the environmental and economic assessment or appraisal of major road schemes. The main aims of the assessment reporting process are:-

- to permit consideration of the likely environmental, economic and traffic effects of alternative proposals, and
- to allow the public and statutory bodies to comment on proposals taking account of their environmental, economic and traffic implications.

The University of Nottingham historical summaries further record that in 1996, the soon-to-be-outgoing Conservative government instigated a national debate on transport and, although the final results were never known a Green Paper was published and, in 1997 the in-coming New Labour Government switched the emphasis to reducing the need to travel and if there was a need, then the journey should be made by public transport, not by car. Road building would only be considered as a last resort, and thus inevitably the roads programme again slowed substantially for the next three years.

## NATA and the New Deal For Transport

As an integral part of this change in policy, the government introduced the 'New Approach To Appraisal' (NATA) in 1998, in order to look at road schemes under various criteria and to develop suitable solutions to particular capacity problems, but also to prioritise schemes (DETR, 1998, New Approach To Appraisal (NATA) set out in Annex B of the 1998 Roads Review *A New Deal for Trunk Roads in England*). The Integrated Transport White Paper published at the same time as the Roads Review (DETR (1998) *A New Deal for Transport: Better for Everyone*) stated the intent to develop the New Approach To Appraisal for the appraisal of all transport projects, including highway projects. The revised version was later set out in *Guidance on the Methodology for Multi-Modal Studies* (DETR (2000), GOMMMS). The key NATA criteria were:

**Environment** – protect and enhance both built and natural

**Safety** – improve it

**Economy** – support sustainable economic growth and increase efficiency

Accessibility – provide access for all

Integration – between all transport networks and land use planning

Multi Modal Studies were also commissioned in July 1998 with the aim of investigating problems relating to all modes of transport within a transport corridor, and to seek solutions. This followed publication of 'A New Deal for Trunk Roads', a daughter document of the 1998 white paper 'A new deal for transport: better for everyone', a policy document which was intended to build upon the previous Government's green paper which paved the way to recognition that it was now necessary to improve public transport and reduce dependence on the car. Privatisation, competition and deregulation had previously dominated transport policy and bus and rail services had thus declined, whilst traffic growth resulted in more congestion and worsening pollution. The primary aim was the creation of a better, more integrated transport system to tackle the problems of congestion and pollution, moving away from building more and more new roads to accommodate growth in car traffic. With new obligations to meet targets on the fast emerging global concerns surrounding the issue of climate change, the need for a new approach was considered urgent.

In 2000, the Ten Year Plan was published amidst clear signs that since the 1998 Transport White Paper, the New Labour government had taken stock of its 'anti-car and anti-motorist label'. As a result, there was yet another shift in policy towards an increase in road construction, with some £59 billion allocated to roads over 10 years. Policy developments since then have continued to include further road schemes, suggesting that road building has remained in favour, albeit in a more controlled manner.

In December 2002, the government published a progress report on the Ten Year Transport Plan. In this report it admitted that it was not going to reach the

congestion-cutting target set out in the plan published in 2000. It blamed unforeseen economic growth, and an unwillingness on the part of local authorities to implement Congestion Charging schemes until after they had seen how London's proposals performed. After months of speculation and protest, London's congestion charging scheme was introduced in February 2003, but thus far it has not been followed up elsewhere and debate, both informed and otherwise, continues to this day as to how effective it has been.

An investigation into the Government's Multi-Modal Studies by the Transport Select Committee was also published at the end of March 2003, criticising the studies' conclusions. The studies' final reports contained a number of suggested road building schemes, and it was said with little mention of alternative rail investment or measures to control car usage. Indeed, in 2003-04, £12 billion of road schemes were announced, causing some to accuse the government of returning to a 'build our way out of congestion' approach.

Following the government's admission that targets set by the Ten Year Transport Plan could not be met, another government document, "Managing Our Roads" was published in July 2003, and this highlighted the problems that the transport network and, in particular, roads were expected to face over the next 20-30 years. It also described some of the measures that the DfT hoped would ease these problems and was backed up by yet another major statement of government transport policy in the form of one more White Paper entitled "The Future\_of Transport: a network for 2030", which was published in July 2004.

## **Climate Change and Economics**

In late 2006, two further high-profile, transport-related reports commissioned by the Government were published, namely "The Stern Review: the Economics of Climate Change" and "The Eddington Transport Study" into links between transport and the economy. In response to these two publications, in October 2007 the Department for Transport published yet one more UK transport policy review document called "Towards a Sustainable Transport System: Supporting Economic Growth in a Low Carbon World" to initiate debate about the future direction of UK transport policy, and, in December 2007, the RAC Foundation published "Motoring towards 2050: Roads and Reality."

The DfT policy review document advised that transport has a vital role to play in supporting sustainable economic growth, but also that it was clear that it must also play its full part in the UK's overall framework for reducing carbon emissions. As the Eddington report argued, a well-functioning transport system is vital to the continued success of the UK economy and to the overall quality of life. In this regard, it is vital to ensure that continued investment in the country's networks, together with other policies, underpins a nationwide transport system that continues to support the UK's economic prosperity and that these policy decisions must be firmly based on the evidence of the costs and benefits of those policies.

The document also advised that a fundamental goal of transport policy must be to ensure that the transport sector plays its proper role in our fight to tackle climate change. Stern argued that this does not have to be an either/or choice. A welldesigned strategy can support economic growth and tackle carbon emissions. Fundamentally, government needs to get the prices right to cover the environmental and congestion costs of transport, to encourage technological innovation, to promote behavioural change, and to deliver smart investment decisions. If that can be done, the desire for mobility can be met whilst still ensuring that transport contributes to the overall reduction in emissions which will be implemented via the Climate Change Bill.

The RAC Foundation report, focusing entirely on the road network, said that the lack of a long term strategy highlighted the lack of leadership and muddled responsibility in addressing this major area of deficient performance. They argued that this should be put right by the development of a coherent long term roads strategy combining substantial new building with efficient pricing, together with changes in organisation to ensure delivery and safeguards so that road users get value for their money. All four elements must be included in a comprehensive approach to ensure

effective implementation and allay the fears of those who oppose pricing. The alternative was growing congestion and a deteriorating level of service – higher costs, more wasted time on more crowded roads, and damage to the economy and the quality of life.

## Delivering the Sustainable Transport System

Finally, at least for now, came the opening up of further debate on transport and transport strategy in the form of Delivering a Sustainable Transport System. This document outlined the five goals for transport, focusing on the challenge of delivering strong economic growth while at the same time reducing greenhouse gas emissions. It set out the key components of national infrastructure, discussed the difficulties of planning over the long term in the context of uncertain future demand and described the substantial investments which were said to be being brought forward to tackle congestion and crowding on our transport networks. It also set out how government is approaching this through the new National Networks Strategy Group and covered the approach being adopted domestically and internationally to tackling greenhouse gas emissions from transport. Lastly, it set out the first steps in future plans for investment to 2014 and beyond.

The principal goals of the transport system are now:

- To **support** national **economic** competitiveness and **growth**, by delivering reliable and efficient transport networks.
- To reduce transport's emissions of carbon dioxide and other greenhouse gases, with the desired outcome of **tackling climate change**.
- To contribute to better safety security and health and longer lifeexpectancy by reducing the risk of death, injury or illness arising from transport and by promoting travel modes that are beneficial to health.
- To **promote** greater **equality of opportunity** for all citizens, with the desired outcome of achieving a fairer society.
- To **improve quality of life** for transport users and non-transport users, and to promote a **healthy natural environment**.

These are said to be enduring goals, all of which are important for building the sort of society we want to live in. It may be expected that there will sometimes be tension

between the different goals when considering decisions about future investment, in particular supporting economic growth while reducing greenhouse gas emissions are thought likely to be the most challenging to deliver in parallel, at least in the short term. However, government expects there to be a strong synergy between different goals, for example measures that improve the links between cities should also benefit the economies of the surrounding regions and help to reduce regional economic imbalance. Measures that encourage modal shift to public transport, cycling and walking are thought likely to make a positive contribution to economic growth (by tackling congestion), reducing greenhouse gas emissions and enhancing the local environment, as well as improving public and personal health. With proper planning, government believes there is no reason why a package that includes new infrastructure need have an adverse impact on climate change, quality of life or the natural environment.

## Delivering the Sustainable Railway

Meanwhile, against this almost continuous backcloth of on-going debate and policy shifts, not to mention publications, towards road building, the heavy rail network had been struggling. New Opportunities For The Railways had been published in 1992, the white paper which preceded the controversial privatisation of Britain's railways. A document considered by many to be remarkable only for its brevity, and for what was left unsaid (undecided?), it set out the proposal to split infrastructure from operations, creating Railtrack to look after the former, and private sector franchises to run the latter. Privatisation of the railways came into being in 1994 and was continued under the New Labour government after 1997, who created the Strategic Rail Authority (SRA) in 2001.

However, by October 2002 and amidst much controversy, the job of maintaining and improving Britain's railway tracks and stations was being handed over from Railtrack, to a new, not-for-profit company, Network Rail, which was to work together with the SRA to re-develop Britain's railways. Both published their own 10-year plans for improvements to the system and utilised in house appraisal systems for new works/projects, the SRA with their Appraisal Criteria guidance of 2003, based around the NATA approach and methodologies, and Network Rail with their GRIP process, seemingly based upon one of the most complex webs of interlocking procedural processes yet devised. Following all this up, a major statement of government policy regarding rail transport "The Future of Rail" was published in July 2004.

By 2005 however, the SRA itself was gone and the DfT's Rail Group was set up that summer, following the bringing into force of the Railways Act 2005 which gained Royal Assent in April. The Group combines the Department's overarching strategic and financial responsibilities for the railways with many of the functions formerly carried out by the Strategic Rail Authority (SRA).

#### SRA Appraisal Criteria April 2003

The former SRA used four criteria in deciding whether or not to proceed with further development or implementation of rail proposals. Proposals were considered on a case by case basis. The criteria reflected the policies announced in A New Deal for Transport, responses to the SRA's consultation paper on rail freight issued in August 2000, and those to OPRAF's 1996 consultation paper. Decisions on the allocation of support also reflected the former SRA's purposes under the Act, and Directions and Guidance from relevant government departments. The criteria were as follows:

- Affordability
- Value for money
- Delivery
- Value added

#### **Option appraisal**

A thorough appraisal of all relevant options is key to finding an optimum value for money solution. Describing which options were appraised, how it was done and reporting the results should form the core of the business case. Option appraisal involves, in summary:

- identifying and specifying all options (including a 'do-minimum' option) and in each case:
  - identifying which individuals or groups would be affected;
  - quantifying, where possible, incremental costs and benefits relative to the do-minimum;
  - adjusting quantified costs and benefits for:
- inflation
- relative price changes
- risk and optimism bias:
  - undertaking sensitivity analysis;
  - calculating the net present value;
  - identifying unquantifiable impacts;
  - identifying constraints on affordability and delivery.
- shortlisting and repeating the above steps in greater detail for shortlisted options;
- using the results to derive a preferred option.

## **Costs and Benefits**

High level guidance is provided on how particular impacts might be measured, valued or otherwise taken into account in the business case. It follows the five headings identified in A New Deal for Transport and the Guidance on Methodology for Multi-Modal Studies (GOMMMS). In most cases, it is considered possible to estimate the monetary value of costs and benefits.

With such an obvious linkage with the NATA methodology, it could be argued that the SRA Appraisal Criteria, like NATA itself, primarily assess a scheme's "value for money, deliverability and strategic fit", bypassing key social and environmental considerations and perhaps lacking a firm grip on overall spatial planning issues, sustainability concerns and climate change.

#### GRIP

In order to minimise and mitigate the risks associated with delivering such projects on an operational railway, Network Rail has developed an approach to managing investment schemes which is set out in the Guide to Railway Investment Projects (GRIP). The approach is based upon best practice within Network Rail and other industries that undertake major infrastructure projects as well as best practice recommended by major professional bodies including the Office of Government Commerce (OGC), and the Association of Project Management. It covers the investment lifecycle from inception through to the post-implementation realisation of benefits.

Key stages in the investment lifecycle (GRIP Stages) are as follows, with the EIA process being embedded within stages 1 to 4, the level of detailed assessment required increasing with each successive stage:

- 1. Output definition
- 2. Pre-feasibility
- 3. Option selection
- 4. Single option selection
- 5. Detailed design
- 6. Construction test & commission
- 7. Scheme hand back
- 8. Project close out

Whilst the GRIP process incorporates the EIA process, the robust treatment of overall sustainability issues, the wider spatial planning agenda and social considerations is arguably lacking, and thus the overall methodology fails to set out a substantive context for scheme assessment.

The White Paper 'Delivering a Sustainable Railway', published on 24 July 2007, then set out to fulfill the remit the Government set itself in 2005 to provide strategic direction for the rail industry, advising that:

"Sustainability is at the heart of the Government's commitments to 2014 and this future strategy. Sustainability demands a broader look at priorities for the railway alongside other modes, to find the best balance between the needs of the economy, society and the environment. Safety, reliability and cost are permanent priorities for the railway. But increasing capacity is the most urgent investment need – to accommodate record passenger numbers, allow rail to contribute to low-carbon economic growth, and move towards the service quality that more exacting consumers increasingly demand. Delivering such a railway involves ensuring that investments are targeted and sustained, to deliver steady and efficient improvement against a long-term sense of direction, based on the best evidence available today. This will provide the rail industry with the flexibility to react to longer-term challenges, while not getting ahead of the realistic ability to predict. This is the Government's strategy: to deliver a sustainable, modern railway."

The White Paper defined the long-term ambition for rail as being a network that:

- can handle double today's level of freight and passenger traffic;
- is even safer, more reliable and more efficient than now;
- can cater for a more diverse, affluent and demanding population; and
- has reduced its own carbon footprint and improved its broader environmental performance.

The environmental strategy for the railway focused on three core themes:

- developing a better understanding of the environmental footprint of the railway;
- improving the environmental performance of the existing railway; and
- ensuring that future investments in railway infrastructure and rolling stock take full account of all environmental impacts.

Against this policy background towards rail, or perhaps as some might say in spite of it, the redeveloped St Pancras terminal of the CTRL opened in 2007, heralding the arrival of truly high speed rail travel to the UK in general and London in particular.

## The Infrastructure Planning Commission

Whilst not in itself an innovative new approach to major transport project appraisal, the establishment of the Infrastructure Planning Commission through the Planning Act 2008 brings into being a significant change within the consent procedures process which, by extension, will inevitably rely heavily upon appraisal techniques in order to reach robust and defensible decisions. See Section 7 below for further details.

## 4. The Basis Of Appraisal Techniques For MUTPs

## Background

The 'New Approach To Appraisal' (NATA) continues to be a key, primary mechanism by which new transport projects within England (and other parts of the UK) are assessed, and embodies, to a greater or lesser extent depending upon your viewpoint, the issue of sustainability and strategic environmental assessment. It has therefore been selected as the principal methodological example examined in this section of the Working Paper.

NATA has evolved since its original launch in 1997, most recently to take account of the latest Green Book recommendations. It is now incorporated within the Department of Transport web-based guidance known as WebTAG (DfT (2009), <u>http://www.dft.gov.uk/webtag/</u>, date accessed April 2009) and is the basis for:

- appraisal of multi-modal studies;
- appraisal of Highways Agency road schemes and Local Transport Plans major road and public transport schemes;
- the Strategic Rail Authority's Appraisal Criteria (as employed by successor authorities and rail industry organisations/practitioners);
- the project appraisal framework for seaports; and
- the appraisal process employed during the development of the Government's airports strategy

NATA is broadly in line with the Department for Transport's Sustainable Development policy statement and the Department's guidance *Better Policy Making: Integrated Policy Appraisal in DTLR* (IPA).

The Department's Sustainable Development policy statement sets out the approach to the achievement of the Government's overall sustainable development objectives. It has three criteria at its core: economic, social and environmental. The Policy requires decision-makers to take a balanced approach to ensure that all three are given equal consideration and notes that, in assessing transport projects, an integrated project appraisal methodology should be used. The IPA is a good practice tool which allows the user to review the widest possible range of impacts - economic, environmental, social and distributional - and thus ensure a robust approach to policy development.

Strategic environmental assessment (SEA) of certain plans and programmes, including Local Transport Plans and Regional Transport Strategies, is required under European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment. SEA is broadly consistent with NATA and should be carried out as part of the NATA process for such plans and programmes (see Strategic Environmental Assessment for Transport Plans and Programmes). WebTAG advises that SEA should be carried out as an integral part of the process.

Appraisal is defined by the Department as the process of checking that value for money is achieved in delivering Government aims, including investment in transport to solve problems. Throughout the NATA process the Government's five objectives

## The Thames Gateway Delivery Plan

Government has set out a vision for the Thames Gateway – Europe's largest regeneration programme stretching 40 miles along the estuary from Canary Wharf in London to Southend in Essex, and Sittingbourne in Kent.

The Gateway is in effect a cluster of MUTPs, offering the prospect of a modern, responsive and efficient transport system and a step change in accessibility to jobs, services and leisure/retail offerings, through an integrated walking, cycling network and public transport network. But is it sustainable development, at least in mega-urban transport terms?

Government decisions over the last decade to support and develop the four spatial

transformers reflect the importance given to the Thames Gateway. In 1998 the Government supported a re-financing package for the Channel Tunnel Rail Link and made it subject to the provision of domestic rail services into North Kent. The development of High Speed 1 has been central to the development and regeneration of Stratford, now with almost unparalleled transport connectivity with DLR, Underground and bus interchanges. The connectivity and regeneration potential of Stratford provided the springboard for the successful London 2012 Olympic bid, whose success it is said was, without doubt, due to the regeneration legacy potential for the Lower Lea Valley and wider Thames Gateway.

The new challenge for the Gateway is to combine increasing economic growth, development and prosperity with tackling climate change. The sheer scale of development underway means it is a key location from which to pioneer the new environmental technologies and approaches of the future. The Thames Gateway, it is believed, can lead the way with environmental jobs, greater use of renewables and new technologies, and environmental improvements to existing homes and building – becoming an eco-region for the rest of the country and other countries to follow., water conservation, reducing waste, and protecting people against flood risk.

The Ebbsfleet Valley is for example a new community for work and living, being built on brownfield sites around the new Ebbsfleet International rail station on the High Speed 1 line. International trains to Paris and Brussels began operating from Ebbsfleet in November 2007, at the same time as St Pancras was opened. From 2009, high speed domestic services will enable local people to reach St Pancras in just seventeen minutes – and the Stratford Olympic site in twelve minutes. This will transform Kent Thameside as a location for homes and jobs. The Fastrack bus system, supported by £35 million of government funding, which links Ebbsfleet to Dartford, Gravesend, and the Bluewater shopping centre, began operating in 2006, and is already attracting passengers away from private cars and delivering city commuters to Ebbsfleet.

Improving local opportunities for every community and reducing the need for commuting are claimed to be important Gateway area outcomes, but if you're twelve minutes from Stratford and seventeen from St Pancras, how does this reduce the desire and ability to commute and is it sustainable (even before Crossrail and the DLR Woolwich Extension are added to the equation)? for transport as outlined in the 1998 White Paper 'A new deal for transport: better for everyone' are central:

- to protect and enhance the built and natural environment;
- to improve safety for all travellers;
- to contribute to an efficient economy, supporting sustainable economic growth in appropriate locations;
- to promote accessibility to everyday facilities for all, especially those without a car; and
- to promote the integration of all forms of transport and land use planning, leading to a better, more efficient transport system.

The purpose of appraisal is to ensure a transparent and consistent way to determine:

(a) whether the proposed course is the best of alternatives; and

(b) that the course of action is 'value for money'.

The Green Book (Appraisal and Evaluation in Central Government) forms the basis of the Government's process and the Department for Transport has developed an appraisal process consistent with the Green Book objectives. The three overarching objectives underpin 'A New Deal for Transport: Better for Everyone':

- to promote a strong economy;
- to provide better protection for the environment; and
- to develop a more inclusive society.

Sustainability and promoting sustainable development provides a further purpose for appraisal underlying the three objectives above.

## The New Approach To Appraisal

The New Approach to Appraisal as now incorporated within the Department of Transport web-based guidance (WebTAG, see also Section 5 below), is set out in detail under the following headings:

- The Overall Approach: The Steps in the Process;
- The Appraisal Process; and
- Appraisal.

## The Overall Approach: The Steps in the Process

This is an overall detailed description of the process for establishing a transport strategy or plan, setting out the steps in the process (15 in all) starting with Objectives and concluding with Monitoring and Evaluation.

The process is also considered to be generally applicable to the development and appraisal of Local Authority Transport Strategies, major highway and public transport

schemes which are part of Local Transport Plans, and trunk road and motorway schemes. The process chart should be taken as the starting point and adapted to suit the kind of study being carried out.

#### The Appraisal Process

This describes the appraisal process and is structured in the following manner:

- the appraisal framework, including the Appraisal Summary Table (AST) which is used to assess the achievement of the Government's objectives for transport;
- the ways in which the achievement of local and regional objectives may be assessed;
- the ways in which the amelioration of problems may be assessed;
- the treatment of the supporting analyses of distribution and equity, affordability and financial sustainability, and practicality and public acceptability; and
- the process of distilling the appraisal information towards a final appraisal summary so that recommendations may be made.

## <u>Appraisal</u>

At the heart of the appraisal process is the Appraisal Summary Table (AST). This records the degree to which the five Central Government objectives for transport (environment, safety, economy, accessibility and integration) are to be achieved and provides a comprehensive summary of the impacts of an option. It is intended that assessors (decision-makers) should use the information provided in the AST (and, where necessary, the more detailed supporting documents) to make a judgement about the overall value-for-money of the option.

The assessment of the value for money of an option from the AST is one of four assessment strands. The others are:

- achievement of local and regional objectives;
- amelioration of problems; and
- supporting analyses of distribution and equity, affordability and financial sustainability, practicality and public acceptability.

The appraisal requirements under each of these other three strands are explained in *The Appraisal Process* referred to above, a section of WebTAG that also contains advice on the procedure for distilling the information from all four appraisal strands into final conclusions and the making of recommendations.

The *Appraisal* section incorporated within WebTAG Unit explains the general concepts applicable, including how to deal with:

- the content of the Appraisal Summary Table;
- a description of the option being appraised, along with the rejected options;
- a summary of the problems at which the option is aimed; and

• issues relating to the level of detail at which the analyses should be conducted.

In so doing, it also sets the scene for further WebTAG sections which are devoted to the appraisal of each of Central Government's five main objectives for transport and show how the information required for the AST should be derived.

The AST itself has space to record the impacts of the option under the following objectives and sub-objectives.

- environment to protect the built and natural environment
  - to reduce noise
  - to improve local air quality
  - to reduce greenhouse gases
  - to protect and enhance the landscape
  - to protect and enhance the townscape
  - to protect the heritage of historic resources
  - to support biodiversity
  - to protect the water environment
  - to encourage physical fitness
  - to improve journey ambience
- safety to improve safety
  - $\circ$  to reduce accidents
  - to improve security
- economy to support sustainable economic activity and get good value for money
  - to get good value for money in relation to impacts on public accounts
  - to improve transport economic efficiency for business users and transport providers
  - to improve transport economic efficiency for consumer users
  - o to improve reliability
  - to provide beneficial wider economic impacts
- accessibility to improve access to facilities for those without a car and to reduce severance
  - to improve access to the transport system
  - to increase option values
  - to reduce severance
- integration to ensure that all decisions are taken in the context of the Government's integrated transport policy
  - to improve transport interchange
  - to integrate transport policy with land-use policy
  - to integrate transport policy with other Government policies.

The main impacts in relation to each of the sub-objectives are summarised in text form together with any relevant quantified information. A summary assessment is provided in order to indicate whether the impact in each category is generally beneficial or adverse and how large it is. Where monetary values can be derived, as in the case of accidents or transport economic efficiency, the summary assessment uses those values. Where impacts can be quantified but not monetised, the summary assessment is quantitative. Impacts that cannot be quantified are assessed on a (usually) seven point scale (note that these scales are not necessarily cardinal in nature), but because each seven point scale measures a very different objective, they cannot be compared with each other. The way in which the impacts under each sub-objective should be assessed is explained in further WebTAG sections.

Since it was first introduced however, deliberations have continued as to how to make NATA more responsive in terms of issues around sustainability, social considerations and the relationship with/context of wider spatial planning.

## A Framework for the Appraisal of Sustainability in Transport: Institute for Transport Studies, University of Leeds, 2005.

Brooks This report (Marsden, Kelly, Nellthorp and (2005),http://www.its.leeds.ac.uk/projects/sustainability/resources/Appraisal%20of%20Susta inability%20in%20Transport%20-%20Framework%20Final.pdf, date accessed April 2009) described the first stage of a project seeking to develop an improved methodology for capturing and assessing the sustainability of decisions about, or decisions that impact on, the transport system. The report set out why a new approach to assessing sustainability was necessary, how it might work and why it differed from current procedures. The approach was intended to help to fulfil one of the commitments from the 2004 Transport White Paper:

"...an important underlying objective of our strategy is balancing the need to travel with the need to improve quality of life. This means seeking solutions that meet longterm economic, social and environmental goals. Achieving this objective will clearly contribute to the objectives of the UK sustainable development strategy....we will ensure that the wider impacts of future developments are reflected in appropriate appraisal methodologies."

(The Future of Transport, White Paper, Department for Transport, 2004, p14, emphasis added)

The Institute examined the principles of sustainability and the lists of indicators in use in transport and planning today and through an evidence-led process of elimination, produced a suite of 17 indicators that was believed to cover the full range of sustainability concerns cutting across transport and land-use planning, together with an appraisal framework within which decisions on the relative sustainability of different policy options could be made. The approach was considered to be comprehensive but also light-touch and could be applied at scheme and strategy design level, working with, refining and replacing parts of the existing process. The approach could also be adopted as part of the SEA requirement assessment process for Regional Spatial Strategies and Local Transport Plan assessment.

The Institute took the view that sustainability needed to be considered first at a strategy level and then at a scheme level and anticipated a staged approach to applying the framework with the contributions of different parts of the strategies identified at the strategy level. These could then be used as constraints within which a scheme design occurs. This would allow the NATA framework to be applied *within* the sustainable development policy, but without requiring any changes to NATA.

## Appraisal of Sustainability in Transport: Institute for Transport Studies, University of Leeds, 2007

Also in its 2004 Future of Transport White Paper, the Department for Transport identified the need, in the context of more sustainable development, to:

## *"ensure that the wider impacts of future developments are reflected in appropriate appraisal methodologies"* (DfT, 2004, p14).

This project, also from the Institute (Marsden, Kimble and Nellthorp 2007), set out why a new approach to assessing sustainability was necessary, how it might work and why it differed from current procedures. The report summarised that approach, the framework developed and presented the results of first attempts to operationalise it.

The main methodological innovations that were achieved through the research related to the development of a new approach to assessing the long term economic sustainability of strategies and through efforts to assess the social sustainability of strategies. With regard to economic benefits, the Institute felt that the approach to amortizing costs of the project and comparing benefits in the assessment years versus the yearly amortized cost provided a neat short-term solution to capturing the majority of economic benefits of interventions. The outcomes of the amortized approach appeared more intuitively correct (providing greater benefits for a package of investment and charging) than the NATA framework.

However, attempts to assess social progress were far more limited. Initiatives such as the Transport Innovation Fund were placing greater emphasis upon the study of the distributional impacts of policy, such impacts being considered critical to understanding the sustainability of transport and hitherto lacking a coherent and well resourced research effort from a modelling perspective, coming, as it did from a more qualitative social policy perspective.

The estimation of environmental impacts was hampered by inadequate data sources little available on the impacts of different paths of technological development. Technological change was seen as crucial in defining what levels of behavioural change might be required. Emissions from freight form an important part of the emissions total yet in practice the relevant transport authorities had little influence over changes in logistics practice, the modelling tools they employed paid little attention to changes in freight patterns (and therefore emissions). Whilst this might have been of limited importance to any decision about how effective the interventions such authorities do control were, it was still critical to the overall sustainability outcomes. Walking and cycling were also found to be poorly represented in the context examined. The absence of good data on the response of pedestrians and cyclist to quality interventions might well underestimate the relative attractiveness of these zero emission modes.

## The Olympics and Stratford City

Regeneration was at the heart of London's bid for the 2012 Olympic and Paralympic Games and remains one of the core legacy objectives. The decision to build the Olympic Park in Stratford made it one of the major focal points for regeneration and development within the Thames Gateway. The £4 billion redevelopment at Stratford City is the UK's largest ever retail-led, mixed-use urban regeneration project. It will confirm Stratford's position as East London's second largest commercial centre and provide new retail, office and leisure facilities, creating 5,000 new jobs by 2016, and eventually up to 20,000 new jobs. The local population will benefit from the Olympic Village and Stratford City, which will deliver up to 9,000 new homes, over 30% of which will be affordable. These will be supported by community facilities and schools, as well as new public squares, parks and natural ecological habitats, developed around the international highspeed rail station which is opening in time for the 2012 Olympics. But the Olympics will also attract investors, business and tourists to the wider Thames Gateway. With excellent new transport links, they will accelerate sustainable regeneration across the Gateway as a whole.

In 2007, the Olympic Delivery Authority (ODA) secured the UK's largest ever outline planning consent for a development programme already visibly underway. The site has been cleared and the ground areas reformed and remediated, with the existing overhead power lines placed underground. The main Stadium and other venues are under construction and the Olympic Park is being designed as a sustainable showpiece for the Gateway as a whole, setting new standards for energy generation and waste management. The Games themselves offer opportunities for new jobs and new businesses. The London Development Agency with the 5 host boroughs has set up a new employment and skills action plan that aims to get 70,000 more Londoners into work through the Games, and volunteering programmes are providing opportunities for local residents.

The overall Olympics Park transport system will effectively function as an MUTP during the Games period in August 2012. In terms of the generation of more and longer trips, albeit over a short timespan, questions could be raised as to whether this is in fact a sustainable use of either assets or resources. This is perhaps even more pertinent when addressed to the Games Legacy, when the significant retained bundle of transport improvements which will have been added to the East London network will greatly increase accessibility and connectivity to and from the Lower Lea Valley/Stratford areas. As with the Thames Gateway itself, the key question might be, how does this reduce the number and length of trips made and is it sustainable?

## 5. Critical Review Of Project Appraisal For MUTPs

## Transport Analysis Guidance Website WebTAG

Transport Analysis Guidance (TAG) on the appraisal of transport projects and wider advice on scoping and carrying out transport studies, restructuring GOMMMS and the associated guidance into a family of web-based TAG Units. The guidance is seen as a requirement for all projects/studies that require government approval, including road, rail and other modes. For projects/studies that do not require government approval, it is recommended that TAG should serve as a best practice guide.

Whilst as noted above the site originally brought together the Department's existing documents, *The Guidance on the Methodology for Multi-Modal Studies* (GOMMMS) and associated supplements and errata, *Applying the Multi-Modal Approach to Appraisal to Highway Schemes* (The Bridging Document) and *Major Scheme Appraisal in Local Transport Plans*, the material on the WebTAG site now supersedes these documents.

The guidance includes or provides links to advice on how to:

- set objectives and identify problems;
- develop potential solutions;
- create a transport model for the appraisal of the alternative solutions; and
- how to conduct an appraisal which meets the Department's requirements.

The website also includes advice on the modelling techniques and appraisal methodologies appropriate for major road and public transport schemes.

At the heart of WebTAG is NATA, which as noted in Section 4 above has evolved since its original launch in 1998, both in order to take account of the relevant Green Book recommendations and more recently as a result of the NATA Refresh consultation, and now encompasses not just road schemes but the appraisal of multi-modal studies, Local Transport Plans, public transport schemes, rail (the Strategic Rail Authority's Appraisal Criteria), seaports and airports. As noted in Section 4, NATA is broadly in line with the Department's Sustainable Development policy statement and the Department's guidance *Better Policy Making: Integrated Policy Appraisal in DTLR* (IPA).

## The WebTAG Introduction to Transport Analysis

In overall terms, the WebTAG introduction to transport analysis encompasses the following key aspects:

- The Green Book
- A Background to Transport Appraisal
- The New Approach To Appraisal
- Appraisal and the Study Process
- The Government's Five Objectives for Transport

- Appraisal of Options
- The Appraisal Summary Table
- Regional and Local Objectives
- Effectiveness of Problem Solving
- Supporting Analyses

#### The Green Book

The Green Book, Appraisal and Evaluation in Central Government, provides guidance on appraisal and evaluation in Government and all central departments and executive agencies use this guide, the latest version of which was released on 17 January 2003.

Within this context, appraisal is seen as the process of assessing the worth of a course of action - which includes projects, programmes or policies. Evaluation is noted as being similar to appraisal, but uses historic data and takes place after the event. The Green Book places appraisal in the context of policy and project development, including establishing the rationale, setting objectives and appraisal of the costs and benefits. The process also includes monitoring and evaluation, the results of which are fed back in to the process.

The Green Book aims to make the appraisal process throughout government more consistent and transparent, ensuring that no course of action is adopted without first having the answer to these questions:

- Are there better ways to achieve the objectives?
- Does it provide value for money?

## A Background to Transport Appraisal

In the transport context, WebTAG advises that appraisal is always likely to be complex, with interactions at many levels with other policy areas. The Government's White paper *A New Deal for Transport: Better for Everyone* (DETR, 1998) set in place the policy context for dealing with transport and highlights this essential complexity of transport problems and the interaction with other policy/action areas:

"Our quality of life depends on transport. Most of us travel every day, even if only locally. And we need an efficient transport system to support a strong and prosperous economy. But in turn, the way we travel is damaging our towns and cities and harming our countryside. As demand for transport grows, we are even changing the very climate of our planet.'

WebTAG notes that transport appraisal is undertaken in order to provide input to efficient policy/project development and resource allocation across government and that to be effective, transport appraisal must deal consistently with competing proposals, be even-handed across modes and take account of a wide range of effects. It goes on to say that the 1998 Transport White Paper framed the move away from 'predict and provide' solutions to transport problems and put at the core an integrated transport policy. Appraisal of problems is the key to the efficient delivery of this policy. The decisions made as part of the delivery need to be based

on a full range of options and a comprehensive analysis of the impacts using a consistent approach and to this end, the Transport White Paper introduced the New Approach To Appraisal (NATA), see both Section 4 above and the following paragraphs, to appraise and inform the prioritisation of transport investment proposals.

#### The New Approach To Appraisal

Incorporating The New Approach to Appraisal, WebTAG includes:

- The Overall Approach: The Steps in the Process;
- The Appraisal Process; and
- Appraisal.

See Section 4 above for further details.

#### Appraisal and the Study Process

As recommended in the Green Book, transport appraisal must be carried out as part of an overall process. The form and basis of the appraisal strongly affects the way in which all other stages of the process are carried out and NATA sets out a 15 step transport study process which it is recommended should in all cases be broadly similar with respect to the process of identifying solutions and should also:

- be easily comprehensible, to those commissioning, steering and undertaking the work and, where possible, to a wider public;
- avoid leading to a particular outcome simply by virtue of the method or process adopted;
- enable a wide range of solutions and the synergy between combinations of components to be investigated in a cost-effective manner;
- enable a preferred solution to be developed which addresses the objectives and problems at which it is aimed; and
- provide a means by which the acceptability of the solution to the public can be tested and taken into account.

## The Government's Five Objectives for Transport

Throughout the NATA process the Government's five objectives for transport as outlined in the 1998 White paper are central to and provide the overall basis for appraisal:

- Environmental impact involves reducing the direct and indirect impacts of transport facilities on the environment of both users and non-users. There are 10 sub-objectives including noise, atmospheric pollution of differing kinds, impacts on countryside, wildlife, ancient monuments and historic buildings.
- Safety is concerned with reducing the loss of life, injuries and damage to property resulting from transport incidents and crime. The 2 sub-objectives are to reduce accidents and improve security.
- Economy is concerned with improving the economic efficiency of transport. The 5 sub-objectives are to improve economic efficiency for consumers and

for business users and providers of transport, to improve reliability and the wider economic impacts, and to get good value for money in relation to impacts on public accounts.

- Accessibility is concerned with the ability with which people can reach different locations and facilities by different modes.
- Integration aims to ensure that all decisions are taken in the context of the Government's integrated transport policy.

## Appraisal of Options

The appraisal framework in NATA is made up of four distinct parts:

- Appraisal Summary Table (achievement of Government objectives).
- Achievement of regional and local objectives.
- Effectiveness of problem solving.
- Supporting analyses.

These four strands, when considered together, provide the decision-maker with the information needed to reach a considered judgement on the worth of a project. To enable a consistent judgement to be made of the relative merits of options, it is recommended that a single summary sheet of each of the four analyses is produced for each strategy or plan option.

## The Appraisal Summary Table

A key element of the New Approach to Appraisal, the Appraisal Summary Table (AST) is a one page tabular summary of the main economic, environmental and social impacts of a transport solution. An AST should be produced for each option and sets out simply and concisely the key consequences of different options for tackling a particular problem using the five objectives. Some of these objectives will have been divided into a number of sub-objectives as described in Section 4 above, reflecting the wide variety of impacts arising from transport projects.

The AST and its more detailed supporting documents provide the information needed to make a judgement about the overall value for money of the option or options in achieving the Government's objectives. Providing the information in this way enables a consistent view to be taken about the value of projects. The AST does not automatically provide a mechanistic way of estimating value for money, but summarises the effects in each area so that decision-takers have a clearer and more transparent basis on which to make a judgement. The inclusion of any sub-objective in the AST, with the associated qualitative and quantitative analyses, cannot be used to imply weightings between objectives in forming decisions.

## Regional and Local Objectives

As part of the study process, the WebTAG guidance anticipates that specific local objectives will be set, and that these will 'nest' within the Governments five objectives for transport. By their very nature, such objectives will be specific to each study so that there is no requirement for them to be the same in all studies. It is therefore not practical for WebTAG to be prescriptive about their formulation or measurement,

although it is recommended that a key set of indicators are developed against which to measure the performance of solutions.

## Effectiveness of Problem Solving

At an early stage in the study process, WebTAG recommends that current and future transport related problems should have been identified, analysed and displayed using text, tables and plots as appropriate. An assessment of the extent to which the problems identified would be solved by the option or options proposed then needs to be made, considering both absolute and relative performance against key indicators.

## Supporting Analyses

Supporting analyses recommended by WebTAG cover three additional groups of issues that do not easily fit within the Appraisal Summary Table. These issues are:

- distribution and equity which aims to show the distribution (spatially, across modes, etc.) of the impacts of the solution, thus enabling an assessment to be made about the fairness of impacts on those affected;
- affordability and financial sustainability which aims to outline the financial performance of the solution, identifying public and private sector input; and
- practicality and public acceptability which follows a checklist that includes such measures as feasibility, area of interest, complexity, time scale, phasing, and political nature of solution.

Within this overall context of fairness, affordability and acceptability, questions can arise with respect to whether social considerations are indeed given sufficient weight in the appraisal process? Encouraging social inclusion is an explicit component of the Government's policies on transport (see in particular Chapter 2 of A New Deal for Transport, DETR, 1998b). The Appraisal Summary Table provides the framework for assessing the impact of a particular strategy or plan on objectives for social inclusion. The Qualitative Impacts column on the AST may be used to highlight for particular sub-objectives the effects on different social groups. The supporting analyses of distribution and equity may be useful in assessing what these particular impacts are and, where specific social inclusion objectives are identified in a particular study, the assessment of the achievement of local and regional objectives also provides a mechanism for highlighting the impacts of a particular option on social inclusion.

## **Generating Options**

NATA generates options and can take on board road vs rail and other choices. Although the NATA Refresh consultation responses (see Section 8 below) have suggested that not everyone is of a mind in terms of whether or not this part of the overall appraisal process is adequate, robust and defensible, WebTAG nevertheless advises that once objectives have been set, the situation within the defined study area has been examined and problems have been identified, the next step is to start developing "ideas for solutions". It suggests that the following sources of ideas are likely to be available:

- the public, if consulted at an early stage as is suggested in the NATA process diagram;
- ideas considered previously may be reviewed to check whether any of the proposals discarded in the past may now be worth reconsidering; and
- Policy Instruments, a review of which may be of use in studies.

As advised by WegTAG, there may be a wide range of policy instruments relevant in studies covering both urban and inter-urban techniques and, when generating and assessing options, it is important to consider all aspects of possible impacts. For example, one of the major causes of motorway congestion is the use made of these roads by local traffic, diverting to avoid congestion on local roads caused by even more local traffic. If some of these very local car journeys could be transferred to cycle, foot or public transport, this could provide some relief of the motorway congestion. In addition, where inter-urban routes bypass or provide access into urban areas, then urban instruments may be used to complement inter-urban techniques. Generally options that reduce the need to travel are likely to be more sustainable than those that cater to travel demand.

All of this is broadly consistent with the basis of planning/option generation, perhaps most succinctly expressed as:

- Survey (where are we now?)
- Analysis (where do we want to be?)
- Plan-making (how do w eget there?)

However, not everyone is persuaded as yet that options are generated in an acceptable fashion, nor that the appraisal of options is necessarily sufficiently evenhanded and balanced. In the context of this Working Paper, it is to be noted that considerable thought continues to be given to the question of where mega-projects come from, how they are invented and the related issue of objectives formulation. Stakeholders and the question of consultation are obviously important as is the need to be aware of the influences of politics and commercial interests. For example, Greengauge 21 (a not-for-profit organisation which aims to research and develop the concept of a high speed rail network) formed a 'Public Interest Group' in Spring 2008 to take forward and oversee the early development of thinking on high-speed rail and the way this has acted, including defining the 'mission'. Within this context, the key objectives have been found to centre on capacity, climate change, economic growth & regeneration.

## The NATA Refresh Consultation

The Eddington Study and Stern Reviews prompted the Department to launch a review of the New Approach to Appraisal (NATA) in 2007. This was undertaken partly to address issues emerging after ten years of using NATA, and partly to adapt NATA to the requirements of the new *Delivering a Sustainable Transport System* policy goals – especially the challenges around economic growth and the environmental and social impacts of policies or interventions.

In the Department's response to the NATA Refresh consultation in July 2008, some new analyses were proposed to be added to NATA for 2009/10, encompassing the appraisal

of the impacts of cycling and walking, quantifying the reliability improvements due to a transport intervention, incorporating the latest forecasts of the drivers of transport demand and analysing the uncertainty around those drivers (DfT (2008/2009), https://owa.capita.co.uk/exchweb/bin/redir.asp?URL=http://www.dft.gov.uk/consult ations/archive/2008/consulnatarefresh/responses/nataresponsesummary and https://owa.capita.co.uk/exchweb/bin/redir.asp?URL=http://www.dft.gov.uk/webtag /sitepages/news.htm , date accessed April 2009).

Further changes are also planned for the financial year that starts in April 2010 (Dft (2009) NATA Refresh: Appraisal for a Sustainable Transport System). Firstly, as part of the routine changes the Department will periodically make to NATA, the guidance and software will be updated to take account of the latest forecasts on growth, population, oil prices and other drivers of transport demand, taking into consideration the Government's work both on responding to the Committee on Climate Change and incorporating changes in economic conditions.

Other proposed changes include:

- New benefit-cost ratio for funding decisions. Indirect tax will be removed from the Present Value Cost (PVC) calculation and included in the Present Value Benefits (PVB).
- Changes to the Appraisal Summary Table (AST) so that it reflects the new transport goals and changes, especially highlighting carbon impacts and ensuring alignment between local and national goals, for decisions often made within wider local and regional planning processes, touching areas such as social and distributional impacts, health impacts of transport, housing and economic development.
- Greater transparency about indirect taxation impacts, to demonstrate that these impacts are a transfer between transport users and government, which does not alter the overall worth of a project, and journey improvements especially time savings, providing greater disaggregation of these impacts as supplementary analyses and information on the size of time savings and their spatial and distributional incidence.
- In assessing value for money, introducing a new 'Very High' category which will cover schemes offering returns greater than four times their costs, helping to better differentiate and prioritise between the very best schemes.

The Department notes that the NATA framework has generally been applied to new capital investment. However, the principles and approaches are equally applicable to any policy intervention, such as revenue spending on smarter choices programme, or a new pricing policy or regulation and a further important consideration is ensuring that the appraisal process is proportionate, so that decisions are robust but do not involve superfluous levels of modelling and analysis. Simplified appraisal requirements for major schemes are therefore currently under consideration and the focus of this work is to ensure that the appraisal effort is proportionate to the size and impacts of schemes or measures. The work is also, it is advised, specifically developing a lighter touch process

for small schemes. In addition it is considering how the option assessment process can also be systematically covered by appraisal at an early stage in scheme development. This is expected to formalise the process for promoters making the case to do less appraisal work for appraisal aspects that are, for example, unlikely to impinge on the value for money of the scheme, and could also include less onerous analytical procedures.

## The South East Plan

**Transport and Communications** 

The Plan adopts a twin-track approach: managing the transport system to make the most of existing capacity, combined with increased investment, especially in public transport, cycling and pedestrian access. It also seeks to improve access to international and regional gateways, such as the international

airports, the Channel Tunnel and the ports of Dover and Southampton whilst investing in communications technology to increase access to goods and services

without the physical need to travel. The Plan aims to adopt stronger parking policies, but linked to a programme of access improvements and reasonable provision for residential development, and accepts a major future role for road freight whilst also encouraging railways to carry an increasing share of freight, especially on four strategic corridors, and supporting up to three regional freight transport interchanges. The Regional Assembly accepts continued growth in aviation traffic but considers that the scale of growth currently proposed by Government is unsustainable. Provision is not therefore made in the Plan for additional runways at either Heathrow or Gatwick.

Again, one perspective which might be taken here is that the SE Plan network functions in an overall sense as a Regional MUTP. In this context, whilst making the most of the existing network and encouraging the use of public transport, walking and cycling is broadly sustainable, certain elements of the overall system such as the motorway/trunk road network, long distance rail and improved access to international and regional gateways would appear to support and perhaps enhance more longer distance trip making, thus arguably working against overall sustainability within and in relation to the network.

## 6. The Importance Of Context

Although self-evidently a UK-based methodology, the NATA approach has in some instances been transferred to the wider international scene, with for example a transport project evaluation toolkit prepared in 2003 for the World Bank and a series of Economic Evaluation Notes prepared for Bank staff in 2005 said to draw heavily on many elements within the NATA framework.

In relation to NATA, the Transport Policy Group, Institute for Transport Studies, University of Leeds prepared a paper in 2008 outlining current appraisal practices in other European countries and suggesting lessons for the NATA Refresh (see also Section 5 above).

## **University of Leeds Research**

The research and the University response to the NATA Refresh consultation (Leeds University (2008), <a href="http://www.its.leeds.ac.uk/research/groups/NATA%20Refresh%20Response%20-%20Final.pdf">http://www.its.leeds.ac.uk/research/groups/NATA%20Refresh%20Response%20-%20Final.pdf</a>, date accessed April 2009) showed that the UK remains at the forefront of the use of CBA to inform decision making. While there are certain technical points on which UK practice differs from the European norm, this is not really a problem.

Other points arising included the following:

- There has been an element of opaqueness since the introduction of the revised Green Book in the treatment of benefits to foreign travellers within the UK, but these are far more important in European appraisal than in the UK and a degree of consistency with European appraisal practice in this area is desirable.
- There also needs to be consistency among Western European States in the valuation of transboundary pollution and in particular carbon emissions.
- If changes are envisaged to the treatment of financing costs in CBA, these might benefit from discussion with counterparts in Sweden, the Netherlands and the EIB.
- The UK seems to be lagging some other countries by not yet using money values for local and strategic pollutants other than carbon. Addressing this properly will involve significant modelling and valuation challenges (eg PM2.5s).
- More dubiously, other countries seem to have made progress in areas such as biodiversity and natural resources which have always been considered difficult in the UK because of their context-specificity. It might be worth looking at how convincing the Dutch work is.
- There is scope for cross-fertilisation with the Dutch and Swedish on topics such as the value of travel time with income/distance and purpose and reliability values.
- Continuing to articulate the role of CBA in decision support and policy analysis is essential. This is the strongest signal that appraisal is taken seriously, as an input to decision making.

• Outside the studies reviewed here, we recommend continued liaison with European academics and policy makers in the approaches to estimating and valuing wider economic benefits.

## 7. Innovative New Approaches

Following extensive consultation on the 2007 Planning White Paper, the Government legislated in what became the Planning Act 2008. This provides for a more efficient, transparent and accessible planning system for nationally significant infrastructure projects, including major transport schemes and, as noted above, whilst not in itself an innovative new approach to major transport project appraisal, the establishment of the Infrastructure Planning Commission will bring into being a significant change within the consent procedures process.

## Infrastructure Planning Commission

Government now considers that the existing planning system for major infrastructure is simply not up to the challenge of delivering such schemes in a way which takes into account the needs of communities and the natural environment. It has grown up incrementally and now consists of eight separate but overlapping regimes and it has become cumbersome. The Government has therefore embarked on fundamental reform of the development consent system for major infrastructure projects (CLG (2009), http://www.communities.gov.uk/documents/planningandbuilding/pdf/routemap.pdf and

http://www.communities.gov.uk/documents/planningandbuilding/pdf/consultationpreapplication.pdf , date accessed April 2009).

Sustainable development is said to sit at heart of the new regime. When preparing national policy statements, the Government will be required to do so with the objective of contributing to the achievement of sustainable development, and in particular to have regard to the desirability of mitigating and adapting to climate change. At the same time the new regime will aim to be more transparent and facilitate participation in decision making, strengthening the voice of communities. The new, single consent regime provides for:

- the Government to produce National Policy Statements (NPSs) that integrate environmental, social and economic objectives and provide clarity on the need for infrastructure (these will be prepared with the objective of contributing to the achievement of sustainable development including, in particular, the desirability of mitigating and adapting to climate change);
- a new duty and greater onus on promoters to ensure that proposals are properly prepared and consulted on before they submit an application for development consent;
- a new independent body, the Infrastructure Planning Commission

(IPC), to take over responsibility for considering and deciding on major infrastructure applications (decisions will be based primarily on National Policy Statements, the examination process will be streamlined and questioning at hearings will be led by Commissioners rather than being Adversarial).

It is intended that these reforms will establish a clear separation between policy making and decisions on individual applications. This will, it is hoped, give promoters a clearer framework with a higher degree of predictability in which they can make investment decisions with more confidence. In most circumstances, cases should be decided within a year from application.

At the same time, the new regime will provide better opportunities for the public and local communities to get involved in decisions that affect them. There will be three opportunities to get involved:

- in the debate about what national policy means for planning decisions;
- the development of specific projects; and
- the examination of applications for development consent both by making written representations and appearing at hearings.

In summary, the government is looking to the new regime to enable decisions about major infrastructure projects to be made in a way that is faster, fairer and more transparent, roughly equivalent to what was promised in the last round or reforms relating to the development plan system. This is considered vital to the economic, environmental and social well-being of the population at large, including meeting the challenge of climate change and strengthening the voice of communities.

## Will it work?

- Only time will tell. The CPRE, Friends of the Earth, media commentators, writers and planning and transport professionals have all argued against the Commission and MPs from both sides of the House have expressed significant concerns and outright opposition.
- In order to assist the government develop a workable remit for major infrastructure policy and its relationship with the work of an independent planning commission, the RTPI proposed an 8 point plan, which was included in their submission on the Planning White Paper:
- The commission must be independent from Government but set within a clear national policy framework as established through Parliament by the Government.
- Any national policy must be consulted upon by the public with real options for change. We have already seen the legal ramifications on not consulting

properly with the challenge to the Government's nuclear energy policy exercised by Greenpeace.

- Establishing a national spatial infrastructure plan will be key to consulting with the public by helping raise capacity for understanding where the major projects will be located and why. It will also be a 'shop window', demonstrating to investors that the UK is serious about sustainable infrastructure development.
- Any decision taken by the Commission must consider the national spatial infrastructure plan, any other relevant planning policy (such as regional policy) and any other material planning consideration (such as effects on nearby homes).
- As soon as it is clear a decision will have a local impact the Commission must consult the local planning authority.
- The Commission must not become overly expensive to run or a bottle-neck. RTPI proposes the commission has several 'core' commissioners with a wide range of associate commissioners who can be brought in to deal with specific projects as and when they are needed.
- Commissioners must be professionals with a range of expertise and backgrounds.
- The commission must be held accountable through regular checks and audits by Government in much the same way as the Bank of England and make an annual report to Parliament, which includes an assessment of the adequacy of the policy framework within which it is working.

Some of these points have been picked up and may be seen in the subsequent details which have emerged regarding the form, function and operational characteristics of the IPC.

However, there is thus far little sign of a national spatial infrastructure plan and the Conservative Party have announced that, if elected, they would abolish the IPC.

Interesting times ahead then!!

## 8. Summary And Conclusions

## Overview

The Commission for Integrated Transport believes that the last ten years or more have seen a decisive shift in the way transport is considered in overall planning terms, particularly its relationship to regeneration, sustainability and accessibility, and that over the next two or three decades the planning system as a whole (land use and transport) will need to respond decisively to demands on the transport network, so that instead of transport policy responding to problems after they have arisen, they may be solved through co-ordinated planning and decision-making.

Delivering transport improvements that assist in creating liveable environments, urban and rural, will require on-going and systematic consideration of a wide range of policy impacts.

This is undoubtedly true, and although the jury is most certainly out on the question of whether or not the IPC will add to or detract from the efficiency and effectiveness of the major infrastructure appraisal and consents process, in terms of transport NATA certainly remains at the heart of it.

## **Response to the NATA Refresh Changes**

The Nata Refresh changes have certainly not been universally applauded, with the consultation process drawing out some interesting and perhaps thought-provoking comments, some of which at least were clearly not acted upon. The Campaign for Better Transport and the Green Alliance claimed that the methodology required radical reform since it favoured road schemes and discriminated against public transport. NATA was said to primarily assess a scheme's "value for money, deliverability and strategic fit", bypassing key social and environmental considerations including the government's commitments to cutting CO2 emissions.

The Getting Transport Right Report of December 2008 (CfBT/GA (2008), <u>http://www.green-alliance.org.uk/grea\_p.aspx?id=2670</u>, date accessed April 2009) said that in practice, NATA often discriminates against the very amended lifestyle and behavioural choices that the government is trying to encourage, includes fuel revenues generated by extra traffic as one of the benefits of road building projects, marks down journeys on public transport which reduce fuel use and does not take full and proper account of public transport, cycling and walking and schemes that make driving more efficient. It also says that NATA should no longer put a monetary value on things like a person's life, injury or endangered species when considering economic benefits. Key recommendations were:

- NATA should assess against new government objectives, including the key goals set out in Towards a Sustainable Transport System.
- The NATA treatment of taxes must be changed.
- Appraisal must stop monetising everything.
- NATA should set some standards against which trade-offs cannot be made.
- Alternatives should be properly considered in full.
- Pros and cons should be set out more transparently in the AST.

In relation to the first bullet point above, it was suggested that the current economic objective will need to move beyond a simple approach to time-savings and operating costs to one that values reducing the need to travel, demand management and

relocation. Accessibility should be a key driver. This would mean it is likely that schemes would need to be bundled together so they can be assessed in order to deliver objectives, and there is a clear link here to overall spatial planning considerations and the goal of more closely integrated land use/transport planning, including approaches such as that set out in the 2002 Transport Development Areas (TDAs) Good Practice Guidance published by the RICS...

The Sustainable Development Commission (SDC (2008),http://www.sdcommission.org.uk/publications/downloads/NATARefreshConsultationResponse.pdf, date accessed April 2009) also advised that NATA should be consistent with the key goals set out in Towards a Sustainable Transport System, and that option generation was not properly developed within NATA. Concerns were expressed with regard to evaluation and learning the lessons from existing schemes, addressing the shortcomings of NATA such as the current omission from appraisal of the likely arising development pressures from scheme implementation (unintended consequences), problems with monetisation of impacts and the need for increased transparency and better dialogue.

The Centre for Transport and Society at the University of the West of England (UWE (2008),

http://www.transport.uwe.ac.uk/research/making%20nata%20fit%20for%20purpose %20-%20uwe%20nata%20refresh%20submission.pdf, date accessed April 2009) felt that NATA needed to be made fit for purpose, advocating a substantial strengthening of focus and content with regard to objectives Options should also be full and comprehensive, the evidence base strengthened and both likely intended and unintended impacts or effects identified and examined. The uncertain nature of future scenarios against which appraisal is undertaken and presently unconsidered impacts, including health benefits and costs for example, should also be taken into account and greater attention given to the transparency and presentation of the appraisal results.

The Local Government Technical Advisors Group (TAG) welcomed the principle of a review (TAG (2008),

www.acttravelwise.org/filegrab/**TAGresponse**on**NATARefresh**Consultation29-2-<u>08.doc</u>, date accessed April 2009), but had very grave reservations on the form and direction of the review and in overall terms advised that they would like to see:

- A significantly simplified process.
- Much less reliance placed upon old style transport economic principles.
- Time savings not given anywhere near the effective weight they are at present - reducing congestion/journey time should not be the key issue – certainly when it cannot be achieved with additional infrastructure because of induced traffic.
- Any 'benefit' that is contrary to policy excluded or perhaps entered as a negative.
- Health and community benefits particularly for urban areas being brought about by applying appropriate transport policies, including more walking and cycling, and reflected in the assessment.

- Present assessment methods seemingly directed to approving schemes to encourage mass movement between urban areas discouraged rather than promoted by government for sustainability and environmental reasons.
- Similarly, high speed standards promoted by the existing methodologies should not be promoted in urban areas.
- A change of emphasis whereby, even if the present approach were reasonable for rural parts of the country, the implications on the urban areas are more properly considered in a joined up fashion and more equal importance given to both potential inter city/regional infrastructure and smaller/urban schemes.

There is a discernible pattern in many of these responses, but it is perhaps a moot point as to how far government is taking them on board when issuing the updated NATA guidance (see Section 5 above), albeit that this updating process remains on-going with further changes yet to materialise during 2009/10.

Whilst the changes have clearly not been in effect long enough for full and robust comparative analysis to be undertaken, questions continue to be asked about whether or not the NATA refresh exercise will prove to be instrumental in addressing environmental and social factors more effectively and whether the amended appraisal process will in reality properly reflect the impact of cumulative changes in environmental and social conditions, especially within a structural context such as changing the shape of eco-systems and communities.

Within the context of the various comments set out by the organisations above, the most likely expectation must be "probably not".

## And so?

Meanwhile, the recent RAC Foundation research paper published in January (Bayliss (2009), <u>Main Political Party Transport Policies from 1955 to 2005 and their Implications for Strategic Road Development</u>) claims that transport has been consistently sidelined by governments of both parties in the post-war years, with the average transport secretary in his or her post for just 22 months, thus sabotaging any prospect of effective long-term planning. Whilst a lot of improvements have been made over the past half century, a great deal more could have been achieved from a more purposeful and coherent policy regime.

Much the same can probably be said with regard to the related topic of transport appraisal in the UK and so, much though we may desire it, maybe there is a good way to go yet before we can enjoy the benefits of a planning system as a whole (land use and transport) which responds decisively to demands on the transport network, solving anticipated problems proactively through a finely tuned, high quality and well co-ordinated land use and transport planning appraisal and decision-making process. Perhaps we should all just remain optimistic!!

## 9. Key Questions

• If town planning and transport planning are so inextricably linked, why are they so often separated?

- Is transport planning a major determinant of development form and structure, almost as a rival to town planning, or a key and essential but inherently supportive and enabling function?
- Is it in fact possible to conceive of a truly sustainable MUTP, or are the potential contradictions always going to be too significant to be readily overcome?
- Can the desire for mobility can be met whilst still ensuring that transport contributes to the overall reduction in emissions which will be implemented via the Climate Change Bill?
- Is it true that with proper planning, there is no reason why a package that includes new infrastructure need have an adverse impact on climate change, quality of life or the natural environment?
- Is the Thames Gateway an example of a bundled set of MUTPs that will effectively function as a single Mega Urban Transport project and might the same be said of the South East Region?
- If improving local opportunities for every community and reducing the need for commuting are important Gateway area outcomes, how does being twelve minutes from Stratford and seventeen from St Pancras by high speed train reduce the desire and ability to commute and is it sustainable?
- Does The 'New Approach To Appraisal' (NATA) effectively embody the overall objectives of sustainability, robustly incorporate the requirements of environmental assessment and adequately account for key social considerations fully in appraisal (and are the relevant factors, criteria and monetisation elements adequately dealt with)?
- Is NATA sufficiently responsive to the relationships between land use and transport and does it give sufficient weight to the requirements of effective spatial planning?
- In this regard, whilst NATA can be used to test options, is the methodology for doing so sufficiently robust, especially in considering rail vs road and other choices?
- Is the objective of balancing the need to travel with the need to improve quality of life by means of seeking integrated land use/transport planning solutions that meet long-term economic, social and environmental goals ever going to be attained?
- In this regard, notwithstanding that SEA is consistent with NATA, is it really a sufficiently robust and integrated part of the appraisal/decision-making process and is it integral with Sustainability Appraisal ie SA incorporating SEA?
- Does sustainability need to be considered first at a strategy level and then at a scheme level, implying a staged approach to applying the relevant appraisal framework?
- How useful has the NATA refresh proved in addressing environmental and social factors more effectively and do the NATA criteria adequately reflect the impact of cumulative changes in environmental and social conditions, especially structural, i.e. changing the shape of eco-systems and communities?
- Do current transport appraisal methodologies deal consistently with competing proposals, are they even-handed across modes and do they take

account of a sufficiently wide range of effects in relation to sustainability, with particular regard to social, environmental and spatial planning considerations?

- Will the Infrastructure Planning Commission deliver decisions about major infrastructure projects in a way that is faster, fairer and more transparent in relation to the economic, environmental and social well-being of the population at large, including meeting the challenge of climate change and strengthening the voice of communities?
- To what extent are MUTPs bundled together where appropriate during the appraisal process so they can be assessed with regards to their ability to deliver overall national/regional/sub-regional objectives, and is there a clear and sufficient link with overall spatial planning considerations and the goal of more closely integrated land us/transport planning?
- How significant is the absence in England of a national spatial infrastructure plan which supports appraisal and consultation with the public by helping raise capacity for understanding where the major projects will be located and why?

## **Recommended Reading**

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