



University of the
West of England

Making NATA fit for purpose

A Submission for the NATA Refresh Consultation

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Introduction

1. The Centre for Transport and Society, UWE Bristol, is a research centre focussing on the application of social science disciplines to problems of transport policy and travel behaviour. It aims at understanding the inherent links between lifestyles and personal travel in the context of continuing social and technological change. Recent research priorities have included close attention to public attitudes, acceptability, and behavioural responses to the policy initiatives aimed at sustainable transport systems.
2. This submission builds on a number of research projects and interests of staff and research students of the Centre. More details of work relevant to each of the strands in the submission is available on the CTS website www.transport.uwe.ac.uk, from the Director Professor Glenn Lyons Glenn.Lyons@uwe.ac.uk, the editor of this submission Professor Phil Goodwin philinelh@yahoo.com, or the authors of specific reports whose contact details are on the website.
3. We welcome the analysis of issues contained in the DfT's consultation document *The NATA Refresh: Reviewing the New Approach to Appraisal*. (DfT October 2007). Our evidence is mainly directed at the topics outlined in the DfT's statement of the Objectives of the NATA Refresh (pp 67-68), which we find a more useful framework for discussion than the list of consultation questions.

Objectives

4. Even the present version of NATA and its associated guidelines advocate a broad approach with consideration of multi-modal ways of solving problems, and including demand management not only infrastructure projects. The

problem has not mainly been with its objectives, but in ensuring they are actually carried out in applications by other agencies. Overwhelmingly the most common applications in practice are narrower calculation of benefits of road projects providing primarily for increased car travel, with the assumption that goods movement will be improved by the same actions. Thus we live in a world of broad policy goals which can be achieved by a wide range of different policy instruments, but transport appraisal in practice has been dominated by signs of its origin in assessing a narrow range of projects usually consisting of building new infrastructure, and with an excessive attention to the achievement of a large number of very small time savings for vehicle traffic. On many occasions, scheme promoters cite the Department for Transport's own guidelines in justifying not giving great attention in practice to aspects which are stated as important in principle.

5. In moving towards a sustainable transport system, there has rightly been an important shift in the relative importance of different policy instruments. For economic efficiency and environmental improvement, there is increasing attention on:
- greater attention to demand management either in addition to or instead of infrastructure expansion;
 - walking¹;
 - public transport;
 - cycling;
 - land use planning especially favouring settlement patterns which reduce car dependence;
 - pricing systems reflecting full external costs;
 - smarter choices;
 - redefinition of the styles of street management including traffic calming and the reallocation of scarce road capacity, ie better use rather than maximising traffic flow;

¹ We separate walking from cycling in this list because both policies affecting them and the behavioural impacts are substantially different. 'Walking-and-cycling' is not a mode of transport or a useful construct in modelling. 'Data difficulties' are frequently cited as a reason for not considering them in appraisal: improved data should be a very high priority.

- the role of better information;
 - the importance of reliability and variability both in conditions and choices;
 - an emphasis on neighbourhood access rather than long distance journeys.
6. This list of the most important policy objectives and instruments is unfortunately the same as the list of aspects which are poorly treated in NATA, or not at all. Therefore making NATA fit for purpose will involve substantial strengthening of focus and content, not marginal changes to current practice: the weak parts are not the least important, but the most important.

Options

7. Options must be full and comprehensive. Presentation of 'the problem' in terms which seem to predispose towards a particular type of infrastructure project should be avoided. There must be at least one realistic well-conceived option which constitutes a genuine alternative to every major infrastructure scheme as proposed, and which is carried right through the appraisal process. If the 'without', 'do-nothing' or 'core' option does not do this, there must be another, 'Plan B', added.
8. Appraisal of all policies must include the forecast option against an experienced reality (a base year, or the present time), not only against an alternative forecast. Words like 'improvement' or 'deterioration' or 'time savings' should relate to people's actual experience. When a forecast future is worse than the present, but 'better than it might be otherwise', this should be said explicitly, to avoid the misunderstandings that arise if worsening conditions are described as a benefit.

Value Judgements and Evidence Base

9. It is known that the NATA benefit cost ratio has features which can have perverse results when applied to projects where there are different tax effects in the appraisal. The current NATA approach is not robust, especially for very cheap, revenue-increasing, or demand management measures. Tax effects can be important, but they should be considered transparently in their own right, not mixed with the resource calculations in a benefit cost calculation.
10. People with higher incomes will generally be prepared to spend more money to make a unit time saving than poorer people, and similarly may be prepared to spend more on reducing their risk of accidents, noise, or other threats to the quality of their life. That does not mean their time, lives, comfort or quality of life is always worth more in social terms, or even in good economics.
11. Time spent travelling is not all lost, especially in good quality public transport - some is spent on productive work, and some is spent on welfare increasing relaxation and thought. The resulting reduction in the value of time should be treated as a benefit, not a loss. There is a continuing problem of the treatment of very small time savings in appraisal, especially when they are much smaller than the normal variation in travel speeds due to random factors. Whatever money value is put on them, the appraisal should identify the number of time savings, and losses, of different sizes, eg less than 1 second, 1-5 seconds, 5-10 seconds etc. Here also there should be continual care to distinguishing actual reductions in travel time from differences in travel time between two different forecasts. Gainers and losers should be separately identified.
12. The present value of carbon suggested for use in appraisal needs to be reconciled with the application of legally binding targets for carbon reduction. There is a prima facie case for examination of the outcome that

at current values the carbon impacts of transport schemes seem very much smaller than the travel time impacts in appraisals. In general, the value of carbon used in BCA should not be derived from assumed success in meeting carbon reduction targets, but be an instrument in achieving them.

13. Following SACTRA, wider economic benefits should be retitled 'wider economic impacts' emphasising that unintended negative effects must be scrutinised at least as carefully as intended positive ones. 'Agglomeration' calculations tend to suggest improving transport facilities for the richest areas, and 'regeneration' for the poorest areas, but the evidence base that transport interventions genuinely achieve their intended economic impacts is still very weak, appearing to be strongest for very close contact in dense urban contexts, and even this does not take into account current trends in communications practice. Where transport policies or projects are thought to be influential in producing different patterns of employment or other land uses, it is not right to carry out appraisal assuming that the 'with' and 'without' land used will be the same, which would tend to distort the calculation of benefits, for example by exaggerating congestion in the 'without' case or underestimating it in the 'with' case.

The future is not less important than the present, but it is less certain

14. For the ever-changing packages of goods and services bought in a market, there is a sense in discounting future values. But this does not translate comfortably when considering those impacts which are measured in units with a more 'eternal' characteristic such as life, time or distress. It does not seem appropriate to presume, for example, that the impact of air pollution, climate change, or deaths due to traffic accident is less important to future generations than to the present generation. Conversely, it should not be axiomatic that if incomes are higher in the future, saving an hour of travel time would be of greater usefulness to future generations than to the current one (though it may well be the case that the money itself becomes less important). It is helpful to put more emphasis on the actual number of

lives, hours, tonnes of carbon etc, on a year-by-year basis, and less on their discounted values.

15. Travel choices are variable, in the short run and even more so in the long run. Validation of models should pay less attention to how well they 'fit' an assumed stable travel pattern in a base year, and more on how well they explain observed variability and adaptation. The longer the period, the greater degree of possible adaptation must be considered.
16. The 60 year appraisal frame, together with extrapolation from the last forecast year, assumption of increasing incomes and value of time but without behavioural consequences, and trends for growth, produce the perverse result of the majority of estimated benefits assumed to occur after the end of the last forecast, without any evidence at all. The proportion of benefits presumed to occur after the last forecast year should always be reported, and if it is large there should be emphatic caveats on the results.
17. Long term considerations are vital, but long term forecasts are misconceived. Any appraisal more than a short period into the future must be assessed by reference to diverging scenarios of what may happen, especially to policy and behaviour, but also including economic growth, traffic policy, energy prices, demographic structure, and car dependence. The longer the time period, the wider divergence should be considered. The performance of policies or projects should then be appraised for robustness against these different scenarios.

Unconsidered Impacts

18. Health benefits from walking and cycling, together with health costs of 'lazy' travel behaviour, should be included in appraisal of policies and projects. Other classes of benefits such as reliability of travel time by cycle, recreational walking on high quality footpaths should be included.

19. Access to social, cultural, leisure, jobs, education and social services brings benefits. Relocation of facilities (both as a result of transport policies, and as separate results of planning decisions) should be included in appraisal. So should the effects on social cohesion and community vitality. These can be assessed using ONS approach to social capital, for both ex ante and ex post appraisal, not necessarily valued in money terms. As a general principle, the distribution of costs and benefits of each major impact should be reported separately (using the size of loss and gain as the classifying variable) and then tested for patterns of fairness in relation to different social groups.

Transparency and Presentation of Appraisal Results

20. The assessment summary table creates difficulties of cognition, especially due to ambiguity between the attributes to which a money value is given and the attributes where it is not, and biases due to perception of the reference point. It causes confusion that the economic value is the 'bottom line' implying that it encompasses all above it. It is accepted that an AST can never provide a full description of all the outcomes, by definition, but one test of the clarity of a summary is that the main supporters and opponents of an option should both be able to recognise that aspects have not been hidden, even when they disagree about the assessment of them.

21. All aspects of NATA which depend on research for their verification should be open to scrutiny and challenge at public inquiry or other fora for assessment of appraisals. Matters of theory and evidence must not be treated as 'policy and therefore unchallengeable'. The DfT should take care to eliminate ambiguity or loopholes which enable scheme promoters to claim that they were 'following Government advice' in not considering aspects of core importance to policy goals. Alongside the guidance on the content of NATA, there should be explicit guidance on how its application can be challenged, supported, and assessed in different contexts such as Inquiries, Planning Commissions, and delegated authorities. This guidance should set particular emphasis on the ways of ensuring that the

contributions of specific projects to wider sustainable goals have been appraised properly.

22. Appraisals will be more realistic and salient if they recognise that policies and projects are contested, and research and evidence are debated. There are some cases where appraisal may be an uncontroversial application of technical methods enjoying professional and public consensus, but this should not be taken for granted. Peer review and professional audits should reflect the full range of professional thinking, not be confined to rather similar consultants approving each others' reports. Objectors are not lesser beings than promoters: on some occasions, they have been a truer voice of the future than has been offered by received wisdom. Indeed a suitable forum for scrutiny and debate can help to overcome the problems of compressing too much complex information into an AST, and therefore assist the role of formal appraisal in illuminating decisions.

23. It should be normal to carry out ex post appraisal of forecasts and assessments, say one and five years after all big schemes; on the other hand it is important not to make the costs of appraisal a barrier for small, cheap initiatives which can be implemented speedily and smoothly. A suitable way of doing this would be to define an ex post appraisal budget in relation to the costs of schemes being appraised, say 5%, or alternatively set at the same level as spent on ex ante forecasts and appraisal. Guidelines should be developed on how such ex post appraisals should be carried out, quality control, and the results made fully available in the public domain. Future NATA refreshes should build directly on this evidence base.