

# **WHAT IS THE IMPACT OF TRANSPORT SCHEMES ON ECONOMIC GEOGRAPHY? SUMMARY OF POSITION IN DfT GUIDANCE AND SUPPORTING EVIDENCE.**

## **PEER REVIEW**

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1. We were commissioned by the Department for Transport (DfT) to provide a peer review of this paper. The paper's two aims are to summarise the DfT's position on and bring together evidence on the impacts of transport schemes on the size, nature and distribution of economic activity. Whilst it will be publicly available it is primarily an internal position statement. Given this there is a need to present its findings in an easily digestible format - it is not intended to be an academic paper. The style that has therefore been adopted is to break the problem down into nine questions and summarise the answer to each question with a simple yes/no and a paragraph of justification. The paper draws partly on DfT policy, some of which has changed little since its implementation immediately post-SACTRA(1999) and some of which is very recent, and partly on DfT commissioned research including that of ACTRA, SACTRA and Eddington. In places this is supplemented with international evidence on high speed rail.
2. Our overall view is that it is a fair and reasonable position statement. The empirical evidence base on economic impacts remains thin, and there is a need to rely on theory and ex ante (or predictive) models to help inform policy and best practice. The general conclusions of the paper are in line with the consensus. The paper does however raise a number of issues for transport appraisal going forward which, we believe, the Department needs to consider. We have avoided commenting on detailed textual matters except in a few cases where they change the sense . These issues stem from the paper's dual aims of summarising the Department's position and summarising the evidence on the size nature and distribution of economic activity. This is a fertile field in research terms and compared to other areas of transport research knowledge is evolving at a reasonably rapid rate. DfT policy is also subject to change the latest of which is the introduction of the five business case model for scheme justification introduced this year. The other key policies relevant to the paper is the methodology for assessing wider impacts (introduced in 2005) and that for assessing regeneration areas (introduced in the early 2000s).

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Our main comments centre around the juncture of the paper's dual aims. Firstly it is not immediately transparent how the DfT's approach to GDP measures dovetails with the 5 business cases and project appraisal including that of assessing impacts on regeneration areas. Secondly, the Department's seminal methodology for assessing wider impacts dates to 2005, and in this rapidly changing field six years is a reasonable amount of time. Our final major comment relates to the issue of the economic impacts of big and small schemes.

3. We think there is a need for clarity on where, within the overall assessment, economic geography effects and induced economic activity effects are expected to appear. Since April 2011, the appraisal guidance has changed in a number of ways including the introduction of the strategic business case and new guidance on distributional impacts. There is almost certainly going to be overlap between the various components of the five case model but there is need for conceptual clarity, for example
  - It could be that the Wider Impacts advice is retained together with the transport and environmental cost-benefit analysis to constitute the economic case;
  - Induced land use change not considered in the above could form part of the strategic case;
  - The predicted GDP impact per pound cost of the scheme might be a strategic indicator (but see below); and
  - The regeneration area effects could be viewed as entirely distributive in nature and be picked up within the distributive assessment.

These are the challenges of operationalising the five business case model.

4. The dovetailing of existing appraisal practice into the current policy paradigm requires further clarification on the role of GDP impact thresholds in the decision-making framework. The paper for example refers to the need for transport investments to boost GDP by a threshold value. Our view, which is line with SACTRA(1999)'s recommendation on economic impact reports, is that for all projects economic impact indicators should be produced. This is not the same as suggesting GDP thresholds should be adopted as a decision-making tool. With intermediate goods such as transport, investments have many and varied impacts on society and the economy. In almost all instances transport investment will touch on safety, society and the environment in addition to the economy. It is essential therefore that a holistic approach to investment is utilised. A focus on a narrow measure such as GDP will lead to sub-optimal decisions.
5. The separate identification of the effects of transport schemes on regeneration areas also does not sit well in this framework. It is our belief that, if the distributional effects are being correctly identified, the impacts on regeneration areas will be included. Whilst we understand the desirability in policy terms of identifying where designated regeneration areas will benefit from a scheme, the danger of identifying them separately is that any redistribution of activity is overlooked. Displacement may often be a much stronger effect than the net generation of new jobs. It is therefore important to understand where jobs have been displaced from to get a true feeling as to whether job creation in a locality is of value.

6. The paper, whilst recognising that methods of modelling the impact of transport on an economy, are in their infancy gives the impression that the existing methods promoted by the Department are state of the art. We would argue that the methods are in need of constant review and updating. As already mentioned the Department's methods have been seminal in an international context, but they were published six years ago, in what is a changing field – in part changed dramatically by the Department's own advice. Where once the question faced was "How can we measure transport's impacts on the economy in a practical way?", now six years on the question faced is "How can we do it better?". The latter question raises issues about the role of changing land uses, treatment of competition effects in GDP modelling, modelling changes in labour supply, modelling regional versus national impacts, the components of GDP (i.e. should the GDP impacts of safety and carbon be included?), the treatment of market imperfections that hamper the pass through mechanism from travel time savings to the wider economy. All of which return us to the SACTRA (1999) recommendation already alluded to above – that economic impact reports should be produced for all transport projects, or certainly the ones where the economic case is expected to be relevant.
7. The first of these issues, changing land uses requires particular mention. Broadly speaking we think that LUTI models, SCGE models and using the paper's terminology 'new real economy' models have something useful to say about generative effects, relocation impacts and therefore via agglomeration about wider economy impacts, also about spatial distribution and regeneration. But because of the fixed total activity constraints, by definition they cannot currently be used to forecast changes in total economic output and comply with DfT guidance. Our appreciation therefore is that the question posed by the paper relating to net generative effects cannot be answered within this land use constraint. We also note that in the latter years SCGE is being increasingly used in other countries and therefore consider the view expressed in the paper on the practical implementation of SCGE is too dismissive.
8. The paper takes the view that economic change is rarely caused by transport initiatives alone. While not dissenting from that, we would want to distinguish two cases. The first is where private sector agents react to new land development opportunities by investing in business premises or housing. Clearly this is an issue for modelling and forecasting, but for appraisal, we think this can just be treated as the working out of a competitive economic process – providing we are using local willingness to pay values of businesses and there are no supply side constraints. This is an important caveat. Businesses that can profit, with or without further investment in capital or labour, would demonstrate a willingness to pay for user benefits (i.e. time, cost and reliability savings) that would match their increased profitability. The use of national willingness to pay values in the estimation of user benefits – whilst defensible from a welfare appraisal perspective – means there will be a divergence between the GDP impacts experienced and those predicted (when user benefits are used as a measure of GDP impacts). This has many parallels with the need to use local behavioural values when modelling travel demand. Supply side constraints on inputs to the production process (either in capital, labour or land availability) may also crowd out some of the potential economic growth, therefore some recognition of supply side issues is also necessary when forecasting GDP impacts.

9. In the second case, for businesses to take advantage of the new opportunity that the transport investment creates requires pro-active intervention by the public sector, probably in partnership with the private sector, in order to make things happen. This raises questions about whether the transport infrastructure can be appraised independently of the supporting development measures or whether a package approach is required.
10. In distinguishing, as the Department does, between GDP wider impacts and welfare wider impacts (namely increased competitiveness) requires some care. Increased competition which leads to increased competitiveness can promote exports and therefore long-term growth in GDP. In the same way competition between regions will enhance the average productivity of the economy.
11. On the last of our principal comments we can of course agree that on average large schemes will be expected to have larger impacts than small and that on pragmatic grounds of proportionality of appraisal effort it makes sense to concentrate on larger schemes. But, viewed in proportional terms –relevant for project ranking and prioritisation—we see no particular reason to expect large schemes to have proportionally differential wider impacts. There is a wide variety of economic mechanisms at play described in the paper (land unlocking etc) and scheme type (motorway widening etc) and how the scheme relates to those mechanisms is likely to be significant. We are also cognisant of the argument that large schemes may hit supply side constraints in the regional economies, thereby limiting their impact, something that smaller schemes may not.
12. The paper implicitly raises questions about the Department’s future research and development support programme in this area.
  - It is pointed out that the support base for LUTI modelling is rather thin. The same can be argued for SCGE and other ‘real economy’ models. Is action required to strengthen that?
  - There is a lack of ex post evidence on the economic impacts of transport projects. Should there be a longitudinal study of the economic impact of Crossrail - a JLE impact type study but twenty years further on in terms of econometric methods? Ex post studies, historically, may also have been done rather too early to capture the full redistributive impacts.
  - In this fast moving area, is the Department satisfied that its current guidance provides sufficient advice to scheme promoters of what constitutes good practice for different types of scheme?
13. Some more textual points:
  - The paper would benefit from the inclusion of a glossary of terms.
  - Paragraph 45 – the issue of integrating CGE models with a transport model (and a land use model with a transport model) is one of ensuring consistency of transport costs and economic flows between the economic model and the transport model. It is a consequence of linking two distinct model types together, rather than the presence of input-output tables *per se*.

- Paragraph 62. Gibbons and Machin (2003, 2005) in work for the DfT on employment and house price impacts of the JLE used an econometric method that goes some way to addressing the problems identified here. The difficulty they had was that, possibly, the analysis was undertaken too soon after the JLE opened.
- The figure in paragraph 70 was an early finding on HS1, we understand from South-Eastern that passenger numbers have now grown rather more than the paper implies.
- Paragraph 94—it would be more correct to say that variable trip matrices with fixed land use are the current norm, but to note that HS2 model is mode split plus generation but no redistribution and no land use responses.
- Paragraph 101 – SACTRA stated that with non-distorted markets and rapid market clearing there are no additional benefits in either the labour market or the product market. Transport investments by affecting the supply side of the economy can and will change employment levels and output – it is just that there is no additionality to user benefits of these changes – if the economy is in full employment.

## REFERENCES

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