



The Economic Case for HS2

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This evidence is based on work by Dr Geoff Dudley and Professor David Banister on the project 'The Politics of Decision Making in Large Infrastructure Projects: The Case of High Speed Rail 2,' funded by the Rees Jeffreys Road Fund. The evidence seeks to place the Economic Case for HS2 in the wider context of its relevance to the overall decision making process, but within this framework it addresses Questions 2 and 4 posed by the Committee.

1. Contested Expertise and Assessing the Economic Case for HS2

1.1 This submission explores the economic limits for decision making on large infrastructure projects such as HS2 through making the case for contested expertise, the increase in the numbers and densities of experts (economic and other), and through the diversity of methods that are now used as part of the economic case for large scale transport infrastructure projects. It also makes the case for understanding the complexity of decision making, and the limits of just using economic methods to resolve problems that are also essentially political. An important element here is the need to have a strong vision of the purpose of the investment and its long term impact on the transport system in the UK – this requires the development of a narrative that captures both the public and political imagination. This submission examines the nature of contested expertise through tracing the dynamics of expertise in the road transport sector (from the 1960s to the 1990s), and then places a similar analysis on the development of the debate over the economic case for HS2.

1.2 Decisions on large scale infrastructure projects have become more contested, in particular where there is a long time horizon and where there is great uncertainty. Projects like HS2 demand the best available expertise to accurately assess and forecast the many elements involved in the construction phase and the operational impacts. The dynamics of decision making may result in the reduction of risk and uncertainty through increasing the number of project elements under review, and this in turn significantly raises the numbers of experts involved, and the types and methodologies employed by them. In addition, this density of expertise, instead of clarifying the issues under review, can have the effect of generating conflict over the results of alternative (or possibly competing) analyses, and also over the bases of the various methodologies employed (contested expertise). Paradoxically, these expert assessments can then give way to the construction of political narratives that rise above, or even bypass, the clusters of expertise that gather around such contested and complex elements.

1.3 Consequently all expertise on large scale and long term infrastructure projects, to varying degrees, remains conditional and provisional. Nevertheless, expertise can and should have an important influence over decision making. But to do so it must capture public and political attention through such means as constructing coherent narratives that define the project, but even here there needs to be a common definition of the storyline. A successful narrative can therefore have a key role in establishing and fixing assumptions for decision-making under conditions of high uncertainty (Roe, 1994).

1.4 However, if expertise arenas, such as those for assessing the economic impacts, remain congested and adversarial in character, then it becomes extremely difficult to construct effective narratives, either for or against the project. The analyses concerning the potential economic impacts of HS2 have been particularly vulnerable to these latter expertise dynamics, and these conflicts may have important implications for the project's decision making processes. Prior to examining these in more detail, however, it is important briefly to place the HS2 dynamics of expertise within a historical context, in terms of understanding more clearly the factors underpinning the trends towards greater density and complexity.

2. The Historical Context of Expertise Dynamics

2.1 In the earlier post war years, the focus of expertise in large transport infrastructure projects was almost entirely on the construction process, rather than assessing and quantifying in detail the even more uncertain operational impacts. For example, the formative years in the construction of the motorway network, during the late 1950s and 1960s, were notable for the success of the government and the road builders in offering a vision to the public of increased prosperity that would lead to major increases in car ownership, which in turn would allow high quality mobility and easy access to chosen destinations through the new motorways. This narrative of 'popular consumerism' successfully established the modern highway network as a good in itself, so that the expertise of the road builders was generally unquestioned (Dudley and Richardson, 2000, 82-110).

2.2 From the 1970s, the dominance of the road builders was increasingly challenged by the emerging environmental lobby that employed expertise to question the need for new roads, and brought new knowledge to assessing their environmental impacts. Landmarks in the development of environmental concepts and knowledge included publication of the 1987 Brundtland Report *Our Common Future* (Brundtland, 1987), that put forward the politically potent concept of sustainable development; the 1991 Report *Transport: The New Realism* (Goodwin et al, 1991) that advocated a novel policy mix including substantial improvements in public transport, traffic calming, and road pricing; the 1994 Report by the Standing Advisory Committee on Trunk Road Assessment (SACTRA, 1994) which concluded that induced traffic on new roads can and does occur, probably quite extensively; and the 1994 Report *Transport and the Environment* (Cm 2674, 1994) by the Royal Commission on Environmental Pollution that set out clearly and methodically the dangers to public health posed by vehicle emissions.

2.3 Each of these reports offered authoritative and salient expertise that could not be ignored politically and, together with persistent work by the environmental lobby, by the late 1990s successfully shifted the narrative for roads from a policy 'solution' to a policy 'problem' (Dudley and Richardson, 2000, 163-96). At different times, therefore, both the road and environmental lobbies were able to employ expertise that established coherent narratives that had major impacts on decision making. In this task they were aided by the comparatively limited number of experts, and the range and number of issues under review. This is in marked contrast to modern equivalents such as HS2.

3. Expertise Dynamics and HS2 Decision Making

3.1 The dynamics of the increased pressures placed on expertise in large infrastructure projects such as HS2 are underpinned by interactions between its demand and supply. On the demand side, the sheer scale of the publicly funded £50 billion HS2 (including contingency costs and rolling stock) places political pressures to not only deliver on time and to projected costs, but also to demonstrate its value to the UK as a whole. This latter demand brings into play factors that exist well beyond the direct operational impacts, including the promotion of economic growth and regeneration, the reduction of regional wealth inequalities, and the attainment of environmental goals such as reductions in carbon emissions. On the supply side, the numbers of experts available, and the variety of their expertise, has risen markedly to meet these demands. For example, significantly greater emphasis is now placed on gaining greater insights into the dynamics of human behaviour (Dudley and Preston, 2013), such as the value placed on savings in travel time, and how changes in travel patterns may impact on wider economic decision making.

3.2 The overall effect is that an extremely wide range and variety of issues are drawn into the HS2 decision making process, making it more complex and difficult to manage politically. In turn, as the issues become more complex, so the interests and alliances either for or against the project become more unpredictable and unstable. In terms of expertise, as new subjects come under review, and methodologies are adapted and refreshed to meet these needs, then this allows greater scope for dispute on not only the results produced, but also the quality of the methodologies themselves.

3.3 With regard to assessing the economic case for HS2, the examples of the dynamics of benefit cost ratios (BCRs) and of calculating the wider economic impacts (WEIs) illustrate how the introduction of new knowledge and methodologies make these types of calculations more contested and problematic, with the consequence that their influence over decision making is likely to decrease. In the case of the BCR for HS2, Department for Transport (DfT) figures indicate that between February 2011 and October 2013, the BCR for the full network (Phases 1 and 2) without the inclusion of WEIs, fell from 2.2 to 1.8, particularly as a result of revised assumptions about economic growth and rail demand (HC 851, 2013, paras. 19-20). The sharp downward revision of these figures, over a relatively short period of time, indicates how the volatility of economic conditions and forecasts can have major impacts on the credibility of large infrastructure projects such as HS2, and bring into doubt the suitability of BCRs as a guide to decision making.

3.4 This suitability is further called into question when new knowledge causes reinterpretations and consequent reassessments of BCRs. In the case of HS2, this is evident in the case of the value placed on savings in travel time. Initially, significant time savings was given as a principal motivation for the construction of HS2 (e.g. Cm 7827, 2010, 13-15), but subsequently the value to be ascribed to time savings has become the subject of expert debate, given the ability of the modern traveller to work on the train with the use of computer technology. Considerable pressure eventually persuaded the DfT to reduce the value of time savings by one third in the case of business travel (HC 851, 2013, para. 22). In this case, therefore, new knowledge on

the dynamics of travel behaviour can have significant impacts on the assessment of the economic case for HS2.

3.5 The unpredictability and volatility of BCRs has caused some critics to question their credibility as a methodology. For example, Helm argues that marginal analysis, which lies at the heart of BCRs, has little to offer in the case of deciding how much infrastructure to provide. Instead, with regard to HS2, he believes that the question is whether to have a high speed rail system, within which this particular section would fit. This means that the costs and benefits of the system as a whole need to be taken into account first, and in this context it is essential to place HS2 in a wider historical context, and understand its ability to change the economy as a whole over time (Helm, 2013, 290).

3.6 As we noted above, the character of HS2 as a large scale publicly funded project has placed political pressure on the government to calculate its wider economic impacts over time, and how these may benefit the country as a whole. However, these types of calculations require the introduction of fresh expertise and innovative methodologies, which in turn generate new debate and controversy. For example, in 2013 KPMG was commissioned by HS2 Ltd to develop a methodological framework designed to analyse the potential scale, range and distribution of regional economic impacts associated with the substantial improvements to the rail network brought about by HS2, and the use of freed-up capacity on the classic rail network. KPMG acknowledged the innovative nature of this work and the methodologies, and stressed that the analysis focused on the potential impact of investment in HS2 on the structure of regional economies in the longer term, and that this made it different from conventional approaches to the appraisal of transport schemes, which are based on the estimation of the monetary value of travel (HS2 Ltd, 2013, 7). Nevertheless, KPMG estimated that investment in HS2 could potentially generate £15 billion a year in productivity gains for the GB economy in 2037 (at 2013 prices), and that this would represent an increase of around 0.8 per cent in the total level of GDP (HS2 Ltd, 2013, 13).

3.7 The apparently high figure of £15 billion, and the methodology employed to achieve it, attracted widespread criticism from other experts in the field. For example, Professor Henry Overman of the London School of Economics, and a former advisor to HS2, claimed that KPMG used a procedure that was ‘essentially made up,’ (HC 788, 2013, Q99) while Dan Graham, Professor of Statistical Modelling at Imperial College London, argued that the statistical work by KPMG was not reliable (HC 788, 2013, Q97). The political sensitivity of this type of expert analysis was also illustrated when the BBC obtained statistics that KPMG had not included in their own report. These indicated that more than fifty locations across the UK would be worse off as a result of HS2 (*BBC News*, 19:10:13), and highlighted that, although the nation as a whole would be paying for HS2, there would be significant numbers of ‘losers’ as well as ‘winners.’ In this context, it is significant that the DfT has now commissioned a team of experts to undertake a comprehensive study of the mechanisms through which transport investment affects economic performance, and the extent to which these are captured in the current appraisal methodology (HM Government, 2014, para. 2.3.16). Once more, therefore, official pressure is placed on economic expertise to deliver results in policy areas that carry a high degree of uncertainty.

4. Implications for HS2 Decision Making

4.1 To address the important issues raised in this submission, we would suggest a multilevel approach to decision making on large scale transport infrastructure projects:

a) There needs to be a strategic long term vision for UK Transport Policy that covers all modes of transport, and examines the links between land use and transport development more widely. Within this vision, the role for rail transport should be clearly identified, including within that the role for HSR. This debate is now taking place, with consideration being given to links between the Northern cities and HS3, and HS2 has also alluded to this.

For example, in his 2014 Report *HS2 Plus*, HS2 Chairman Sir David Higgins places the line in the context of a historic and strategic national need and argues that, if done right, HS2 can provide an answer that stands the test of time, and addresses the issues of congestion in the South, and lack of connectivity in the North. Conversely, he argues that, without HS2, the people of this country will continue to face the failures of our transport system on a daily basis (HS2 Ltd, 2014, 18). HS2 Ltd itself appears to have constructed new narratives that overlook the detailed economic analyses.

b) The analysis stage can take place within this strategic perspective, and this would primarily involve the economic case for investment, both in terms of transport (BCR) and economic development (WED). It should also look at the environmental and the social implications of the investment, and the means by which strong narratives can be generated to capture the public and political interest. There are important alliances that are developed to promote or to resist large scale investments, and these have been instrumental in raising the degree of complexity and the contestations around HS2. There also needs to be openness about the processes being followed, so that there is wider political support (at the local levels and from the electorate). Such an approach helps to acknowledge the essentially political nature of many long term large scale infrastructure projects.

c) As the decision is over such a long time scale, and even the starting date is years away, there needs to be more explicit consideration given to the monitoring of HS2 during its construction, to cover cost control and the capacity that is needed. This means that systems need to be flexible and adaptable to new external factors and other decisions taken within the economy.

It is through a more open and flexible decision making process that the issues of uncertainty and complexity can be addressed, and also the means by which the economic case can be reconciled with the political reality.

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