SPATIAL AND ECONOMIC PLANNING AND THE MRN

Introduction – the challenge of this topic

The policy context for this Study is the Government's deep commitment to support the economy and stimulate economic growth, for which a substantial £75bn programme of transport infrastructure investment (mostly to rail) has been put in place over the six years to 2020/21. Our approach to designating the Major Road Network (MRN), as described in Chapter 3 of the Study Report, is based on identifying those roads which seem to be the most important to business and commercial activity, providing connectivity, geographical coverage and accessibility to markets, labour, ports of entry/exit, and business services across England's regions.

But designating the MRN is not enough. Ideally we would like to have been able to demonstrate how the MRN's 'service offer', its performance and potential improvement could actually influence economic growth and spatial development at a regional and national level.

It is however widely recognised by practitioners, policy-makers and academics that the interactions between transport accessibility, land-use and economic activity are poorly understood; it is notoriously difficult to model and predict the spatial development and economic consequences of transport improvements; and even after the event it is challenging to track the consequences and appraise the resulting value of the original investment, often because of other factors at work helping to drive the changes[1].

As part of the Study we convened an expert workshop – including two of the authors of the 'TIEP' report (see footnote 1) – to try to explore these issue in more depth with particular reference to the MRN, and a summary of the outputs is in the Annex. However, we were unable to devote more time and resources to these questions within the overall scope of the Study.

As a result we took a more pragmatic approach. Whatever the formidable challenges of prediction and evaluation appraisal, decisions are nevertheless being made by central and local government across England to commit investment in roads and other transport projects in the widespread belief that they will benefit the regional economy. We considered the planning and decision processes adopted by the bodies responsible for spatial planning, economic development and transport improvement, how they work and what factors are likely to bring about more or less success in achieving those bodies' objectives: Chapter 4 in the Study Report sets out our resulting thinking on this.

To support our proposition that locations on the MRN need to be suitable in both transport and land-use planning terms, we then focused on the risks of this combination not being achieved. We explored the risks of transport not being an effective enabler of

[1] See for example *Transport investment and economic performance: implications for project appraisal (TIEP)*, Anthony J Venables, James Laird, Henry Overman, commissioned by Department for Transport, 2014

development, and the risk of unforeseen consequences of developments facilitated by major road improvements.

Risks and unintended consequences – is transport the enabler of development?

One of the risks identified in the TIEP report is that a particular transport improvement may not in fact be an enabler or catalyst of the desired development – with the possible consequence that the investment may be largely wasted.

It is an oversimplification but nevertheless helpful to consider two different and contrasting scenarios:

- one, where in an area there is a *market demand* for additional economic activity or for additional housing through densification or new land use development: here, the market judges that the accessibility offered by the transport networks is good enough to support the planned development.
- The other scenario is where there is *insufficient market demand* for additional economic activity or for additional housing: this could be either because the transport networks do not offer sufficient accessibility/connectivity, or because in spite of reasonable physical connectivity the other factors needed to generate and deliver market demand are not present; the situation may be one of 'equilibrium'.

In the first scenario, the planning policies and the suitability of proposed development will determine whether the new activities are permitted to proceed. Among the factors considered will be whether the additional demand that will be placed on the transport networks is acceptable (in terms of the impact on existing users and communities), and to what extent any development or improvement of the transport networks is either required (and may be funded wholly or in part by the development).

The second scenario could be relevant where there are public policy or other reasons for encouraging additional economic activity or additional housing for which there is currently no market demand; it should be possible to identify, in the particular circumstances, whether a proposed transport improvement falls into one of the following three categories –

- *the* key enabler of envisaged development (ie a *necessary and sufficient* condition), or
- *one* of the enablers of development (ie a *necessary but not sufficient* condition), or
- *not an enabler* of proposed development

The first category would arise if the policy factors were already favourable and the transport network improvement was the catalyst. The long-awaited development of the Battersea Power Station area in London seems a good example of the second category, in which it seems that the new branch of the Northern Line can be described as a

'necessary but not sufficient' condition for its development. And the Humber Bridge may illustrate a transport improvement in the third category, in that it has apparently had little impact on the development of Humberside. Decision-makers need to make the judgement about which category the transport project falls into.

The challenge for the last category where a transport project may go forward anyway is then to shape a spatial and economic development plan that will make the best use of the improved accessibility, and help ensure that maximum value can be extracted from the project.

Can we argue that these relationships work in the same way at a national or regional (as distinct from local) scale? The earlier debate about the HS2 rail project and its ability to regenerate the great city regions of the north of England could have been helped if it had been generally accepted from the beginning that this is an example of an enabler which is 'necessary but not sufficient' to bring about the desired regeneration. The real question is then about the other conditions needed to make it happen – such as for example creating a long-term land use and economic plan for the region, to give context and stability for the market to respond; providing fiscal and other incentives for development; considering what other, complementary regional transport improvements might be needed to spread the beneficial impacts; what other actions, such as in skills and labour availability, land assembly powers, etc might be needed. The Northern Powerhouse: One Agenda, One Economy, One North shows how this has been starting to happen.

Unintended development consequences of road investment

Investment to improve the road network has the potential to benefit existing business activity as well as to support and stimulate growth (which could be new business investment or growth of existing businesses). Such investment will have the effect of changing patterns of movement and traffic (commuting, business travel and commercial transport) as existing businesses respond to the geographical changes in accessibility, and new movement and traffic patterns will develop where growth takes root. It is possible that the changes in traffic patterns due to existing businesses readjusting may be rather greater than the effects of the 'new' traffic, and those planning the network capacities need to be aware of that. (It should be noted that as a first-order effect these changes are in theory capable of being modelled by today's transport demand models).

In the medium term, there may be changes ("churn") in the use of existing business premises or land as the market for commercial land responds to changes in accessibility and different businesses come to occupy those premises; and there may be demand for additional business activity in those locations to take advantage of the better accessibility. The planning system has little control over the former (except where there are changes in land-use categories, or in the intensity of land use); it has more control over the latter, but under the present government's planning policies the system is likely to be permissive of growth in areas of better accessibility, in the absence of

other constraints. Those responsible for planning and for the transport provision needs to be aware of the further potential of these "second order" effects.

The improvements in accessibility may change the pattern of journeys to work to this site from the surrounding areas. Road improvements which benefit business accessibility and transport costs, and boost productivity, may also have the effect of encouraging longer journeys to work than hitherto and therefore more traffic volume; it is also recognised that some business locations may be located close to the MRN and its major junctions and away from residential areas, so there is very little opportunity for the impact of more traffic in total to be mitigated by better public transport

Much of this also applies to the consequences of transport improvements to facilitate housing growth. Investment to improve transport networks to enable housing growth will have the effect of changing patterns of travel from existing households, as people respond to geographical changes in accessibility, as well as generating new travel as new housing is occupied. The changes in travel patterns of existing households will generally be much greater than the effects of the travel from new households. Again, those planning the improvements and capacities need to be aware of that, but as a first order effect they are in principle capable of being modelled by today's transport demand models.

As with business development, in the medium term there may be changes ("churn") in the composition and characteristics of households occupying the housing stock as the market (and house prices) responds to the changes in accessibility. Travel patterns of new households occupying existing housing stock are likely to reinforce the 'first order' changes in travel patterns that have already taken place. There may also be demand for additional housing in those locations to take advantage of the improved accessibility. Again, the planning system has no control over the former (except where there may be pressure for increased densification of existing housing stock); it has control over the latter but under the present government's planning policies the system is likely to be permissive within the existing planning framework, except where there are other constraints.

The location of housing growth in areas which cannot easily be served by public transport will generate increased use of the car – and road-based transport improvements associated with this may generate second and third order impacts on household travel, which in such locations could exacerbate traffic congestion and other consequences of unforeseen traffic growth.

If such layers of possible consequences can be anticipated – and while they are difficult to forecast analytically there is an increasing understanding of the nature of these effects – it does provide an opportunity for the planning authorities to adopt spatial planning policies to anticipate and where possible head off adverse consequences, while ensuring that the original changes are in line with public policy objectives.

September 2016

Annex A

Expert Workshop convened 10 July 2015

Attendees

Stephen Glaister (Chair)
James Laird, ITS Leeds
Peter Mackie, ITS Leeds
Neil Shorten, DfT
Tony Venables, Oxford University
Roger Vickerman, University of Kent
Tom Worsley, ITS Leeds

David Quarmby, RJRF Study team
Phil Carey, RJRF Study team

Summary of conclusions[2]

The purpose of the workshop was to consider how the MRN impacts on economic activity and land use, and how policies for regional and sub-regional growth can be supported by current and improved transport networks.

1. Given the known difficulties of predicting and evaluating transport impacts, it would be useful to create a more qualitative narrative, based around how businesses and individuals derive value from the MRN, including evidence from social research. Such a narrative would fill the gap between the high-level statements about the rationale for (eg) SRN investment, and the bottom-up aggregation of benefits derived from individual schemes - given in particular the limitations of CBA.
2. It was also important to comprehend those sectors of the economy that the MRN most directly serves – for example all sectors which involve the movement of physical goods, whether manufacturing, extractive industries, construction, and consumer goods / food and drink distribution, both domestically and import/export through ports of entry. As part of this, we must recognise that the MRN's value for road freight is not just abut HGVs - light vans play an increasingly important role (and are seeing much higher rates of growth than HGVs – See Supporting Document 9). Commuting and business travel to support these economic activities will make substantial use of major and local roads - including for bus travel - but also of rail, depending on location of businesses in relation to housing, and the location of suppliers and customers. The MRN may be slightly less directly relevant for knowledge-based businesses and for education, health and government functions based in large towns and cities, where urban density and the focus on personal commuting give the biggest possible role for rail.
3. The assessment of value needs to be underpinned by enhanced appraisal methodology, capturing system effects and not just the direct impacts of the road

[2] A fuller note is available on the Study website

scheme itself[3]. There have been great advances in the appraisal of urban (essentially public) transport investments, by the identification of agglomeration benefits, but so far there has not been an equivalent methodology for inter-urban roads.

4. The ability to identify and evaluate the wider benefits from interurban investments – such as improvements on the (non-urban) MRN - requires a better understanding of the nature and extent of behavioural changes that businesses and individuals make in response to improved road links. Was it expected, for example, that the construction of the M62 – providing the first fast link between the multiple centres in West Yorkshire, and between them and the Greater Manchester conurbation – would not just support longer-distance commercial traffic but also lead to an increase in the length of commuting trips, as it provides residents of the corridor with a much wider range of employment opportunities.
5. Improvements to the MRN are, by their nature, more likely than rail to encourage dispersed development, which then of itself becomes more road and car dependent; they may be less practicable (and less cost-effective?) than rail in stimulating high-density urban agglomeration.
6. There will be cases, as the TIEP report noted, where transport investment will be a necessary condition for growth in local economies, but not sufficient on its own: a range of other factors, such as skills and attractiveness to the workforce, may need to be in place. In some cases, the pressure for development may be such that the transport improvement is sufficient – and may be the catalyst for change. In yet further cases, there may be factors which cause the transport improvement to be irrelevant ; development and economic prosperity ,may be unchanged .
7. More broadly, with the opportunity this time for more substantive LEP input to the second series of Route Based Strategies being carried out by Highways England, there should be greater alignment between the evolution of the SRN and the desirability of concentrating development at the most accessible, preferably brownfield, sites. Pooling of intelligence with LEPs and other parties may well provide insights and directions of development which transport and land use modeling would be unlikely to replicate or suggest *[Since this workshop, Highways England have embarked on a much more pro-active engagement with LEPs, local authorities and the development sector, seeking to ensure that planning and investment on the SRN can facilitate appropriate development]*.

[3] The TIEP report at footnote 1 sets out a series of specific recommendations on this.