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Transport Investment and Regeneration

Martin Shenfield, Berkeley Hanover Consulting

Talk given to Transport Economists' Group
University of Westminster
28 October 1998

Before setting up the Berkeley Hanover Consultancy, Martin was Chief Economist at Travers Morgan. His talk was about the common problem of how to evaluate economic development, regeneration and employment effects associated with transport projects.

Regeneration very often has pejorative connotations, especially in relation to transport but, in essence, it is about:

- job creation,
- increase in land values, and
- job retention.

The question that often arises in transport investment is:- can public intervention in investment lead to benefits accruing over and above those directly related to transport?

CTRL (Channel Tunnel Rail Link) provides an example where, although large amounts of public money were originally promised, the private sector promoters wanted more because of the failure to raise capital in the City. A new deal was agreed between the Deputy Prime Minister and London & Continental Railways that involved Railtrack.

FTEA (Fast Tracks to Europe Alliance) was concerned that £5 billion of investment would be lost with CTRL providing millions of jobs in Europe, of which 120,000 are in the UK.

The regeneration issue is being used as a means for promoting the East-West Rail Study (between Swindon, Oxford, Cambridge and Felixstowe/Norwich). At £240 million, Railtrack did not see the investment as providing a return but are willing to put up around £140 million. The local authorities (seeing this as a regeneration project) need to raise the remaining funds, of which the most obvious source is the

DETR. The DETR will ask about the economic benefits if they are to fund all or part of the shortfall.

What is to be done in cases such as these? In every case the regenerative capacity along the line will have to be estimated because the benefits that the local authorities require do not accrue to private companies. And, why should Railtrack put money in if it does not give a rate of return?

Channel Tunnel Rail Link

In 1991, the then Secretary of State for Transport, Malcolm Rifkind wrote to Sir Bob Reid, then the Chairman of British Railways Board, agreeing for them to proceed with CTRL with overriding aims to satisfy transport objectives, minimise environmental impact and maximise economic benefits. The decision to take the easterly route via Stratford to King's Cross was to be the preferred option because of regeneration. He wrote:-

"... , our overriding aim has been to ensure that route not only satisfies our transport objectives but that it also minimises the impact on the environment and residential property and maximises development potential. We believe that the easterly route to King's Cross via Stratford does just that. the route should give a major economic boost, not just to the South East, but to other regions as well, particularly the North of England and Scotland, where passengers need a rail link terminus at King's Cross.

"... the easterly route offers substantial new development opportunities. It will open up the prospect of major development and employment which again, I have no doubt will be welcomed by the people of East London and those living in the Lower Thames area."

In March 1996, the government chose London & Continental Railways (LCR) as the consortium to raise finance and construct the CTRL. As part of the agreement, the government contracted to provide financial support to LCR of £1.4 billion⁽¹⁾ during the later stages of CTRL construction. These payments were partially for advance works at St Pancras associated with Thameslink 2000. Additionally, development lands at King's Cross and Stratford will be transferred to LCR to develop once the rail link is operational. If a high level of profit is achieved, the net contribution from Government will be reduced. The Explanatory Memorandum to the agreement justified these payments.

(1) All CTRL figures are Net Present Value discounted to 1994/95 at February 1995 (discounted at 6% per annum real).

The Government estimated that CTRL will provide £6 billion of public benefits plus benefits to international passengers but no benefit to the exchequer. Around £4.8 billion was estimated to represent the increased value of the rail link to international passengers over and above the amounts recovered as revenue by LCR. Domestic services on CTRL are expected to bring £300 million financial benefits to domestic rail operators and £350 of benefits to domestic passengers through improvements in journey times, comfort and reliability. Regeneration was seen as one of the most important benefits of CTRL, and the (then) Department of the Environment predicted the employment impact as:

"The CTRL will stimulate regeneration in the Thames Gateway and East London. Station promoter and others have made a number of estimates of the regeneration benefits of CTRL, both. These range from the creation of 50,000 jobs on pessimistic assumptions up to figures of more than double that. Estimates by the DoE suggest that the CTRL could enhance development prospects to the extent of 75,000-80,000 jobs. Total regeneration benefits are estimated to be worth about £500 million ⁽²⁾"

The Government's 1996 estimates are summarised as:-

Table 1: CTRL Benefits	
Benefit	1994/95 ⁽¹⁾
Increased value through time savings to international passengers *	£4,800m
Benefits to domestic rail operators arising from reserved capacity on CTRL	£300m
Benefits to domestic passengers	£350m
Regeneration benefits to Thames Gateway and East London	£500m
Benefits from reduced road congestion	£100m
TOTAL	£6,050m
* to UK and non-UK residents	

In effect, the government of the day was clearly stating that the regeneration impacts were of paramount importance in the CTRL route selection. Indeed, the tenet of justifying public expenditure for the CTRL is based upon the public sector benefits that would arise out of the project.

(2) Explanatory Memorandum on Contracts between Government and London & Continental Railways, March 1996

In January 1998, LCR announced difficulty in raising finance for CTRL, and asked Government for an extra £1.2 billion. Whilst John Prescott, the Deputy Prime Minister, would not accept this request, the importance to regeneration continued to be stressed by Government. Glenda Jackson, the Minister for Transport in London, during the 4 March 1998 debate on the CTRL in the House of Commons said:

"The key reason for routing it via the Thames gateway - also known as the east Thames corridor - was that stations along it would act as focal points for regeneration. In fact, the £1.8 billion of public subsidy promised in the development agreement with LCR was justified in part by the regeneration benefits.

"I am aware that there is considerable concern that delays to the CTRL may jeopardise regeneration in London and Kent."

With the agreement to proceed, the Secretary of State for Transport, John Prescott stated (on 3rd June) to the House of Commons: *"The project offers immense economic, transport, and environmental benefits, and improved speed, reliability and capacity for international and domestic services for passengers and freight. It will also play a major part in regenerating north Kent and the east Thames corridor including Stratford and King's Cross."*

Martin's work for FTEA has shown that estimates of the regeneration effects of CTRL (and other transport projects) tend to be conservative. Evaluating various studies available, the job creation potential and regeneration benefits are generally significantly higher than Government estimates.

Estimates of jobs from transport projects can be broken down into those available during construction and during operation of the project less those jobs that will be displaced. Within each of these there will be direct and indirect employment. To illustrate such estimates, the work done for FTEA estimated that there would be the following effects on jobs:

Employment during the construction period

Direct employment: In total, it is estimated that approximately 27,860 person years of employment will be created by the construction of the St. Pancras Terminus, the CTRL route and Ebbsfleet Station. This is equivalent to 5,400 full-time jobs throughout the five year construction period of the CTRL route (4,400 jobs) and St. Pancras Station (1,000 jobs) and 430 full-time jobs during the two year construction period of Ebbsfleet Station.

Indirect employment will be created as a result of the jobs directly created in the construction of the CTRL route and the development of St. Pancras Terminus and Ebbsfleet Station. These jobs are created through the expenditures of the organisations directly employed on construction activities. It is estimated that 13,500 person years of indirect employment (about 2,700 full-time jobs will be created during the construction of St. Pancras and the CTRL route, and 430 person years of indirect employment (about 230 full-time jobs) will be created during construction of Ebbsfleet Station.

Employment during operation

Direct employment will be significant. It is estimated that, on opening the St. Pancras Terminus, the CTRL route and Ebbsfleet Station, 2,310 persons will be directly employed in the operation of these facilities. 2,000 of these jobs will be at St. Pancras, of which 1,200 will be new jobs. 240 of these jobs will be in the operation of the CTRL route. Seventy staff will be employed in operation of the Ebbsfleet Station, of which 55 will be new jobs. In total, the operation of these facilities will create nearly 1,500 new jobs.

In addition to the above, a further 160 direct jobs will be created at the North Pole and Temple Mills depots once the CTRL is fully operational.

Indirect employment will also be created as a result of the expenditure on goods and services associated with the operation of the CTRL and station developments. It is estimated the number of indirect jobs will be some 500.

Displacement and loss of employment

Direct losses: An estimated 600 jobs will be displaced as a result of construction at St. Pancras. Four hundred of these jobs are considered at risk of permanent loss to the Boroughs of Camden and Islington. About 1,640 jobs will be displaced by landtake for the CTRL, of which 530 are considered at risk of loss. At Ebbsfleet, at least five jobs will be lost through landtake required for the construction of the station. In total, an estimated 935 direct jobs are considered at risk of loss as a result of construction of the CTRL and associated stations' developments.

Indirect job losses, as a result of the loss of direct jobs due to landtake for the St. Pancras Terminus and the CTRL route, are estimated at 94 jobs.

The multiplier effect is the most difficult, but not impossible, aspect to measure. Asking companies about their purchasing (inputs) in local economy and output figures would provide useful information. Attracted jobs, for example at Heathrow, as the airport expands leads to more trips which, in turn, leads to more

inward investment. However, most inward investment is not "greenfield" but acquisition.

Table 2: Summary of net employment creation						
	Direct Employment			Indirect Employment		
Type of Employment	Total	Jobs at risk	Net Creation	Total	Jobs at risk	Net creation
<u>Construction Period:</u>						
Person years	27,860	-	27,860	13,930	-	13,930
Full-time jobs	5,830	-	5,830	2,930	-	2,930
<u>Operation</u>						
Total jobs	2,470	935*	1,575	160	94*	66
Of which new jobs	1,660	-	-	-	-	-
* Direct jobs at risk result from construction activities but are placed in the operation category because they represent the loss of on-going jobs.						

The consequences to the Exchequer can be viewed as follows:

- increased employment resulting in increased income tax receipts;
- increased employment resulting in increased national insurance contributions;
- increased consumer expenditure, resulting in increased receipts of taxes on consumer spending;
- increased corporate activity, resulting in higher corporate profits and corporate tax receipts;
- decreased unemployment, resulting in reduced social security expenditure.

Thus, by making allowances for the savings on the servicing of debt brought about by the above changes, the saving to the Treasury would appear to be in the range £7-9,000 per job. In addition, the creation of a job does not necessarily equate with an equivalent reduction from the unemployment register in a specific area. Various ratios can be applied and partially depend on unemployment rates nationally and locally.

Jobs can also be valued in terms of the cost of creating/safeguarding employment. Indeed, the employment potential of projects tends to be the main criteria by which UK and European grant funding is provided. Certainly project grants under various forms of regional, regeneration and inner urban area funding could assume the cost of a job up to £320,000.

Conclusion

It is not a very robust science that is open to abuse. The area is very contentious - when it is not a do nothing situation, the net not gross impact must be evaluated.

The issue of job retention is very important, and can be more important than job creation.

If there are these problems then why do it? It is very political because it is a reason for government to spend money in the private sector.

Some areas are very spurious. John Prescott had to find reasons for putting money into CTRL - for economic reasons, but it is highly debatable since the DETR and Treasury need the reason.

Treasury says that a job is worth £8-9,000 (saving on unemployment benefit plus additional taxation). However, the cost of creating a job is about £20,000 so it is important to consider the region that will receive the investment. In the South east with full employment this may not be a worthwhile investment but in other areas it could be argued that the government should £20,000 investment per job.

Discussion

Peter Gordon (Chiltern Railways) suggested that benefits to foreigners should be included with an EU perspective.

In reply, Martin Shenfield said that CTRL could be justified on a European basis⁽³⁾ but these benefits do not accrue directly to the Exchequer.

Peter White suggested that looking at the effects of the TGV would provide some useful comparisons.

Nigel Harris (independent consultant) also suggested that it would be helpful to look at past investment.

Martin agreed, saying that post-evaluation work could be done by the World Bank and Overseas Development Agency but nobody asks the question: it would certainly be an interesting piece of work for an academic. Some analysis of Terminal 4 at Heathrow had been done in relation to the Terminal 5 Public Inquiry that had shown gross underestimates of the effects.

(3) The EU is providing some grants from its Trans European Networks fund.

Nigel Harris suggested that at the moment the arguments about local impact of, for example, new railway stations revolved around statistical significance.

Martin said this was not always the case as, for example, the East-West Rail work had looked at opening up of land which might be brought forward for development. Airports do generate a lot of jobs but this may not be a gain to UK plc because of redistribution of jobs. DETR may be interested if the redistribution is to areas of high unemployment even if there is not net gain.

Don Box commented that the advantage of projects seeking government funding could be that they are looked at as part of an overall strategy. They can be subsidised as long as the government realises the full implications. He was reminded of examples from his own experience:

East-West Rail: the closure of the Oxford-Bletchley line in 1962 as part of Beeching plan could have been done by closing local stations.

CTRL went wrong in 1987/88 because it was only being designed for Eurostar with no account being taken of the rest of the railway system - the most favourable route was via Stratford - but this did not enter into the financial benefits. The scheme could not be done as an independently financed project - if it had been done corporately with InterCity, freight and London & South East it would have been a better scheme.

Two conclusions: no large infrastructure projects can be funded without government money because of the long-term benefits, and the need for projects to be corporate.

Martin was pleased to hear these comments as it confirms his thoughts. He commented that when private sector competitive bids brought in, the passenger numbers are pushed up and costs reduced. The offer was under-bid because of a feeling that government will always bail out. Parkinson asked for £700 million but was refused by the Treasury - now it is three times that amount and only half the link so there is no guarantee of the regeneration benefits.

Personnel at the DETR have changed with decisions being made by non-transport people.

Peter White asked whether it was possible to know the type of employment that is created (or retained) by a project

Martin said that there is a problem about the quality of the jobs created but this may not be as much of a problem in areas with up to 25% unemployment. However, unemployment does not always give you an idea about the demand of job creation - creating jobs will create wealth that will filter down, creating more jobs.

Aileen Hammond (private consultant) asked if any work had been done on timescales.

Martin replied that the timescale of direct jobs could be estimated fairly easily but very difficult for multiplier jobs. There is also a very big problem over attractive element of jobs and with stages of economic cycle. There is no control over private sector inward development which, potentially, has major lags.

The Chairman thanked Martin for a very stimulating talk.

Report by Laurie Baker

Management of Change: Building the Heathrow Express

Leveraging team skills to get a railway business rolling - the story of the change of culture on the construction of the Heathrow Express Railway

Sue Lownds, Independent Consultant

Paper presented to Transport Economists' Group,
University of Westminster, 25 November 1998

Galvanised by a crisis

The story of the construction of the Heathrow Express Railway is the story a conversion of a crisis into a remarkable success. The dramatic collapse of the railway tunnel beneath Heathrow Airport in October 1994 very nearly brought to a dismal end the vision of building the UK's first private railway in years, putting in jeopardy the £440 million investment by Heathrow Airport and its parent company - BAA plc.

The construction industry's conventional response to such a crisis would have seen the client, BAA, and its suppliers spur their lawyers to action in a divisive legal struggle. What happened next, however, has been described by some commentators as "breaking the mould of the construction industry".

Turning away from construction convention

First, the decision was taken NOT to pursue legal action.

Second, a new contract was agreed that set up what became known as 'the single team' in which all the parties worked as one team instead of a collection of separate project groups who took little or no responsibility for each other.

Third, the client chose to appoint a new Construction Director who led the way in investing in the behaviour of co-operation instead of rivalry and set the scene for a significant shift in culture and attitudes.

A team of specialist change facilitators and behavioural coaches were appointed to work with the team on changing the tradition of adversarial working in order to make the single team "statement of intent" a reality. This was demonstrated in the everyday behaviour of the construction team.

A change of style brought practical benefits

The change in culture, supported by a new integrated organisation and revamped processes, brought some memorable results:

- twelve weeks of construction time recovered,
- a reduction by 20% of the costs the project had expected to carry after the collapse,
- the halving of the number of quantity surveyors as a result of single team integration,
- staff turnover in some areas of the project was a quarter of that which had been anticipated,
- the railway began operation in May 1998, one week ahead of the published date of opening, starting up a stream of revenue worth over £1 million every week.

The philosophy that drove the change in culture can be graphically illustrated by three physical items that symbolised the new philosophy:

- 1 A beehive
- 2 Flamenco castanets
- 3 A golden bullet

The Beehive - Symbolising Workability

The beehive represents the workability of the single team. The investment in team behaviour on this project was based on the conviction that a team is a vital tool for project performance, and its workability would ensure the project's workability. The Roman emperor and philosopher Marcus Aurelius once said "*What is good for the hive is good for the single bee*". On this project that perspective was inverted, and the project operated according to the belief that what was good for the individual would be good for the project. That is, if individual motivations could be tapped, that motivation would translate itself into benefits for the whole project.

This philosophical perspective resulted in the most significant of activities undertaken by the team of change facilitators - the personal and private coaching of individuals, not in classrooms, but in live situations in the field, in order to influence individual attitudes and behaviour.

The concept for influencing behaviour in real situations was not just a common sense approach in a situation where people would need sustained help to change a style of adversarial working which had been part of a long tradition. It was also a necessity where construction time was critical showing that on-the-job support was more time effective than classroom coaching.

There were over 100 separate supplier organisations working on this construction project and, at its peak, around 2,000 people on site. So individual coaching was also an effective way to personalise what was a radical change in behavioural style for the construction sector.

Flamenco Castanets - Symbolising Practical Coaching in 'Soft Skills'

The second symbol is a pair of flamenco castanets. The word coaching usually conjures up images of sport. The single team was made up of a diversity of styles and interests. In recognition of that diversity, the activity of coaching is represented by one of the tools of the flamenco performer.

Flamenco, like effective teamwork, combines great individuality and spontaneity with a high degree of technical discipline. The flamenco coach works with a high level of detail. On the Heathrow Express construction project, this kind of highly detailed coaching was applied to another kind of practical skill - the human skill of communication and relationship building.

The behavioural coaches began to apply coaching to the kind of interpersonal and management skills that can greatly strengthen the workability of a team, for example, the way people deal with each other or their approach to resolving disagreement. The term "soft skills" was applied to this aspect of teamwork, in order to differentiate it from the so-called "hard issues" like procedural issues, technical standards or technical skills.

Seventy percent of the time of the team of change facilitators was spent on this kind of live coaching in the workplace. Here are just a few examples of the strength and simplicity of this approach to behavioural change:-

- A coach might sit in on a manager's update meeting and afterwards they would analyse together how to improve meetings behaviour in order to save valuable time or make better use of the people;
- a coach might work alongside a foreman (inside the tunnel if necessary) who was actually dealing with management issues in the workplace; and

- if people were preparing for an important presentation at one of the critical stock taking events of the project, instead of taking them out of the operation and into the classroom for a formal presentation skills course, a coach would help them on-site in that specific presentation in a very focused and personal way.

The investment does not need to be costly

Despite the intensity of the activity, the core team of behavioural coaches consisted of just five people who all worked part-time and had no base on-site. This was made possible by the involvement of a number of front line "champions" who came forward to be trained as change facilitators and began to operate as influencers of the new culture in their own areas. Front line supervisors, charge hands, office workers, storemen and others took responsibility for running "cultural" induction sessions for newcomers, or for spreading Health and Safety messages or for running problem-solving groups to deal with issues they would previously have passed up to management. In their own various ways, they began to make a difference to the working atmosphere of the project - a fundamental shift in culture.

The cultural example from the top - a crucial agreement

The support of senior managers for the front line champions was critical. The example of many of the project's senior managers became an important ingredient in the change of culture because it directly connected the words of the contract with the behaviour of the project's most prominent role models.

In many programmes that invest in behavioural changes, we find that the most senior managers initiate the change, and then leave the implementation of it to others. One of the really significant features of this project was the way in which many of its most senior managers gradually began to immerse themselves in the moulding of the new culture. For example, they would work alongside the change facilitators at important team events or become directly and personally involved in the coaching of front-line staff.

The Golden Bullet - Symbolising the Danger of a Reliance on Models

The last symbol in the philosophy of this project is the golden bullet. It represents an aspect of fundamental importance to any organisation that is investing in culture change. In the pressure of operational life, there is often a tendency to devise change programmes according to models or formulae, failing to appreciate that the diversity of human nature, the surprises of human attitudes and the complexity of human relationships cannot be crammed into convenient models. Too often change programmes carry on as though they can and organisational

leaders simply end up duping themselves with false comfort and positioning themselves for disappointment

However, if there is a model or a rule to be found in what happened at Heathrow Express it must be that changing a culture may involve the application of simple principles. These include field coaching and the active example of top management, but that does not make it easy or straightforward.

Culture change is about hard work and resilient persistence. It is also about personal judgement and the quality of individual relationships, and the provision of personalised, focused support to individuals in the context of their real work situations.

The words of Michael Maine, the BAA Board Director responsible for the project, succinctly summarise the significance of the behavioural change to the business:-

"If we had gone down the traditional route after the collapse, Heathrow Express would have cost us maybe £200 million more and would have taken an extra two years to build if we had been working at the start the way we finished, certainly we would not have had the collapse."

Discussion

Sue Lownds stimulated discussion by inviting the meeting to consider three objects which she had brought with her:

A pack of Post It notes,
A parachute, and
A puppet on a string.

General agreement was rapidly reached that these symbols represented a positive way of thinking; that mistakes can be converted into successes, that minds work best when open to new ideas and that events and people can be controlled to advantage if approached in the correct way.

Dr Ashok Jashapara (University of Westminster) asked about partnering arrangements and how process specialists worked with the coaching team. He also asked about the role of champions, if a critical mass was needed, and if the tunnel crisis had avoided an uphill struggle in the promotion of new ideas.

Sue Lownds confirmed that the crisis gave everyone a good reason to co-operate: the driving force was "we cannot let this fail". The client provided funding for

training and development. Benefits, however, such as the twelve weeks saved by a joint team of front-line staff and managers, came from the whole project and the role of champions, particularly from the front line, was vital.

Nigel Harris (railway consultant) asked if there were any lessons for established railway organisations, such as the West Coast Main Line, which appeared to be in need of cultural change.

Sue Lownds advised that an example had to be set at the top of the organisation and for the Heathrow Express project commissioning team this involved an assessment of "soft skills". She estimated that on the project about two-thirds of staff were supportive, very few were "de-railers" and the balance were agnostic. Indeed, many staff had difficulty returning to more conventional practices on other projects afterwards. Sue Lownds was hopeful that the new Procurement Director and team at BAA would carry forward lessons learnt from the project.

Peter Gordon (Chiltern Railways) explained that there was a general trend in the mainstream railway industry towards out-sourcing of tasks and asked if this made cultural change more difficult.

Sue Lownds agreed that the practice of sub-contracting could make this particularly difficult, although on the Heathrow project they had ensured that sub-contractors were invited to all Key Event meetings, which was not common practice elsewhere.

David van Rest (Shinshi Tours) asked how conflict was resolved within the partnership philosophy.

Sue Lownds explained that on the Heathrow Express project a Star Chamber existed so that disputes could be resolved quickly.

James Barlow (University of Westminster) suggested that in a number of partnering relationships the outcome is successful without substantial cultural change as long as there are effective financial incentives to work together.

Sue Lownds commented that the real choice was between muddling along or aspiring to be world class. Furthermore, the motivational factors that came up on the Heathrow Express project were more often about how to get the job done and good management than about money.

Peter White (Chairman) asked if competition between contractors was an inhibition to the spread of ideas.

Sue Lownds responded that on the Heathrow Express project there had been a lot of sharing of information and that this ought not to be left at the verbal level.

Discussion report by Stephen Bennett

Road Capacity Reallocation - a Draft Guide to Best Practice

Peter Bonsall, Professor of Transport Planning and Director of Studies,
Institute for Transport Studies, University of Leeds

Paper presented to Transport Economists Group,
University of Westminster, 16 December 1998

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I am indebted to several individuals, without whose help and encouragement this report would not have been produced. Most particularly I would like to thank *Steve Atkins* (then of LT) for initiating the study of the impact of highway capacity reallocation, *Phil Goodwin* and *Sally Cairns* of TSU-UCL for guiding me through the evidence they collected during that study, *Mike Walsh* of EcLTG in DETR for commissioning me to prepare a specification for a guide to best practice, and six domain experts (*David Curtis, David Feeney, George Hazel, Derek Quinn, Malcolm Read, John Rigby, Richard Smith* and *Derek Turner*) whose comments on my first draft specification were invaluable. I must, however, take full responsibility for the views expressed within this paper and point out that they should not necessarily be taken to represent the views of any of the above mentioned individuals or their organisations.

Background

Following SACTRA's 1994 report ⁽⁴⁾, it is now almost universally accepted that, even if the best evidence still does not constitute proof, new roads do generate traffic. It was not mere intellectual curiosity which demanded that we should consider whether a mirror of this effect might hold true; if extra road capacity induces extra traffic then might the removal of road capacity result in reductions in traffic? The question was given policy relevance by the widespread adoption of new local transport priorities which seek to promote the needs of travellers rather than vehicle traffic. Several authorities were clearly interested in reallocating roadspace from cars to buses, cyclists or pedestrians. The key questions were whether this could be achieved without causing increased congestion on the remaining roadspace, and whether the effect could be predicted.

London Transport and the then Department of Transport commissioned TSU-UCL and MVA to examine these questions within a project entitled 'Traffic Impacts of Highway Capacity Reduction' (TIHCR). The team gathered evidence from around the world, considered the relevance of a number of predictive

⁽⁴⁾ SACTRA, Trunk Roads and the Generation of Traffic, HMSO 1994.

techniques and presented its interim findings to a forum of practitioners and researchers (which I was lucky enough to chair) before finally publishing a two volume report ⁽⁵⁾. The report included a discussion of relevant behavioural mechanisms and theories and dwelt on the difficulties inherent in assessing the case study evidence; the possibility of bias in the results was discussed and it was observed that the traffic impact of a given scheme was crucially dependent on local circumstances. Nevertheless the authors calculated and presented a ‘mean’ result which showed that, for the case studies they had reviewed, some 25% of the pre-scheme traffic had apparently ‘disappeared’. Despite the caveats in the report, it is this result which immediately entered the professional psyche. Another observation, which is commonly made, is that the report had evidenced many examples of cities where a reallocation of roadspace away from cars has been accompanied by an improvement in the economic well-being of that city.

This was well timed manna from heaven! Although the debate continues about the reliability of the data sources and some of the conclusions drawn (notably the lack of attention paid to wide area re-routing and the possibility that, via a ‘ripple’ effect, the impact of a reduction in capacity might show up at some considerable remove from the scheme), the possibility that by reallocating roadspace it might be possible to promote sustainable modes of transport, reduce inequity, improve the environment, meet traffic reduction targets *AND* enhance the economy was just too attractive a prospect to ignore!

DETR were aware that interest in roadspace reallocation schemes would grow apace but that misplaced enthusiasm could lead to spectacular embarrassment. Although some local authorities already had valuable experience of what could realistically be achieved and how best to go about it, others would need access to advice. There were already many examples of roadspace reallocation schemes around the country and there were already several design guides touching on the topic but there was no single document drawing together all the relevant experience or advice.

I was commissioned by DETR to examine the possibility of developing a guide to best practice using the case study material already assembled for the TIHCR study. My conclusion was that parts of the TIHCR database might indeed prove useful but that other sources would need to be tapped. I voiced the opinion that a well written guide could fulfil three functions:

- (i) it could act as a catalyst to creative and effective policy initiatives,

⁽⁵⁾ Traffic Impacts of Highway Capacity Reduction, Vol 1 (Cairns et al): *Assessment of the Evidence*; Vol 2 (MVA Ltd): *Report on Modelling*, Landor Publishing 1998

- (ii) as a checklist of points to be addressed and steps to be followed, and
- (iii) as a source of relevant reference material.

DETR asked me to develop these ideas in consultation with potential users and contributors.

The consultation process was extremely productive and revealed unanimous support for the production of such a guide. I was particularly struck by the existence of a near consensus as to the required content and on the need to emphasise the importance of achieving widespread support for any roadspace reallocation proposals via effective publicity, consultation and public relations. The current paper sets out my proposals for the content of a guide as they emerged from this process of consultation.

The Proposed Guide

Sources and Links

The guide would obviously draw on evidence and techniques assessed during the TIHCR study but would clearly want also to consider issues other than the assessment of impacts on traffic flows which were the focus of that study.

A link would be made with other guides, circulars and advice notes issued by DETR and with the various publications which provide design guidance and examples of good practice for bus priority, pedestrianisation, cycling and environmental enhancement schemes. The guide should draw on these and similar documents and on the information produced at periodic conferences or by one of the several European funded Research Projects currently addressing such matters.

Auspices

The guide should be produced under the auspices of DETR but ‘sponsorship’ by bodies such as the LGA (Local Government Association), the motorist organisations (AA/RAC), bus operators and professional bodies (CIT, IHT, TPS, ICE) would be wholly beneficial.

Content

The Title should be fairly brief and ‘catchy’, for example, “Better Use of Roadspace - A Guide to Best Practice”.

A Foreword by the relevant Minister would indicate that the policy aims which underlie this kind of scheme have official encouragement. The opportunity might

be taken here to refer to other guides, circulars and advice notes to which this one is related.

An Executive Summary would be provided to summarise the purpose and structure of the guide, the role of capacity reallocation schemes as one element of an integrated transport, development and environmental strategy, the range of ways in which the reallocation could be brought about and the key stages in the planning, appraisal and implementation of such schemes.

The Introduction would include a discussion of the policy context and a review of the range of approaches available:-

(1) *The Policy Context*

The role of capacity reallocation schemes as one element of an area's integrated strategy for transport, economic development and the environment.

National transport strategy issues and targets (but should not be so detailed as to risk becoming dated as national policy evolves - for example if road traffic reduction targets become seen as overly simplistic and were replaced by more specific targets on air quality and other unwanted impacts of car vehicle traffic).

What can and cannot be expected to be achieved through reallocation of road capacity from private vehicles (moving or stationary) to public transport, pedestrians, and cyclists or simply to environmental improvement measures. This section would draw heavily on evidence summarised in the Final Report of the TIHCR study but would be extended to include other material not included in that study.

The guide should stress that, given the scope for improved traffic management, an increase in system capacity (measured in terms of person-throughput) could be achieved by reallocation of capacity to public transport, pedestrians and/or cyclists but that this need not *necessarily* imply a reduction in capacity for private vehicles. All schemes would doubtless decrease the *relative* attractiveness of private vehicle use but, unless it is a specific policy objective, they need not decrease its *absolute* attractiveness.

The guide would stress that, given the political sensitivities of any proposal to reallocate roadspace, it would be necessary to obtain broad support for the underlying strategy before proceeding to design any specific schemes, and that obtaining this support might require substantial effort in public relations and the development of a partnership approach.

(2) The Range of Approaches Available

A structured list of potential methods/techniques should be provided. It should cover the spectrum from more effective enforcement of existing regulations, through traditional (painted) bus lanes and heavy engineering solutions, to electronic/telematics oriented solutions. The list would include some innovative measures such as HOV lanes and reallocation of on-street parking to pavement cafes. The list should not purport to be exhaustive (it is bound to get out of date anyway) but should indicate the wide range of possibilities and encourage an innovative horses-for-courses approach. Innovative thoughts might be stimulated by mentioning ideas such as the designation of Low Emission Zones to which access is restricted to zero-emission vehicles. The list could include reference to 'classic' examples of each technique and indicate that further details may be found in the appendix (q.v.).

The Preparation of schemes would be described under five headings: objectives, outline specification, appraisal, initial consultation, and funding options.

(1) Objectives

The need for a clear understanding by elected members and by officers of the purpose of the scheme and its relationship with other elements of the authority's transport, development and environmental strategy should be stressed.

(2) Outline Specification

The guide would indicate the need to consider alternative ways of achieving the agreed objectives and would recommend effective ways of doing this. It would then advise on the level of detail required in drawing up a specification of the scheme to form the basis of appraisal and consultation.

(3) Appraisal

The guide would outline the key stages in appraisal of such schemes, including technical details and/or references where appropriate. It would be stressed that the resources devoted to the appraisal process would need to be kept appropriate not only to the size of the investment but also to the scale of its potential impact. Guidelines would be provided on this. The stages to be addressed would include:-

- Estimation of impacts on road traffic including the role of detailed traffic modelling, allied with a simple elasticity model, to estimate the likely extent of diversion and trip re-timing and of consequent changes in traffic-related externalities. The guide would also indicate the role of past experience and local knowledge in predicting these effects. The guide would not imply that the traffic impacts would be easy to predict - particularly if the scheme details are not yet finalised.

- Estimation of the possible magnitude of other behavioural changes-including change of mode, destination or trip frequency (including trip suppression) and of consequential environmental or land use impacts. The potential roles of strategic demand models and elasticity-driven spreadsheets would be discussed but it would be emphasised that, since these impacts are even more difficult to predict than are traffic impacts, any model predictions should be subject to sensitivity analysis and that past experience and local knowledge should be given considerable weight.
- Estimation of the ability of public transport to cater for any additional demand and assessment of the impact on bus reliability. The guide would discuss the role of past experience, local knowledge and professional judgement backed up by use of appropriate analytical techniques.
- Quantification of costs, noting the need to include the expenditure on public relations, enforcement and maintenance as well as the initial capital investment.

The new Appraisal Methodology framework approach would clearly be very appropriate for this type of scheme (the difficulties inherent in attempting to quantify all the impacts, let alone in valuing them, would have made a conventional cost-benefit approach very difficult). The guide would recommend quantification, for each affected group, of the impacts on journey times (and journey time reliability), air quality and safety as well as presentation of other less easily quantified impacts such as those on the local economy or visual environment. The guide would stress the political usefulness of being able to summarise the main impacts for each identified group. An example of an appropriate framework would be presented and a full, worked, example for a hypothetical scheme might be included as an appendix (q.v.).

(4) Initial Consultation

The guide would emphasise the importance of involving residents, traders, police, public transport operators and other affected groups at as early a stage as possible. It should not, however, disguise the fact that opinions differ as to the wisdom of involving such groups before the preliminary appraisal of likely impacts has been conducted and potential solutions found to any obvious problems which may emerge. Reference would be made to examples of implemented schemes where the consultations were conducted in different ways.

(5) *Funding Options*

The guide would outline the options available for funding the scheme. Reference would be made to Public-Private Partnerships and to the role of Quality Partnerships in securing investment in enhancements to public transport so as to maximise the effectiveness of the capacity reallocation. The relevant procedures, regulations and advice would be included in an appendix (q.v.).

Development and Implementation of the Scheme would be described in sections dealing with public relations, detailed design and implementation.

(1) *Public Relations*

The guide would again stress the need for effective public relations during the development and implementation of the scheme. The need to ‘sell’ the idea to the Press and to particular groups (notably car drivers and businesses) who might expect to be disadvantaged by the scheme would be emphasised.

(2) *Detailed Design Process*

The guide would indicate the role of *analytical techniques and procedures* during the detailed design process. It would discuss the appropriateness of formal analytical techniques and the circumstances in which a full appraisal of the final design would be desirable. The guide would emphasise that the detailed design process would be intimately linked to the implementation plan allowing room for phased introduction and experimentation. As described in the next section, the detailed design could sometimes become an on-going iterative process of experimentation and refinement.

Notwithstanding the role of low cost experimentation, the guide would emphasise that the public’s impression of a scheme is often very strongly influenced by the *aesthetic quality* of the implemented works. Illustrated examples would be given of schemes which are regarded as having succeeded in this respect. Examples of failures would be useful, but might prove politically embarrassing to those concerned!

(3) *Implementation Plan*

The particular importance of *good public relations* during construction and implementation would be stressed.

The need for *careful planning of the phasing of a scheme* would be discussed - highlighting for example the need to ensure that extra public transport capacity is available in time for any anticipated increase in demand.

The advantages of *a phased implementation with some flexibility as to the precise specification of later phases* would be outlined; it would be stressed that such an approach would enable the design to be modified in the light of public response and the initial performance of the scheme. Examples would be given from previous implementations where the details were amended in the light of experience or where the opportunity was taken to fine-tune the scheme to maximise its effectiveness.

The value of *effective monitoring* of the performance of the initial stages to facilitate such modification or fine-tuning would be particularly emphasised, but the benefits to be gained from more long-term monitoring of impacts with respect to the original objectives would also be stressed. The practical problems involved in achieving statistically reliable indicators would be discussed and some guidance given. Although it would be stressed that indicators should be chosen which are relevant to the specific scheme and policy objectives, the likely usefulness of traffic flow, person flow, air quality measures and public opinion would be emphasised.

Four Appendices are proposed:

(1) Examples of previously implemented schemes

A carefully selected set of schemes would be presented to demonstrate a range of approaches. Each example should ideally include an authoritative opinion (perhaps via attributed quotations from people involved in the original scheme, or detailed assessment of it) as to the particular strengths (and weaknesses if they will admit to them!) of the scheme or specific aspects of it. These examples would be described in just sufficient detail, with maps/photographs as necessary, to illustrate the specific points being made rather than seeking to give full case studies.

(2) Procedural/regulatory Requirements

A digest of, and bibliography for, relevant planning law, experimental orders, type approvals, statutory procedures etc. would be provided. Separate coverage might be needed for England and Wales, Scotland and Northern Ireland.

(3) References/Bibliography

Reference information would be provided to enable users of the guide to obtain further information about previous implementations and about any techniques, models, or technologies referred to in the main text. Full reference details would also be given for other guides, circulars and advice notes which the users might find relevant. Although a directory of relevant products and services might also

be useful, it should perhaps be avoided lest it be taken to imply an official endorsement of particular products and services.

(4) A Hypothetical Case Study

There might be some advantage in using a hypothetical case study to illustrate the application of some of the technical and analytical material covered in the guide.

Discussion

Stephen Bennett (Independent consultant) opened the discussion. He was reminded of investment choices for railways ten years ago where there were three issues to be addressed:

- (i) Were enough options considered?
- (ii) How should schemes be prioritised?
- (iii) What monitoring is appropriate?

He remarked that Peter Bonsall had covered the third of these in some detail but invited him to say more about the first two.

Peter Bonsall replied that, since highway reallocation schemes need not involve large capital investment and need not be irrevocable, prioritisation and appraisal of alternatives might not be so important an issue as with the major investments typical of the railway industry. Nevertheless he thought that it would be good practice to specify, say, four alternatives for comment -recognising that, with their design variants might expand to a dozen or so. The proposed guide would include advice on the appropriate assessment tools but would emphasise the role of local knowledge, experience and judgement in addition to more formal modelling.

Peter Brown (Traffic Director for London) queried Peter Bonsall's recommendation to conduct detailed traffic modelling; surely such models are unable to represent the effects of peak spreading, mode shift, etc?

Peter Bonsall repeated that he was recommending the use of traffic models to estimate the first round effects and the consequent change in costs. These costs should then be used with appropriate elasticities to modify the trip matrix. Reassignment of the thus modified matrix would give a good estimate of short and medium term responses. The modelling of long-term effects would be much more difficult.

Don Box asked two questions:

- (i) How far were significant changes in government policies to road traffic considered in the Guide?
- (ii) Could good ideas be used to support changes in government policy?

Peter stated that the proposed guide would include a Foreword by a Minister which would set it in the national policy context. Highway reallocation is clearly well in line with policies announced in the White Paper. The existence of the proposed guide would help to encourage innovation and experimentation and would thus contribute to the evolution of policy.

John Miles asked what is the timescale of the report, and are not the evaluation and appraisal of schemes a sort of multi-dimensional trade-off with comparisons having to be made between "apples and pears". Since politicians tend to be risk-averse should SWOT analysis be included in the evaluation. Quantified methods very often leave question marks.

Peter answered by saying that the appraisal methods for highway reallocation schemes would and should reflect the new Common Appraisal Framework. Appraisal Summary Tables would indicate a range of impacts on key groups and would facilitate the final, inevitably political, decision. He agreed that an extension of this to more explicitly cover risk could be worthwhile and that a SWOT ⁽⁶⁾ approach might indeed be appropriate. On the question of timetable, Peter had no information but he thought that some progress should be expected within the next year.

Peter Collins (London Transport Planning) opined that the policy context is fundamental to the Guide with the potential of road user charging, etc. It is a very complex system feeding into modelling and evaluation which is at a different level from evaluating policy.

Peter Bonsall agreed and repeated that the introduction to the proposed guide would emphasise the national policy context and encourage local authorities to consider how highway reallocation could fit into their local policy context and help to meet their own particular objectives. Local objectives and targets (e.g. on road traffic reduction or, preferably, air quality enhancement) would provide the context for appraising the scheme.

Mervyn Jones (Swansea Institute of Higher Education) queried the lack of a mention for the importance of land use which he thinks is the key element.

⁽⁶⁾ Strengths, Weaknesses, Opportunities, Threats

Peter Bonsall agreed that the land use response is a crucially important issue but stressed that it is extraordinarily difficult to model such effects and hence there would need to be a substantial reliance on judgement, local knowledge and past experience.

Peter Gordon (Chiltern Railways) thought that the pedestrian often does not enter into the equation, particularly if the reason for reducing traffic is purely because of congestion.

In answer, Peter Bonsall confirmed that highway reallocation schemes were a means of tilting the balance towards people and the environment and away from vehicles. He went on to say that they could be allied with road pricing or petrol price increases as a way of reducing unnecessary vehicle use - though he emphasised his personal view that the key objective should be to improve environmental conditions rather than to reduce vehicle use - there being nothing inherently objectionable about vehicle use - particularly if they could be encouraged to become environmentally friendly and manoeuvrable.

Derek Done (Independent consultant) agreed that the role of the press must not be overlooked but noted that they can be very difficult to get on your side.

Peter Bonsall agreed and confirmed that the proposed guide would emphasise the importance of public relations. Reference would be made to examples where the press had been persuaded to be supportive. Experience suggests that the press can be brought round through cultivating good relations and by helping them to understand the benefits of the proposed scheme - be they environmental or (in the case of Road Pricing) hypothecated revenue. Peter Bonsall agreed that in this latter case the press might be suspicious as to whether, due to leakage, the benefits would really accrue to the local economy.

Mike Tarrier (Surrey County Council) noted that retailers are generally very concerned that a scheme which reduces capacity will produce gridlock or reduce traffic and, therefore, trade.

Peter Bonsall replied that, if analysis were to suggest that there would be gridlock and that environmental conditions would not be enhanced, then it the scheme should probably be abandoned. If a way cannot be found of saying the scheme will be good for the local economy it probably will not be! This is where past experience is needed to confirm that conditions will be better.

Discussion report by Laurie Baker

Railtrack and the Regulator

A Review by Stephen Bennett

In December 1998 the Rail Regulator published some provisional conclusions in *The Periodic Review of Railtrack's Access Charges: The Regulator's conclusions on the financial framework - Third paper*. The conclusions relate to the cost of capital and the size of the regulated asset base, which together determine the profit constituent of track access charges for the five period from the year 2001.

The Regulator has noted that the real cost of debt is lower than it has been for a long time and anticipates that Railtrack will be funding significant investment with debt rather than equity. A projected debt : equity ratio of between 67% and 100%, whereby cheaper debt is mixed with expensive equity, allows him to reduce the weighted cost of capital from 7.5% real to a range of 5% to 6% real for the next control period. Tax will be built into prices as a revenue item at a later date.

The Regulator has decided to value the asset base at £2.54 billion, the market value at the end of the first day's trading in shares. Railtrack had asked for a valuation closer to £4 billion, the market value after political uncertainty had diminished about a year after flotation. The Regulator had also decided that the likely overspend of around £1 billion on renewals in the first control period up to 2001 will not be added to the asset base. The reason given was that plans to do so were made known in the Prospectus and hence investors might have reflected this in the prices paid for shares on the first day of trading.

The Regulator intends that these issues now be closed and he is moving on to consider and consult upon the nature of incentives that should be offered to Railtrack to manage efficiently and enhance the network.

A few days after the Rail Regulator published his report, the National Audit Office (NAO) produced their report *The Flotation of Railtrack* (HC25 98/9). This report to Parliament states that the Government obtained proceeds of £2.49 billion (£1,904m equity and £586m debt) and the cost of sales was £79m (£39m by Government and £40m by Railtrack). These figures are fairly close to those used by the Regulator. But the NAO then goes on to say that the Government ought to have raised up to £1.5 billion additional proceeds if they had staged the sale. This would put the true value at around the £4 billion level. The NAO position is summarised at page 3 of the report:

"The timing of the sale may have had an adverse impact on the value achieved, since it was carried out at a time when the market was only beginning to understand the new commercial and regulatory structures within the rail industry. The market was not, therefore, then in a position to give a fully formed judgement on the value of the company."

In comparison, the Rail Regulator's view was that: *"all of the known risk factors were reflected in Railtrack's share price, which had been established through a book building process, by the time trading of its shares commenced."* They cannot both be right, can they? It is possible that the question of the value of the asset base is not quite as closed as the Regulator would wish.

Looking ahead, there will be a lot of interest in the next Network Management Statement, due around March, where plans for enhancements and improvements will be presented for discussion with the shadow Strategic Rail Authority and the rest of the industry. The Regulator will use the results as inputs to the price review. Beneath the surface, however, there remain two debates that have been going on for a long time, but are of great importance:

- first is a definition by the Regulator of the output that is to be provided by Railtrack; and
- second, is the amount of renewal work required to meet agreed outputs.

It is hardly surprising that there is uncertainty in the industry over the latter (renewals, particularly signalling), when the Regulator has yet to resolve the former after three years of discussions.

28th January 1999

TEG NEWS

NOTICE OF ANNUAL GENERAL MEETING

The meeting will be held at 5pm on March 24th 1999

Room 205

Transport Studies Group

University of Westminster

35 Marylebone Road, London NW1 5LS

MEETINGS 1999

Meetings will be held at 5.30 for 6pm in room 205 of the Transport Studies Group at the University of Westminster, located at 35 Marylebone Road, London NW1 5LS. The building is on the south side of Marylebone Road, close to Baker Street Underground Station and is passed by numerous buses.

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|----------|---|
| March 24 | Bus Quality Corridors
Malcolm Roberts, Colin Buchanan & Partners |
| April 28 | Sheffield Supertram Developments
Philip Haywood, Director of Planning, South Yorkshire Public Transport Executive |
| May 26 | London River Services
Andy Griffiths, London River Services Ltd |
| June 23 | Rail Rolling Stock Evaluation
Mark Wardman, Institute of Transport Studies, University of Leeds |

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