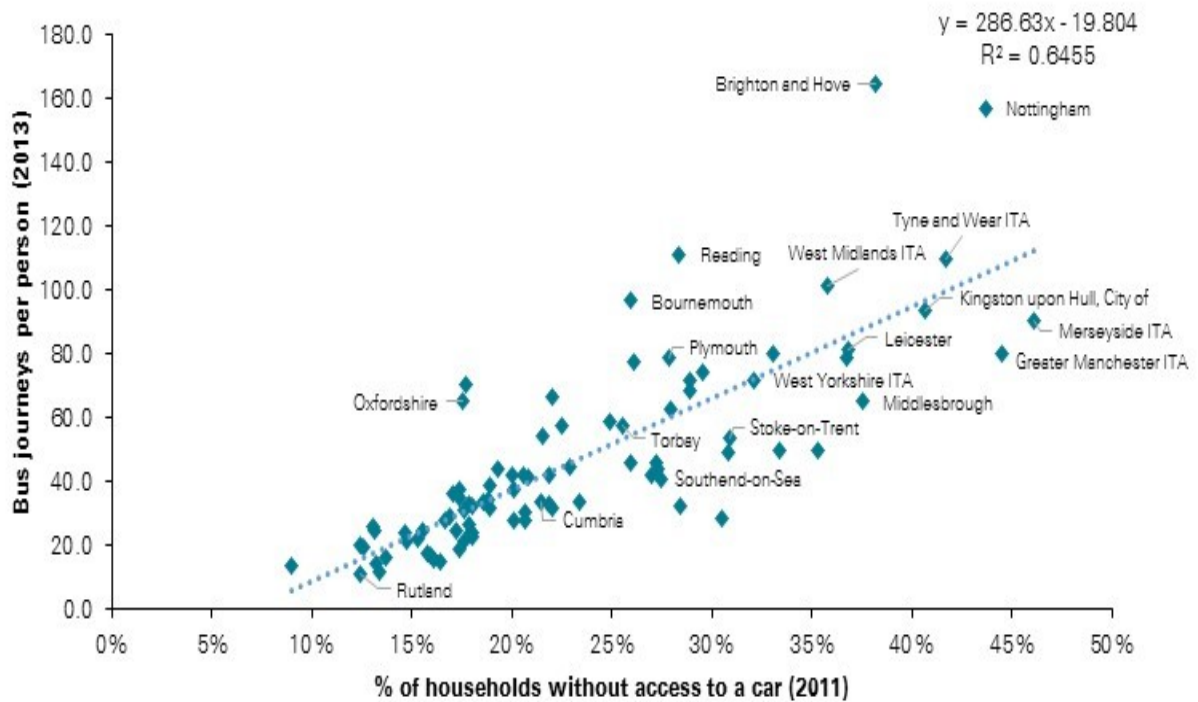


The Transport Economist

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The Northern Transport Strategy and the role of Transport for the North

Ian Palmer, Transport for the North

Arup

27 April 2016

Introduction

Ian began by explaining that Transport for the North (TfN) was not yet a statutory body, although an embryonic board and organisation did exist. His presentation would comprise four sections covering:

- the genesis of Transport for the North;
- what TfN is doing now;
- what a sub-national transport body will do; and
- what is being done about the appraisal challenges.

Ian emphasised that all opinions expressed during his presentation were his own and did not necessarily represent TfN policy.

The genesis of Transport for the North

The origins of TfN lay in a speech by George Osborne, then Chancellor of the Exchequer, in July 2014 when he spoke of his desire to create a "Northern Powerhouse". He said that this needed to be driven by a four point plan covering transport, science and universities, culture, and power and devolution.

Ian noted that there were many opportunities in London, such as TEG, for highly skilled people to meet and to exchange experience or ideas. This was not true in the North, where a similar culture and environment needed to be created if the region was to succeed.

In July 2014 the report "One North – A Proposition for an Interconnected North" was also published. This strategic proposition for transport in the North had been led by five city regions (Leeds, Liverpool, Manchester, Newcastle and Sheffield)

coming together to consider the critical importance of transport for vibrant, sustainable economic growth.

An M62 mega-city had previously been discussed, but the proposals for rail improvements grabbed the headlines and people’s imagination. The One North report demonstrated how the northern cities had kick-started the strategic thinking.

Major developments since July 2014 are shown in Table 1.

Table 1: major developments since July 2014

Date	Event
2014, July	“Northern Powerhouse” speech. “One North – A Proposition for an Interconnected North” published.
2014, October	Transport for the North (TfN) established.
2015, March	Northern Transport Strategy (NTS) “One Agenda, One Economy, One North” established on a partnership basis with central government.
2015, October	National Infrastructure Commission (NIC) created.
2015, November	John Cridland appointed as Independent Chairman. Comprehensive Spending Review commits £150 million funding for Smart and Integrated Ticketing.
2016, March	NTS Autumn Update. NIC publishes High Speed North. Central Government includes £300 million of funding for northern transport projects in budget.

The budget allocation is very welcome new money. The North has a much greater say in how it is spent and comes at a time when local authorities are having to make budget cuts of some 20%-30%.

What TfN is doing now

TfN represents the creation of a single voice for transport in the North of England. It covers 19 local transport authorities and six combined authorities in eleven Local Enterprise Partnership

(LEP) areas and works in partnership with DfT, Network Rail, Highways England and HS2 Ltd. It facilitates a functional economic geography of six cities, with a greater population than London, and is developing a multimodal transport strategy and transformation schemes in pursuit of supporting the Northern Powerhouse. Central government is clear that TfN must speak with one voice for “the whole of the North”.

One difficulty is that the coverage of TfN does not map exactly onto the areas of LEPS, rail franchises, or combined authorities. Furthermore there is a danger in being seen to concentrate too much on the cities, rather than on more rural areas.

Table 2: workstreams in 2016 budget

Workstream		Description
1	Northern Powerhouse Rail	Options have been identified to achieve the vision for reductions in journey times, plus increases in frequency and capacity between the largest cities and with Manchester Airport.
2	Smart North	Simplified ticketing across the whole of the North of England to encourage more people to travel by public transport.
3	International Connectivity	Working to improve connectivity between the North’s international gateways (ports and airports) and global markets to allow the North to compete on an international stage. An International Connectivity Commission of experts is expected to make recommendations in Summer 2016.
4	Strategic Road Networks	Alongside DfT and Highways England, TfN is producing prioritised investment proposals for the North of England as part of the second Road Investment Strategy (2020-2025).
5 6	Strategic Local Connectivity /Freight and Logistics	Working to identify improvements for strategic freight connectivity and local connectivity to the strategic network that will support the overall Northern Transport Strategy.

Some of the planning work originated with Rail North before the creation of TfN. Current planning is split into six core workstreams shown in Table 2.

A report in Spring 2016 provided an update on significant progress. Much of the research was supported by the NIC's March 2016 report "High Speed North". Subsequent funding commitments in the 2016 budget will allow TfN to continue to drive forward the workstreams.

Independent Economic Review

The impetus for a clear economic vision (and associated analysis) for the North was imperative to substantiate the broader narrative on the Northern Powerhouse. This represents the first ever pan-northern economic review, and is an area where TfN is starting to add value. It will form a key part of the evidence base for future investment in the North to ensure that transport proposals deliver a real and lasting economic benefit.

In contrast to London, where the spatial, economic and transport strategies all come within the same political ambit, in the North these are controlled or influenced by differing authorities and statutory bodies. The Independent Economic Review will consider what the North is good at, with the prime capabilities seen as digital technology, energy, advanced manufacturing, and health innovation, and what the skills base looks like, embracing higher and further education, logistics, and financial and professional services. The full Review will be published in June 2016.

What a sub-national transport body will do

A key issue is what TfN can add to the Northern Powerhouse concept. At a pan-northern or "city cluster" level, there is potential for TfN to build on the legacy of the last decade to devolve power to city regions. City regions, as functional economic areas, have taken over the budget, planning and delivery for functions such as transport and economic planning, in exchange for reforms in local governance and decision-making. The mission for TfN now is to provide a clear and transparent mechanism for coordination between the cities of

the North so that they can act together, and work with central government and its delivery agencies.

Different local authorities have had differing attitudes to TfN. Some welcomed its creation and involvement, while others have been more dubious about its role. In this context the governance arrangements will become crucial. For example, how will decisions be made and who will make them? Ian was confident that TfN would become a formally constituted sub-national transport authority by the end of 2016.

Within the context of the "Cities & Local Government Devolution Bill" a Task and Finishing Group is progressing the development of TfN's proposition for its desired powers, functions and constitutional arrangements. The aim is for integration with industry plans and for co-commissioning of schemes, playing a client role to the other statutory agencies. It hopes to become a single voice for all the LEP areas, with representation at all levels, and also progressing Memoranda of Understanding with the devolved administrations in Scotland and Wales covering cross-border services and facilities.

As a sub-national transport body, TfN will:

- create a statutory Northern Transport Strategy;
- coordinate and deliver a North-wide system of smart and integrated ticketing;
- partner with central government to commission DfT agencies;
- coordinate and oversee the delivery of transformational pan-northern transport investments;
- support and assist Local Transport Authorities (LTAs) and Local Enterprise Partnerships (LEPs) to deliver strategic local transport improvements;
- further strengthen governance arrangements allowing Northern transport authorities to participate as members of TfN; and
- agree arrangements to develop the role and powers of Rail North.

Working assumptions for how TfN conducts its programme of activities are being submitted to the TfN Board for consideration. It is assumed that these activities will fall into four categories:

- Sponsored Intervention: TfN acting as the promoter of a scheme, chairing the Project Board, commissioning work either directly or via Highways England or Network Rail, and leading on funding.
- Supported Intervention: TfN as a member of the Project Board, and potentially financially supporting scheme development, but with a LTA as the promoter.
- Endorsed Intervention; schemes of local impact, but which support TfN's overall vision will be taken forward by the LTA under a TfN "watching brief".
- Local Priority Intervention: schemes of purely local impact, taken forward by the LTA.

Supported and Endorsed Interventions might embrace local authority initiatives which fit closely with the overall TfN programme, whereas TfN is not seen as having much input into Local Priority Interventions, other than possibly assisting with prioritisation.

Analysis and Appraisal Challenges

The challenge for TfN is to place transport within the wider context of changing the economic geography of the North to achieve the vision of a Northern Powerhouse. It is therefore working with central government to develop best practice in appraisal techniques, to ensure that decision-makers understand the economic potential of the North and the impacts from transport investments, in terms of productivity, investment and employment, building on the report Transport Investment and Economic Performance.

As the report for TfL and TfGM from Volterra Partners made clear, this requires a reformed appraisal system that looks at the wider returns on investment and that allows major investment decisions to be shaped by a more holistic view of cities' needs. This must start with the growth imperative and be supported by strong risk analysis, rather than a narrow

transport appraisal approach that assumes that the development of the economy is broadly independent of the transport system. This means understanding the non-transport drivers of economic growth.

Such an approach raises a number of questions. It is possible to develop the strategic case and to present a narrative analysis with talk about labour markets, land use change and development but, given the importance of Benefit-Cost Ratios (BCRs), how can these issues be incorporated into the value for money equation? Also, it is hard to appraise schemes that are already political priorities. Economics is about rationing scarce resource and works best when comparing options. How can this be done as part of an integrated strategy?

Mega-projects are not about rationing the transport budget between options. They extend into the more general category of infrastructure projects and hence into the realm of the National Infrastructure Commission. What does this mean for TfN's approach to appraisal? It will be interesting to see how the National Infrastructure Commission tackles these issues.

Examining these issues means returning to the basic question of TfN's objectives for the labour markets, land use and economic geography in the North. TfN's approach to appraisal needs to be guided by integrated views of the problems and challenges across the North in realising these objectives. It needs to translate priorities and requirements for transport, labour markets, land use and development activity into scenarios, then assess alternatives and develop business cases on a common basis across modes that reflect transformation or growth, with interventions being part of an overall programme.

To achieve this TfN must develop the capacity, capability and credibility to be able to undertake this approach effectively. It aims to exploit and extend recent work on integrating transport appraisal and economic performance, including:

- using the Wider Impacts Tool (WITA) as standard in economic appraisal;
- developing econometric modelling for scheme prioritisation (trans-Pennine Tunnel and Northern Powerhouse Rail);

- exploring economic and land use modelling for Strategic Studies (adopting a new model) and for NPR (looking initially at the HS2 Ltd model); and
- research into underlying elasticities (SERC 2009).

Prioritisation of Northern Powerhouse Rail is already underway, looking at the options for a transformed rail network. The process is based on assessing strategic and economic cases, and deliverability and financial metrics. The economic case will include conventional VfM assessment and an assessment of the Powerhouse VfM. Technical assessments will be followed by a political process under the TfN Partnership Board during 2016.

Next Steps

Since the autumn of 2015 TfN has been building momentum:

- Autumn 2015. Pan-northern governance in place, CEO and Chair appointed, update report published. Smart and Development funding.
- March 2016. Updated Northern Transport Strategy report published, economic narrative, independent economic review.

Further funding:

- 2017 Statutory body status, capacity built, outline strategy and business case.
- 2020 Long-term funding commitment and statutory transport strategy.

Discussion

Martin Kerridge wondered how poorly performing places, such as Goole, could be incorporated into an approach which seemed to be based largely on an area's economic growth potential. **Ian** accepted that economic growth in the major cities was driving the agenda, but there might need to be another agenda for other areas. Should such locations be seen as supporting areas for the major cities, or as having some distinct role in themselves? At present the political leadership wished TfN to focus on an economic growth agenda.

John Blundell (Volterra Consulting) wanted to know who had the final decision on priorities. **Ian** felt he could not yet offer a definitive answer. People were currently trying to put together a constitution for TfN to provide a framework for decision-making. The really difficult area was where decision-making would lie for intermediate level schemes.

Tom Worsley (ITS, Leeds) asked whether TfN would always take the lead in funding. **Ian** responded that sometimes it would only provide funding for the development and appraisal stages of schemes.

Martin Higginson (Transport Research & Consultancy) was worried that the transport and development model seen in London was not directly applicable to the North. Its geography was very different, with widely spaced self-standing and often fiercely independent cities. Was it realistic to expect and encourage regular commuting between these cities? Might a better vision be to ensure better quality "as and when" trips as a way of improving economic performance? **Ian** explained that the objective was to improve business-to-business contact and cooperation. However, the cities had not yet identified what this might mean in practice. Political leaders needed to take ownership of the economic strategy that this implied.

Alan Peakall (freelance economist) wondered whether the speech by George Osborne in June 2014 might have been a ploy to defer expenditure through generating a form of paralysis by analysis. **Ian** did not believe the Northern political leaders who had welcomed Osborne's approach were that naïve. TfN was already involving itself as a client in Network Rail schemes for CP5 and CP6. The present danger was of becoming too involved in current schemes and losing focus on the longer term strategy.

David Simmonds (David Simmonds Consultancy) considered that WITA was very much oriented towards the status quo, with a bias towards those areas which are already prosperous. How is TfN using WITA in the context of regeneration? **Ian** felt this was part of the advantage and the challenge of working closely with central government. Planners had never had to assess schemes of this magnitude before. The issues raised by

analysis such as WITA needed to be routinely considered by political leaders when making decisions.

Gerard Whelan (KPMG) believed that the TfN remit for taking a more strategic view was very important. One issue could be to examine where there were market failures which were preventing economic growth and development. Another issue was how to keep the newly formed coalition of local political leaders together and to demonstrate what would be the benefits to voters from a distinctly Northern transport strategy. **Ian** explained that local authorities and other bodies had at first been suspicious of Rail North, but had subsequently become very supportive. For the past decade central government funding arrangements had encouraged competition between cities for resources. Now, with the emphasis on subsidiarity, there had been a culture change.

Another attendee queried how people and politicians in the North saw the purpose of TfN. **Ian** replied that TfN was often seen as providing the solution to many economic issues. TfN needed to be strong enough to make clear that some issues were not about transport and required other solutions.

The practicalities for scarcity charging for rail infrastructure capacity

Dick Dunmore, Steer Davies Gleave

Arup

25 May 2016

Context

The Office of Rail and Road's (ORR) December 2015 to March 2016 consultation "Network Charges - a consultation on how charges can improve efficiency" was supported by a wider package of evidence assembled by ORR, including a number of consultancy studies. Steer Davies Gleave was commissioned to investigate the practicalities of applying the economic principles of scarcity charging to improve the efficiency of allocation of infrastructure capacity.

On 12 May 2016 ORR approved applications from Virgin Trains East Coast and FirstGroup for new train services travelling on the East Coast Main Line (ECML), but rejected a request from the Great North Eastern Railway Company Limited (GNER). Various points were touched on in ORR's statement:

- Trade-offs between calling patterns and hence markets served
- Trade-offs between passenger benefits and public funds
- Lags before approval: applications were received in 2014 and 2015
- Lags before service entry: services will be introduced in stages (to 2021)
- Dependence on investment: (future) works to increase track capacity

ORR and others are not surprisingly interested in the scope to increase the use of market signals, rather than such administered processes, in the allocation of infrastructure capacity.

Scarcity charging: the economic rationale

The “Scoping study for scarcity charges” (ITS, 2006) noted that (speaker’s bold):

- According to economic theory, the most efficient allocation of resources in an economy arises from the pricing of all commodities at **marginal social cost**
- When capacity is optimally adjusted to demand, the scarcity price is exactly equal to the **incremental cost of additional capacity**

The lack of use of pricing signals to inform decision-making in capacity allocation and investment planning is a potential missed opportunity. It is possible to identify a number of objectives for scarcity charges, each of which reflects a possible criticism of the current system:

- Sending signals for the efficient allocation of capacity to the system operator
- Encouraging the system operator to accommodate additional demand
- Sending signals and incentivising operators for the efficient use of capacity
- Encouraging informed decisions about subsidy and expansion of the network

Efficient allocation of existing capacity

Directive 2001/14/EC permits “scarcity” charges, which may be averaged to avoid fluctuation, in “periods of congestion” (which are not defined). There are various possible means of introducing price signals. Approaches examined included:

- Estimates of opportunity cost exposed directly in the market by bilateral trading and/or market clearing prices.
- Estimated opportunity costs inferred from analysis of value in use, inferred for demand and revenue models, and posted prices administered but adjusted in the market.
- Posted prices, determined by an administered process.

Opportunity cost exposed by bilateral trading

Bilateral trading is used with airport slots, the right to take off or land in (say) a 5-minute window. Airlines based at congested hubs often have a large proportion of slots and can optimise their use internally. Airlines visiting another congested airport need a suitable pair of slots separated by a suitable turnaround time. There is no problem if a suitable pair of arrival and departure slots are free at a suitable interval. If this is not the case, airlines must talk to incumbent airlines and ask them how much they would sell for and, if they get two offers with a workable timing, they can operate a service. Technically, slots may not be bought and sold, only swapped. In practice a worthless slot is swapped for a valuable one (and money changes hands elsewhere). Slots tend to be worth most at certain times: at Heathrow this is in the early morning.

Bilateral trading of railway infrastructure capacity is not permitted under EU law. However, removing one service may only permit replacement by an identical or shorter service, neither of which is, prima facie, likely to be of greater value.

Opportunity costs can be exposed by market clearing prices in auctions, but in Great Britain most operators have multi-year access rights (“framework agreements”) and there are no simultaneous auctions of all capacity.

Table 1: Example of sub-optimality of market-clearing prices

Incremental value		Market-clearing	Optimal
Express train 1	£60	£60	£60
Stopping train 1	£40	£40	
Express train 2 (given 1)	£30		£30
Express train 3 (given 1 & 2)	£20		£20
Total		£100	£110

Table 1 shows how the interaction between services means that a “top-down” auction of remaining capacity may not produce the optimum timetable. In the example, the optimum is three express trains, total value £110, but the market clears with an express train and a stopping train, value £100.

Value in use

Alternatively, it would be possible to estimate a "value in use", but this creates some challenges. It would have to be estimated by a body such as ORR or Network Rail, which would need to have access to revenue data and models such as Lennon and MOIRA. It would have to decide on the location and time of congestion and on the unit of "use" or "consumption" such as an arc, path or diagram (discussed later). The model would then be run with each "unit" of consumption removed to find the lowest "value in use". This would then be published as a charge for infrastructure use, as a proxy for opportunity cost.

If at least one service were withdrawn, and timetabling showed that at least one new service could be accommodated, then the timetable could be changed. However, if there were still unmet demand, further iterations would be required.

This approach cannot measure the opportunity cost of known but unmet demand, because it can only value services if they are already included in a workable timetable. Even if it were used, it would identify revenue and not (referring back to "Scoping study for scarcity charges") net social benefit.

In addition, it remains easier for a body such as ORR or Network Rail to work up a limited number of feasible timetables and, as now, either consult operator(s) of which they prefer or select the best against published criteria, which can be social.

Posted prices

Why not just post some prices and see what effect they have?

Posted prices are administered, but, as in other markets, the price posted can be flexed by trial and error to proxy market-clearing price or opportunity cost. Prices for using "congested infrastructure" have been posted on some other railways.

However, for railways the speaker identified a number of unresolved problems.

First, what is the dominant constraint? It is difficult to define which trains use a capacity constraint without first defining where it is, but this is problematic, as shown in Table 2. Once one constraint is relieved another may take its place.

Table 2: what constraint dominates the East Coast Main Line?

Location	Arguments for	Arguments against
Kings Cross	Limited platforms for multiple operators terminating trains, no immediate scope for expansion	Thameslink will remove up to 8 trains per hour from 2018
Welwyn	Repeatedly found extremely expensive to increase capacity, could not be delivered rapidly	More trains could be diverted to use the Hertford Loop, an alternative but slower
Peterborough	Limited platforms, many flat junctions	These constrains should have been relieved during 2014

Second, even if a “constraint” is defined, who are users and who should pay? The Reading to Gatwick line, shown in Figure 1, has been declared congested, but do trains from London to Oxford, Portsmouth, and Brighton really compete for capacity?

Third, what is capacity, how much do they each consume, and how could they credibly reduce or change their consumption? Figure 2 shows how, while some operators might be able to remove a single round trip or at least a diagram, others would not break a day-long regular interval service with connections.

Fourth, there is potential for over-incentivisation. Consider the dominant user consuming 9 units where capacity is 10 units. If he cuts back one unit, but no entrant can make use of the newly-spare capacity, he would pay lower scarcity charges on all 9 trains. If franchisees, who are typically dominant users, were permitted to do this, they would have a very strong incentive to remove any trains which left no usable capacity: effectively they would be most strongly incentivised to remove existing services where no new ones would be added.

In summary there are various possible operator responses to scarcity charging.

Figure 1: what trains consume capacity on this "route"?



Figure 2: what is the smallest unit of consumption of capacity?

Possible "unit"?	Short distance services	Long distance services	
Arc	One station call to the next, up to 100-200 per day	One station call to the next, typically 20-30 per day	
Train service (A to B)	Up to 20 services per day	As few as 2 services per day (Or only 1, for sleeper trains)	
Round trip (A to B to A)	Up to 10 services per day	May not return that day	Typical airline requirement
Closed diagram (Return to start at end of day)	Common, but morning and afternoon working may be effectively independent	Common	Open access requirement
Open diagram (Return to start after several days)	Common, but at least one point on the diagram will be passed through regularly	Common ("Circuits" can take 5 days on rail, longer for long haul air)	
Regular interval service	Common, requires multiple diagrams	Increasingly common, requires multiple diagrams	Franchisee requirement
Interconnecting franchises	Common, if passengers expect, or benefit from, connections		Public sector requirement

Summary of potential effects of scarcity charging

Table 3 summarises the possible response of different market segments to scarcity charges if they could be introduced.

Table 3: possible operator responses to scarcity charging

Market	Possible withdrawal or retiming	Possible new services
Non-timetabled	Less take-up of reserved capacity, so less need to reserve capacity.	Replaced/retimed services outside charging periods.
Freight	Less take-up of reserved capacity, so less need to reserve capacity. Less demand in charging periods.	Replaced/retimed services outside charging periods.
Charter	Likely to avoid scarcity charging, given the nature of services.	
Open access	Uncertain, depends on open access operators' business models.	
Franchised	Remove or retime lowest value services in charging periods.	Higher value services or no replacements at all.

A further complication

Dick also noted the increasing interdependency across the national network. For example Thameslink services also affect:

- East Coast Main Line, with constraints at Kings Cross, Welwyn Viaduct, and so on
- Midland Main Lines, paired by purpose, meaning that transfers between fast and slow lines cross other lines
- Brighton Main Line, with constraints at London Bridge and Windmill Bridge Junction near East Croydon
- South Western Main Line suburban services at Wimbledon

Delays at Brighton can, in principle, rapidly delay services to Aberdeen and Inverness. Constraints are not independent “bottlenecks” but increasingly systemic.

Can scarcity charges help with capacity planning?

In the longer term, capacity can be changed and optimised. As noted above, the “Scoping study for scarcity charges” (ITS, 2006) said that “When capacity is optimally adjusted to demand, the scarcity price is exactly equal to the **incremental cost of additional capacity**”.

In theory, scarcity prices representing opportunity costs could be used to “value” capacity increments. However the analysis above shows that calculating scarcity charges is problematic, particularly if intended as a proxy for unmet (and hence not timetabled) demand. Demand is also lumpy and volatile (for example coal traffic has recently decreased rapidly in the UK) so scarcity charges might be illiquid or volatile. Capacity is also lumpy: what should be added, where, and when? Consider the following suggestions for additional capacity in two recent reports and what has actually been built, all in only 8 years.

Table 4: Reported constraints on the East Coast Main Line

	York	Doncaster	Newark Crossing	Grantham	Peterborough	Hitchin Flyover	Welwyn Viaduct	Alexandra Palace	Finsbury Park	Kings Cross Platform "Y" (now "O")
ITS (2006)	x			x	x	x	x			
RUS (2008)					x		x	x	x	x
Built (2014)						✓		✓	✓	✓

No evidence was found that (volatile?) pricing signals would or could be an improvement on long term forecasts and plans.

Conclusions against the original objectives

Dick summarised the findings against the original objectives.

Sending signals for efficient allocation of capacity to the system operator: no way has yet been found of using prices as an input to the timetabling process. It is easier to compare a few feasible timetables than even to calculate “value in use”.

Encouraging the system operator to accommodate additional capacity: operator demand is lumpy and may (like coal traffic) not send consistent signals. Opportunity cost may signal value, but will fall if extra capacity is made available.

Sending signals and incentivising operators for the efficient use of capacity: a single operator can optimise its timetable against its chosen metrics. With many operators, pricing a train off may not create capacity useful to others. A dominant operator removing one train may see reduced charges for all trains.

Encouraging informed decisions on subsidy and expansion of the network: could specifications for 2018-2028 be based on scarcity charges in 2016?

From an economist’s perspective the results are disappointing, but ORR has published Steer Davies Gleave’s report and analysis, and it is open to peer review and challenge.

Breaking news

Dick ended with more “breaking news” from ORR, 7 April 2016.

“We will not undertake any more work to develop specific options to implement value-based charges for CP6. The majority of respondents either supported or were content with our proposal not to develop specific value-based charging options in CP6. As we highlighted in our consultation, we support the view that it is important to obtain a better understanding of the value of different services but measuring ‘value’ would be very complex and capacity is currently allocated administratively so the benefits of charging in this way would be limited.”

Scarcity charging in other transport sectors

Steer Davies Gleave has also studied scarcity charging as a means to manage air traffic congestion, which presents a different range of challenges. European air traffic space is divided into sectors. Some are congested, with flow control to limit flights in each half hour period. Scarcity charges might in principle encourage airlines to file flight plans avoiding them.

However, airlines plan each day's flight plans using forecast weather and wind speeds. Departures are not always punctual and flight times vary, so actual arrival times also vary:

- First, Steer Davies Gleave found that they could not predict whether and when sectors would be congested.
- Second, if charges were instead set by actual or emerging congestion, it did not seem practicable to send price signals to pilots en route.
- Third, even if it were possible, real-time rerouting might merely create new problems elsewhere.

However, Dick also noted that the European Commission is concerned at capacity shortages at European coach terminals, and that in principle some form of "slot trading" might emerge.

Discussion

John Dodgson (retired) said that he had been involved in a study on the subject for NERA, and the real problem was defining a timetable: could an operator bid for a whole timetable on a competitive basis? **Dick** replied that one approach might be to provide three to four timetables and ask for bids for them; the state of the art moves on. However in the Czech Republic, where are two open access operators, it is becoming hard to fit in even-interval timetables for regional and local services.

Ivan Viehoff (Cambridge Policy Group) said that he had produced a report for the Rail Delivery Group. We already have capacity charges as an additional part of access charges, but they are complicated and clunky at the same time. How much do I make as a result of my position? 80-85% of trains are run for social reasons: how much more do we add so that we can continue to run socially necessary services? Can we gouge

users? **Dick** replied that ORR could replace capacity charges with other charges, but that the system is already complicated.

Peter White (University of Westminster) noted that Victoria Coach Station sells half hour slots. Could there be a problem of a monopoly infrastructure provider making excessive profits: Heathrow airport comes to mind. **Dick** said that Stockholm's Cityterminalen coach station has lower charges for shorter stops, but he was not aware of any secondary trading of coach station slots. The dominant buyer of rail capacity in Great Britain is DfT which, if additional revenue from scarcity charges were refunded elsewhere, would get most of them back, and hence would be largely unaffected by them. This was a further obstacle to devising a workable system.

Stephen Plowden (retired) wondered whether we should encourage long-distance commuting: should we offer part time season ticket prices to encourage home working? **Dick** pointed out that there is no connection between infrastructure charges, total costs and individual fares. Lennon and MOIRA do not model social costs, although models could be built which did, but DfT is reluctant to tell people that their journey imposes a high cost or has a low value.

On season tickets, large discounts for 5-day peak travel make it hard to insert lower prices for 4-day and 3-day peak travel, and it might be better if TfL could, over time, transfer more, or all, travel to pay-as-you-go, with a consistent peak/off-peak price differential. **John Cartledge** (retired) noted that fares in London were set not by TfL but by the Mayor, and the current Mayor did not intend to raise peak fares. **Dick** said that this may change, but that in other European cities the trend is often in the opposite direction, to "all you can eat" season tickets.

Tim Elliott (Independent Consultant) noted that most charges were for franchised operators and that most timetables had not changed much over time. Can we change franchise specifications? **Dick** replied that the Competition and Markets Authority had suggested new approaches and we don't know where we will be in ten years time. Scarcity charging, if workable, would be more relevant in certain scenarios.

David Spurling said that it had been suggested that most of the network is not near capacity, as operators run too many short trains. Could different operators couple their trains to reduce the number? **Dick** replied that this was an interesting idea, and that there is already some joining and dividing by individual operators. Some operators ran more, shorter trains after privatisation in 1996, which grew demand but absorbed capacity, and we have now reached a point where some long trains cannot be any longer but some short trains are not full. Airlines, in contrast, can adjust both frequency and aircraft size to give more consistent load factors.

Gregory Marchant (ex BR & SRA) said that he was intrigued by the Belgium system. This is similar to Eurotunnel, which came up with standard paths based on the speed of its shuttles. Faster Eurostar trains use two standard paths, and slower freight trains use two or three. The SRA had wondered if this was applicable to the national network, particularly on routes such as the ECML. Constraints at locations such as the Welwyn Viaduct can be coped with by removing constraints elsewhere in the system. The question remains of how we measure capacity? How do we marry arcs and nodes? An analysis of working timetables shows a lot of "circle time" where additional running time is inserted to avoid conflicts.

Dick replied that Figure 2 illustrated the need to define not only "capacity" but also meaningful changes in its "consumption". Eurotunnel shuttles now run at the same speed as Eurostar trains. This seems a more efficient outcome, give the emerging traffic mix with relatively few slow freight trains.

Report by Peter Gordon

Source material

ORR's Network Charges consultation is published at <http://orr.gov.uk/consultations/closed-consultations/pr18-consultations/network-charges-a-consultation-on-how-charges-can-improve-efficiency>

Steer Davies Gleave's report is published at http://orr.gov.uk/data/assets/pdf_file/0011/19586/sdg-report-the-practicalities-of-scarcity-charging.pdf

ORR's 12 May 2016 statement on East Coast Main Line paths is published at <http://orr.gov.uk/news-and-media/press-releases/2016/rail-regulator-approves-future-new-passenger-services-on-the-east-coast-main-line>

ORR's 18 May 2016 initial consultation for PR18 is published at <http://orr.gov.uk/consultations/open-consultations/periodic-review-2018-initial-consultation>

The future for local bus services in the light of the Bus Services Bill

Professor Peter White, University of Westminster

Arup

22 June 2016

General considerations

Peter began with some general considerations about bus services and users. The average bus passenger trip in 2014 was very short: 6 kilometres in London and 8 kilometres in the rest of England (including rural areas). Users are typically making a simple chain of trips (home–activity–home) and not undertaking single trips in isolation. Hence operators need to cater for both directions and timings, although there are more complex chains in some cases, especially in larger cities.

The walk and wait elements are very substantial parts of generalised cost and time. Where there is more than one operator on the same route, passengers tend to use the first bus to arrive; hence the need for interavailable ticketing and coordination of headways to minimise waiting time and dwell time. Such ticketing aids bus-to-bus connections. Most bus passenger trips involve only one boarding and alighting. NTS data suggests that the ratio of boarding to stages of a journey is about 1.1 outside London and 1.2 within London. Smartcard data is able to give a much richer picture than traditional ticketing systems.

Peter then discussed how the “cultures” of the bus and rail industries differ. Apart from the obvious differences in technology, there are marked differences in areas such as ticketing. Comprehensive through ticketing was retained after rail privatisation and operators have promoted yield-managed book-ahead fares as an extra facility for passengers. For bus users the default assumption is separate ticketing for each journey/operator, although there are some “block exemption” provisions for joint ticketing. Also, while the rail industry employs sophisticated data analysis, analysis in the bus industry is more limited, and often carried out by external

bodies, such as the Competition and Markets Authority (CMA, formerly the Competition Commission). Rail also tends to have a better image among politicians, as emphasised in planning proposals (c.f. attitudes to LRT v bus-based systems).

Factors affecting bus use

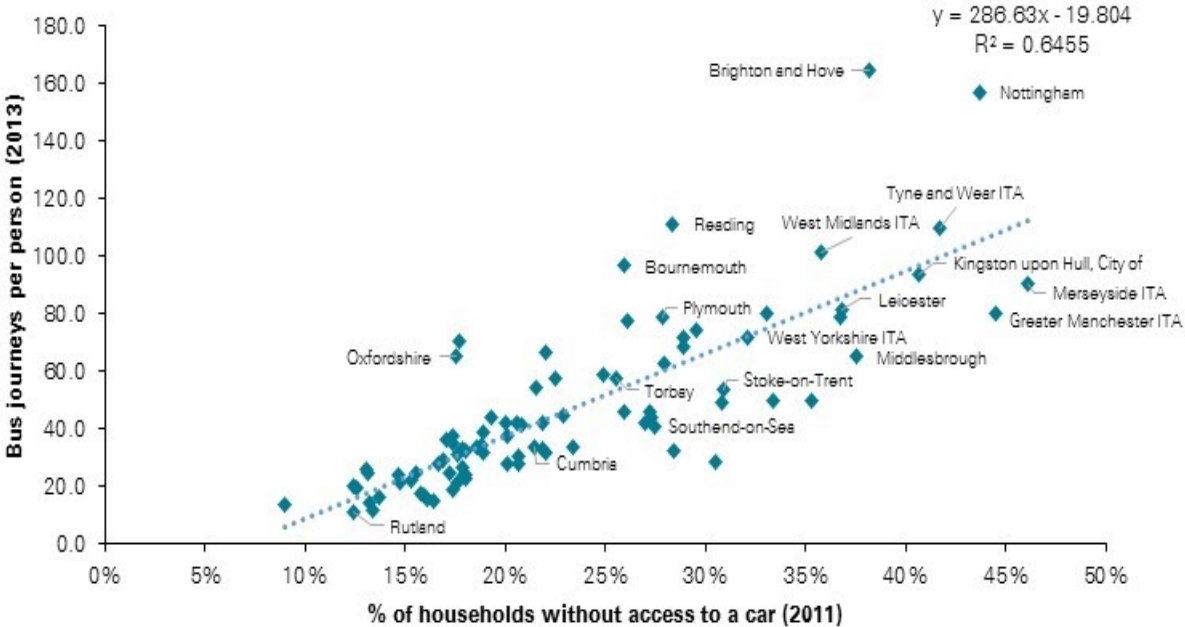
These can be divided into:

- External factors such as population size and structure and car ownership.
- Soft factors, such as service quality, especially reliability.
- Hard factors, traditionally changes that can be measured easily, often as a by-product of routine data collection by management.

Car ownership effects

The wide scatter around the regression line in Figure 1 indicates the effects of other factors.

Figure 1: households without cars and bus journeys per person



Source: KPMG study for DfT, which used DfT’s data and fitted a regression
 Note: areas are defined administratively and include Nottingham City but Oxfordshire County.

Soft factors affecting demand

Further details are available in a 2009 AECOM study for DfT.

Issues affecting user perception and hence behaviour are not reflected in aggregate data. These include;

- Passenger facilities at stops
- Comfort of ride
- Low floor and other aspects of vehicle access
- Personal security
- Timetable information

However, these are not necessarily different in principle from the hard factors, because the user perceives the whole offer and responds according to personal preferences.

Hard factors affecting demand

These include:

- Bus-kilometres run, broadly speaking, a proxy for service frequency, but also for network coverage by route length and time period. This affects walking and waiting times.
- Real fares charged, the average revenue per trip, often used as a proxy with aggregate data.
- Fare structure, the convenience of travelcards, off-bus ticketing and so on (West Midlands experience in 1970s).
- In principle, in-vehicle journey time, a major factor in rail demand modelling but rarely collected regularly for bus services (past timetables give a retrospective picture).

Journey time has a direct effect on ridership through in-vehicle time elasticity (approximately -0.5) and an effect on costs:

- 80% of costs vary with staff paid time and peak vehicle requirement; and
- 20% of costs vary with distance.

If the same frequency is maintained, a 10% increase in running time raises total cost and unit cost per bus-kilometre by 8%, which may have to be subsequently reflected in fares. Since the 1970s there have been substantial increases in in-vehicle time,

first due to One Person Operation (OPO) with cumbersome fare collection systems, and then through greater general traffic congestion. There have been numerous examples in the last 1-2 years of operators having to extend journey time, with additional peak vehicle requirement (PVR) and/or lower and less regular frequencies. Has omission of this variable from modelling affected coefficients for other hard factors, especially in calculating long-run elasticities?

A recent study by David Begg highlights these issues, and suggests substantial ridership reduction from extra in-vehicle time and its effects on fares. There is evidence of marked deterioration in speeds from Edinburgh, Greater Manchester, Hull and London. However, NTS data for Britain/England as a whole suggests little change in reported passenger journey time (including walking and waiting) between 1975/76 and 1996/97, but with a substantial increase since. This in turn may be associated with increased trip length so that, between 1975/6 and 2014, overall passenger speed has fallen by little outside London (-5%) but more inside London (-11%). Note that passengers only travel part of total route length, so effects on them are less than on overall scheduled round trip times.

Examples of economic evaluation relate mostly to road and rail infrastructure investment, with monetised time savings as the main element. User time changes also enable evaluation of different operating patterns, such as reduced wait time. Analysis based on consumer surplus changes suggests high benefit cost ratios (BCRs) of 2.87 for free concessionary travel by older users, and for tendered services in general. A recent DfT estimate gave an average BCR of 2.1 overall and 2.9 in PTEs. An economic evaluation of local bus infrastructure schemes showed BCRs of 5.5 for Eclipse (South Hampshire) and 4.67 for Fastway (Gatwick/Crawley).

For comparison, AECOM found HS1's BCR to be 0.64, and the Borders Rail reopening BCR was 0.7 including Wider Economic Benefits (WEBs), although ridership has been better than forecast. An economic case for a Manchester-Sheffield road tunnel is under development.

The effects of deregulation

Transport policy changes are, in effect, experiments, but often applied to the whole country, based on limited evidence, with unsystematic monitoring and little scope for reversal. Stockholm road pricing was a very rare exception. A better experimental methodology would include control cases not subject to deliberate policy change, and systematic monitoring, with a clear “base” period. This approach is largely absent in bus policy, except for the different situation in London, which may be affected by many other external factors. Ideally, deregulation would have been applied only in some cases, with “control” cases of no change and/or London-style contracting, especially in some larger cities outside London, avoiding the “ownership”/compensation issue which arose in Tyne and Wear.

Express coach deregulation in October 1980

Deregulation has been broadly successful, with ridership growth of around 50%, and user benefits in terms of lower fares and higher service quality. However, the dominance of larger operators remained: the principal entrant has been Megabus, a Stagecoach subsidiary. Substantial real fares increases by National Express after an MEBO in the late 1980s/early 1990s triggered little new competition. National Express fares policy was reversed in the light of the outcome.

Bus deregulation in 1986

During the first phase until about 2000 there was a sharp reduction, eventually of about 45%, in real costs per bus-kilometre run. Some contributory factors were large cuts in engineering and administrative overheads, changes to wages and working conditions for platform staff (drivers and, where they still existed, conductors), a reduction in average vehicle size, and a “flattening out” of peak/inter-peak frequency ratios. In these terms the outcomes in London through competitive contracting and in rest of England through deregulation and privatisation were very similar. However, the deregulated regions, especially in the PTEs, experienced a sharp drop in ridership, in part due to the separate removal of network-wide subsidies following abolition of the Metropolitan Counties.

During this phase there was a large rise in bus-kilometres operated. Bus-kilometres and real fares changes were similar in London and elsewhere, with similar short-run elasticities of around 0.4. This had the effect outside London of retaining bus trip rates from non-car-households while rates for car-owning households fell further. With broadly stable ridership within London, the drop in real cost per passenger was similar to that in cost per bus-kilometre. Elsewhere, the drop in average load tended to give approximately stable cost per passenger trip. Note that London achieved a better financial performance than elsewhere, breaking even around 2000 after fuel duty rebate and concessionary compensation. Table 1 below shows the main trends during this first phase.

Table 1: principal trends after deregulation, 1985/86-2007/08

	London	PTEs	Rest of England
Passenger trips	+89%	-42%	- 6%
Bus-kilometres run	+74%	+5%	+42%
Real fare index	+53%	+94%	+30%
Real cost per bus-kilometre	-30%	-39%	- 4%
Real cost per passenger trip	-33%	+10%	+6%

Note: real fare index is not the same as average revenue per trip. Real costs changes are to 2006/07 only. (Derived from DfT Public Transport Statistics Bulletins to 2008 inclusive.)

In the second phase, from 2000 to 2014, real costs per bus-kilometre rose by about 30%, but still ended well below 1985/86 levels. The 2016 KPMG study for DfT indicates broadly stable productivity in terms in bus-kilometre per member of staff. Possible factors for this increase are:

- the need to offer better wages and conditions to recruit staff (KPMG found a 21% rise in real driver weekly earnings from 2000 to 2013);
- worsening fuel efficiency and higher prices;
- longer running times due to congestion, especially recently; and

- an increased emphasis on reliability (such as the Traffic Commissioners' 95% window of tolerance and Quality Incentive Contracts in London).

A greater emphasis on service quality by operators, such as in marketing and vehicle specification, has become evident. Ridership has also been influenced by free concessionary travel for older users, although this already applied within London. Table 2 demonstrates the trends for local bus services in ridership and costs, together with their income composition.

Table 2: principal trends in ridership and costs

	London	Mets	Rest of England
Changes 2004/05-2014/15			
Passenger trips	+31%	-7%	+9%
Bus-kilometres run	+3%	-6%	-3%
Real cost per bus-kilometre	n/a	+22%	+20%
Real cost per passenger trip	n/a	+16%	+8%
Gross income composition in 2009/10			
Passenger revenue	47%	56%	52%
Gross support	34%	10%	20%
Concessionary compensation	12%	23%	20%
Bus Service Operator Grant	6%	10%	9%

Note: gross support includes local authority associated expenditure. Sources: DfT Annual Bus Statistics, England, PT Stats Bulletin 2004.

DfT has published no recent London cost data. 2003/04 data gave operating costs per bus-kilometre of 189p (London) and 114p (Mets) and per passenger trip of 49p (London) and 65p (Mets).

Profit margins

A commonly-used measure is operating margin, or return on sales (RoS), EBIT as a percentage of turnover. For larger groups this averages about 10%. It is needed to provide a return to owners and to cover inadequacies of historic depreciation. Lower margins, typically around 5-7%, are accepted by operators in London, but this may simply reflect higher direct operating costs (notably labour) in London, so

that the same required *absolute* surplus per vehicle per annum will represent a lower *percentage* margin. For example, with each vehicle running 50,000 kilometres per annum, a surplus of £10,000 per vehicle per annum requires a RoS of 10% with an operating cost (including historic operation) of £2.00 per bus-kilometre but only 5.7% with an operating cost of £3.50 per bus-kilometre. A more rigorous measure is return on capital, but this is much more difficult to quantify, as discussed in the Competition Commission report.

Service profiles by time of day: October 2013

Figure 2 shows similar Monday to Saturday daytime service patterns in and outside London, but much higher service levels evening and Sunday in London.

Possible transfer of London experience to other areas

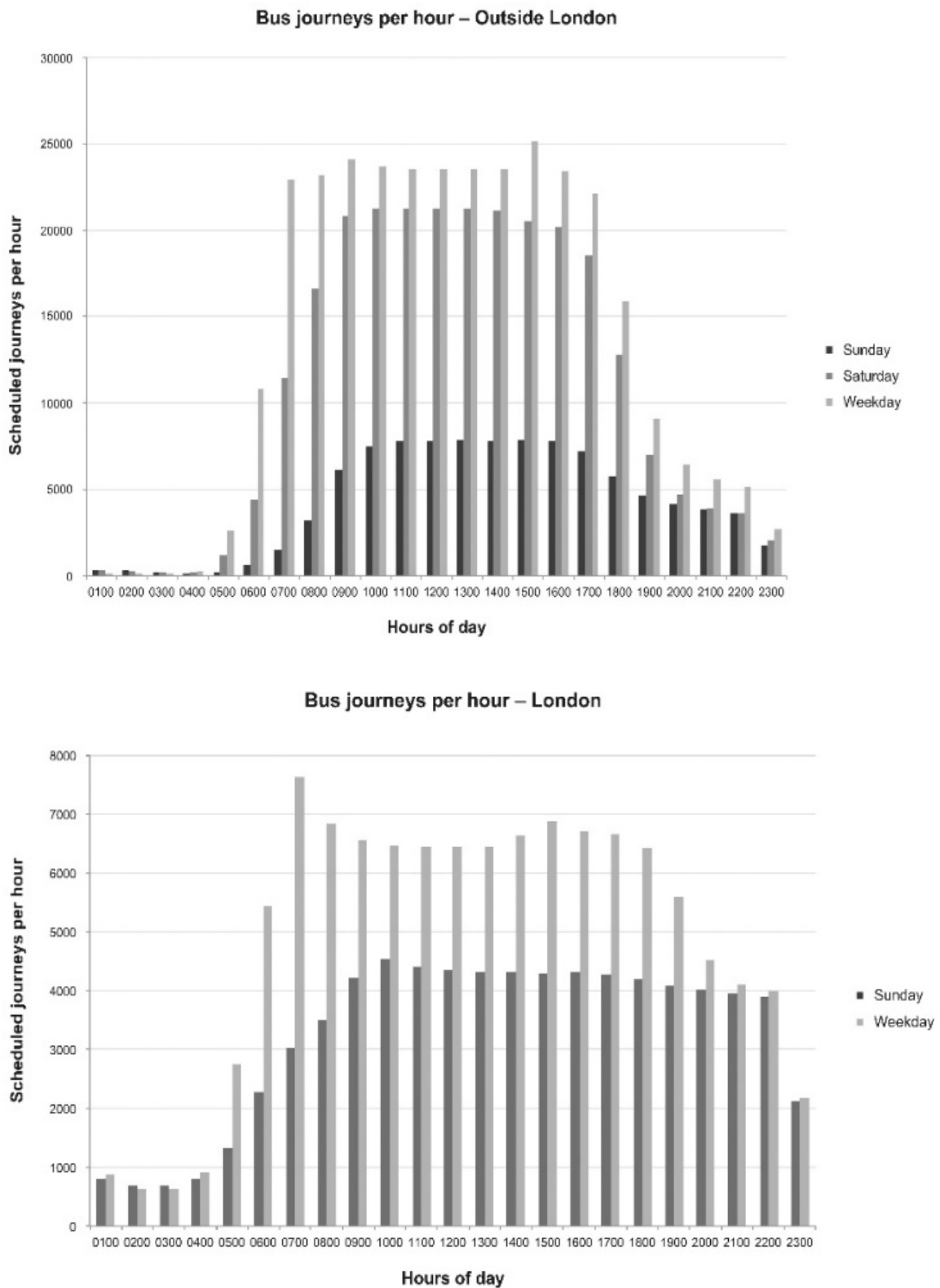
This could include:

- Simplified ticketing, minimising on-bus transactions: large-scale use of smartcards and equivalents may be the biggest gap between London and the rest of England.
- Comprehensive passenger information.
- Comprehensive service coverage by time period.
- Bus priority provision.
- If a franchise/contract model were adopted, a uniform fare structure, comprehensive network planning and direct influence on service quality.

Other aspects of deregulation

These include separation of commercial and tendered services. These are 80% and 20% of total bus-kilometres respectively, (although the latter is now declining), split not only by area, but also by time period, especially evening/Sunday services. Most contracts are on a "net" basis. In addition, there is as yet no requirement that an incumbent operator deregistering a service provides any data on revenue, which may place other bidders at a disadvantage, even if they have lower costs.

Figure 2: service profiles outside and inside London



Source: Redrawn from DfT Bus Statistics England 2013-14.

Flexibility may be promoted by the time period, initially 42 days but now in effect 56 days, to register new services, withdrawals

or changes with the Traffic Commissioner. However, this also induces instability in the network, leading to problems for local authorities in determining whether to replace deregistered services. Within London, TfL both ensures provision of almost all services through contracts and also authorises, through the "London Service Permit" (LSP) system, non-contract services by other operators including tourist services, private schools, commuter coaches and cross-boundary local routes.

Competition and contracting

Geneticist Professor Steve Jones has commented in the context of the natural sciences that, "If an observation does not fit a theory, the theory must give way".

Economic concepts are often useful in analysing bus and coach industry performance such as cost structure, demand elasticities, marginal change, and consumer surplus. However, some efforts to apply competition policy to the bus industry may reflect an attempt to make the industry behave according to the theory rather than reflect reality.

Competition Commission report 2011

The Competition Commission report identified barriers to entry and adverse effects on competition. For the five biggest groups the return on capital from 2005/06 to 2009/10 was assessed at around 13.5%, compared with a cost of capital of 9.7%. Thus the groups had an additional margin of 3.8 percentage points, although it is unclear to what extent this was paid out as higher dividends to shareholders. The Interim Report in August 2011 considered competitive contracting as a possible remedy, but this was excluded from their Final Report in December 2011, which favoured encouraging on-road competition. The reports were reviewed by the House of Commons Transport Committee in September 2012.

Tyne and Wear case

The Tyne and Wear Combined Authority put forward proposals for a Quality Contract, to create a system broadly similar to London, under the Local Transport Act 2008. The DfT review panel concluded that the authority's case had not been justified

overall. The panel judged that there were issues regarding the realism of the supporting calculations and assumptions and with the financial risks. However, it is questionable whether the latter are as critical as for large-scale infrastructure investment, since there is greater potential for adjustment or reversal of policy over time.

There were also issues over the proposed compensation for loss of operators' future profits. Might this be in conflict with the Competition Commission findings on excessive rates of return? If reductions in profit margins by direct on-road competition would be acceptable, why would they not be acceptable via franchising, which might have been more effective in transferring the producer surplus to consumers? Also, would the issues be different for small operators confined to a single territory, such as East Yorkshire Motor Services?

Franchising in Jersey

Jersey, which is not part of the UK, has adopted a franchising model, with a single franchise, thus enabling a more flexible approach, but with similar bus operating patterns. Since the current franchise replaced a previous less successful model in 2013, there has been a 32% rise in ridership and a reduction in subsidy of £800,000 per annum. The current franchise followed a two year phased PQQ and operator selection process, with the successful operator (HCT Group) involved in the final network design and agreement on appropriate incentives.

The role of competition

Competition is still seen as of major importance by the Competition and Markets Authority, as in their open letter of 26 February 2016, but in reality, on-road competition applies to very few services. The Competition Commission Report of 2011 (paragraph 11.11(b)) shows only 2.5% of services experienced effective head-to-head competition over their whole length.

On-road competition has probably been more effective in driving down costs than in improving the passenger service offer, especially in contrast to the limited extent of price competition between operators. Could more competition be engendered within a contracting framework than on the road?

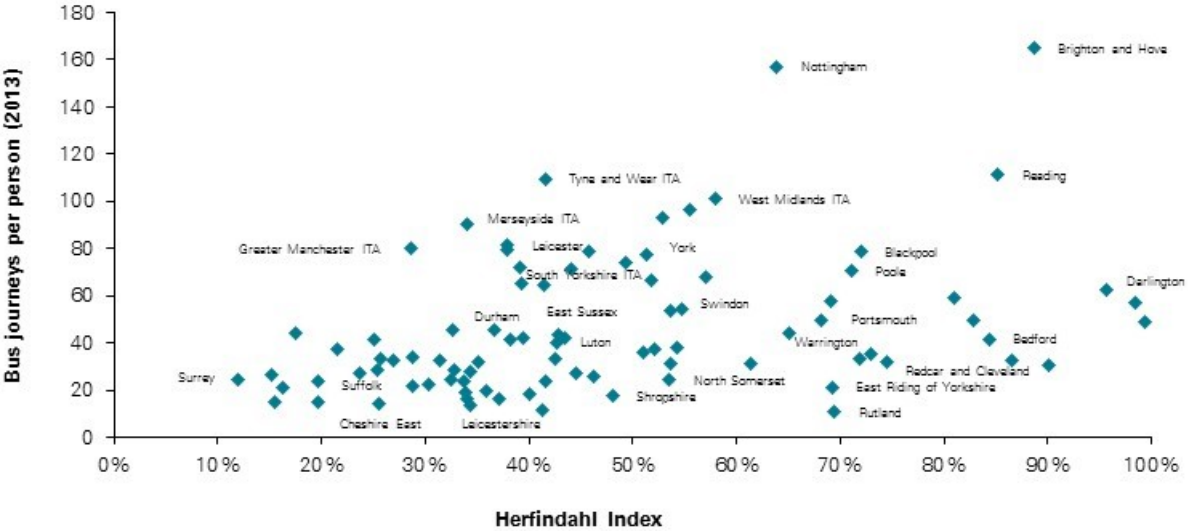
Is the power of a single incumbent operator to influence fares more important than possible collusion?

Competition as a factor in ridership

In theory, on-road competition should stimulate ridership through lower fares, higher service frequency and service quality improvements. Examples of this undoubtedly exist in South Yorkshire, parts of Greater Manchester and Oxford, until the coordination on major corridors under 2008 Act provisions. However, the outcomes are more often mixed, with competition rarely sustained in many cases. Service instability also has effects on ridership: examples of the highest ridership levels and largest recent growth are in areas with a dominant operator such as Reading and Brighton & Hove, and there has been further growth in Oxford since coordination on major corridors. Innovation may also come from other initiatives, such as greater awareness by existing operators of competition from private car and/or taxi.

Figure 3 compares the degree of concentration with the trip rate per head for a number of local authority areas.

Figure 3: concentration and bus journeys per person



Source: KPMG study for DfT, Herfindahl index based on vehicle-kilometres
 The horizontal axis measures the degree of concentration: the higher the Herfindahl Index the fewer the operators, although a low concentration does not necessarily mean "head to head" competition on individual routes.

The role of the elected mayors

The Mayor of London has substantial direct powers, and is also Chair of TfL. Elected London Mayors to date have taken a positive approach to bus provision, and their role enables firm policy changes such as congestion charging to be made, but can also lead to abrupt changes. They have a major role in fares policy and can have substantial influence on bus design, as with the New Bus for London. There have also been examples of abrupt changes elsewhere, such as when a new Liverpool Mayor decided to abolish bus lanes. It is therefore unclear why (except in Cornwall) government has insisted on an elected mayor as a condition of devolving powers. It confuses the debate about franchising, which the Buses Bill (described below) also allows outside London, subject to Secretary of State approval.

Does “success” or “failure” attract competition?

In theory, competition may resolve problems of “failing” operators by encouraging new entry by operators who introduce lower prices and better quality services. Some examples exist, but how frequently is it the case in practice? There are other examples of dominant operators increasing real fares substantially and little competition emerging. A declining market may be unattractive to new entrants, especially smaller operators, and in contrast seeking a percentage share of a growing market may be more appealing. Note the role of “*Your Bus*” in the Nottingham area and competition between Kings Lynn and Hunstanton with services upgraded by Norfolk Green.

Can comparisons affect operator behaviour?

Work by Transport Focus highlights major differences between operators and areas on indicators such as Value for Money (VfM). There is some evidence of operator behaviour changes as a result of unfavourable comparisons without direct competition. Between 2010 and 2014, First Group VfM “satisfaction” rose from 51% to 73% in Greater Manchester, and from 40% to 61% in the West of England, leading to substantial passenger growth in latter area.

International practice

Positive results have emerged from express coach deregulation in many countries, reflecting British practice and experience. However, UK-style deregulation of local bus services has not generally been copied elsewhere, and much more mixed results have emerged where it has been applied. The policy has been reversed in Chile, and has had only marginal impacts in Sweden. The general shift has been towards competitive contracting to ensure efficiency and service quality, as in Scandinavia. Budapest and Singapore are following TfL practice.

The Buses Bill

The Bill had its First Reading in the House of Lords on 19 May 2016 and its Second Reading on 8 June. The provisions are in marked contrast to the general approach in the Competition Commission report, which favoured encouraging on-road competition. The Bill makes provision for “Advanced Quality Partnerships” and “Enhanced Quality Partnerships” and requires operators to make data available for passenger apps and to disclose revenue when services are deregistered. Overall there is more emphasis on soft issues than on encouraging funding for infrastructure schemes. It does prohibit the formation of new local authority-owned operations.

The main components of the Bill are summarised in Table 3.

Possible outcomes

The Bill would enable experimentation with franchising (which Peter hopes will be well-monitored), without the obstacles that have existed since 1985. However, as major operators make much higher profits in larger conurbations, lower returns from those areas could affect their willingness and/or ability to continue in other regions. This prompts the question of whether cross-subsidy still exists. The major constraints are imposed by the limited availability of public expenditure, as instanced by rural service cuts.

Table 3: main components of the Buses Bill

Clauses	Contents
1-3 Advanced Quality Partnership schemes	Provides for partnerships which do not depend on new infrastructure provision and replaces existing Statutory QP arrangements.
	Service standards may include frequency/timing.
	Maximum fare controls.
	Operator service standards.
	Minimum intervals set out for reviewing these, with assessor/adjudicator roles.
	Enables more coordination than previous competition policy, but does not allow common fare scales.
4-6 Franchising schemes	Can be adopted by Combined Authorities (CAs) with elected mayors, and other types of local authorities, including non-metropolitan districts if no county (but in these cases Secretary of State's consent is required).
	Requirements for consultation and audit, but much less onerous than that in the Tyne and Wear case.
	No explicit compensation to existing operators for loss of profits, but no powers to take over assets such as vehicles or land.
	Scheme could be revoked with six months' notice, criteria including 'financial difficulties' for authority (could create uncertainty for operators).
	Provision for service permits (similar to the London model), with right of appeal to a Traffic Commissioner.
	Franchising authority has powers to obtain information from operators for a period of up to five years before a proposed franchise, including trips, fares, revenue, bus-kilometres run, but publication is not necessarily required. This removes some problems of the Tyne and Wear case.
7-8 Advanced ticketing schemes	Enables journeys on more than one operator, and more than one journey per ticket such as with travelcards.
	Not wholly explicit on PAYG smartcards.

Clauses	Contents
9-15 Enhanced Partnership plans and schemes	Creates scope for greater coordination, but without full franchising.
	Area rather than corridor-based. Requires support from operators.
	Scheme may specify requirements on frequency and/or timing, and some other aspects (but not control of fares, except the prices of multi-operator tickets).
	Powers to obtain "relevant information" from operators running local services within the partnership area, but not specified in detail.
	Registration of services to be with local authority, with delegation of powers from the relevant Traffic Commissioner.
17 Information about English Bus Services	Power to require information about local services in England, including route, timetable, fares, ticketing, and 'live' information (but not ridership).
18-20 Registration of Bus Services	Where an operator seeks to vary or cancel a registration, details are to be supplied to the local authority of passenger trips, fare paid and revenue. (This removes incumbent advantage which has existed for many years.)
21 Bus companies: authorities in England	Prohibits local authorities from setting up new bus companies in England. (This could appear dogmatic, and ignores the strong performance of existing operators such as Reading and Lothian. In contrast, the recent Transport for Quality of Life study advocates wider potential for such operators. Provision might prevent local authorities unable to obtain tendered service bids from setting up companies, such as the recent creation by Lincolnshire of a company to operate demand-responsive services after withdrawal of current main operator and lack of alternative bidders.)

More on Express Coach Services

Direct services to airports are a major source of ridership growth, and so access to airport terminals is very important. The long-established Arriva/Green Line 757 London Victoria–Luton Airport service was displaced from Luton Airport terminal on 1 May 2013 as a result of a new contract between the airport and National Express. Could this be construed as an attempt by the airport to extract an “economic rent”? The Competition Commission’s 2011 report investigated town centre bus station access as a factor in competition, but access to airports is more critical, as there are no alternative adjacent stopping points. The 757 service was restored to Luton Airport from 1 May 2014 following legal action by Arriva. Peter was not aware of any intervention by competition authorities in this case.

History seems to be repeating itself at Stansted. The long-established Terravision services from points in central London to Stansted have been displaced from 11 October 2015, following an agreement between the airport and new operators (Citylink and Airport Bus Express). Passengers for Victoria are now placed on the Citylink service, and for a period on rail from Bishops Stortford.

Concluding observations

The effects on users (rather than competition, ownership, or regulation per se) should be the main criterion against which to judge policy decisions. Existing poor quality and lack of openness in statistics for the local bus sector may inhibit the quality of debate and rational analysis of options such as franchising. Examples include the omission of London cost data in the DfT series in recent years, and the stress on avoidance of “sharing commercially sensitive information” in a Competition and Markets Authority open letter. The Buses Bill makes franchising, and two levels of partnership, available as options. With better data, representative examples of franchising and partnerships could then be evaluated to test their effectiveness, rather than a never-ending debate about “London and the rest”.

Discussions

Robin Whittaker was interested in the relationship between bus services and demographic changes. Where he lived the population had increased, which should have led to more demand, but evening services had been reduced due to less demand, because many local inhabitants were ageing. **Peter** recognised that demographic changes had a profound effect on bus services. An increasing carless young population in London had been a driver of increased bus usage.

Another attendee wondered how the patchwork of different systems proposed in the Buses Bill would work in practice. **Peter** felt that the major urban areas were likely to opt for franchising, whilst more rural areas would probably adopt one of the Quality Partnership options. The choice of system lies entirely with each local authority or group of authorities.

David Metz (UCL) felt that the 30 year experiment with on-road competition had shown that this arrangement did not work. **Peter** acknowledged that the evidence did not support the current deregulation approach, but considered that there was a role for competition in some form, possibly through tendering for franchises.

David Shannon raised the topic of bus leasing and how this could improve the rate of return on capital for operators. **Peter** replied that bus leasing was widespread in London and was a significant factor in improving the rate of return for operators in the capital.

Tom Worsley (ITS, Leeds) observed that the CMA seemed unfazed by airports charging coach operators for what were effectively "slots", but were not in favour of airports doing the same for airlines. He also wondered what scope city mayors would have for inviting operators to bid for franchised services which were not already being provided on a commercial basis, given the shortage of funds at local level. **Peter** replied that franchising might lead to lower profit margins for operators, which could then be recycled by the mayors for provision of other non-commercial services. Franchising also provided opportunities for adopting more London-style ticketing arrangements and widespread bus priority schemes.

Peter Gordon (Editor, *The Transport Economist*) noted how there were significantly fewer evening and weekend services outside London. Was this cause or effect? **Peter** observed that people in London, who tended to be younger, had a markedly different lifestyle to populations in other parts of the country. The patterns of weekend shopping, particularly with Sunday opening, were now very different from when deregulation was first introduced. Not all operators had reflected this change in their patterns of services.

Gregory Marchant (Treasurer, TEG) reported that his local operator ran at 10-minute intervals between the centre of Brighton and the universities throughout the night on a commercial basis. Obviously where there was sufficient demand: all that was needed was an enterprising operator.

David Shannon queried whether the impact on other road users of increased numbers of buses and provision of bus lanes was sufficiently taken into account when evaluating such schemes. Some previous analysis had suggested that these disbenefits might outweigh those to existing and potential bus users. **Peter** explained that evaluation of bus priority measures always took into account the disbenefits to other road users. One benefit of these measures for car drivers was reduced congestion through diversion of some car journeys to bus. However, he acknowledged that, in some areas outside large cities, low bus loadings did substantially reduce the benefits from bus priority schemes.

Tim Elliott (Project Appraisal Specialist) considered that in order to induce people to use buses there needed to be at least a 10-minute interval service providing a direct route from near where they lived to the major destinations. In particular he was concerned at the substantial reduction in the numbers of bus stops in urban areas where road improvements led to longer walks to less-easily reached stops. **Peter** responded that the National Travel Survey had shown no significant increase in access times to bus stops over a number of years. He agreed that a 10-minute interval service was needed to achieve a meaningful modal shift.

Dick Dunmore (Steer Davies Gleave) reported on a number of proposed EU initiatives, including enabling in-house operators

to bid for tendered services, but not to allow them to bid for services outside their area. **Peter** replied that there were many examples in the UK of local authority owned operators running services outside their borough, such as in Nottingham and Reading. One issue was whether there was sufficient expertise within the industry for planning and tendering networks.

David Metz lamented the lack of coordination of bus and rail timetables. **Peter** agreed that coordination had not developed well, even when bus and rail services were run by the same group.

David Shannon wondered whether, given likely innovations, including the application of big data and different fuel sources, the bus industry would be anything like its current size and scope within the next 20 to 50 years. **Peter** replied that in his experience was that the bus industry had a history of adopting new technologies in order to improve its offer to customers and that this would continue.

Report by Gregory Marchant

Further reading

Research by Peter White

"An assessment of the Competition Commission Report and subsequent outcomes" Research in Transportation Economics Volume 48, 2014, pages 277-285. (Further development of approach described in talk to TEG in June 2013, reported in 'The Transport Economist' Summer 2013, pages 31-49.)

"Alternative Tendering Systems, and Deregulation in Britain" (with Stephen Tough) Journal of Transport Economics & Policy, 1995, pages 275-289.

Recently published documents by others

David Begg "The Impact of Congestion on Bus Passengers", Greener Journeys, June 2016.

KPMG "Local Bus Market Study" Report to the Department for Transport, January 2016.

Bus Services Bill, 19 May 2016, and Overview document from DFT.

"Practical bus franchising - the Jersey model" HCT Group 2016.

Transport for Quality of Life "Building a world-class bus system for Britain" January 2016.

Review

The views expressed are those of the reviewer and should not be attributed to the Transport Economists' Group

Travel Fast or Smart?

A Manifesto for an Intelligent Transport Policy

David Metz

Published by London Publishing Partnership, pp140 £9.99

<http://londonpublishingpartnership.co.uk/perspectives-series/>

This is an important book, principally because it thinks outside the box and challenges current orthodox thinking. And it is persuasive, more so for being written in an easy-going style: very readable.

It has eight relatively short chapters and starts with the hypothesis that we travel on average about an hour per day and have done so for a long time. The National Travel Survey is used as evidence to confirm this for almost the last half century. Further back in time, the argument relies on anecdotal evidence.

The profound judgment which follows is that technological developments in transport have increased speed so that we travel further within our time budget of an hour a day: we do not however, save on time spent travelling. This, the author contends, undermines completely the current basis of evaluating transport investments, which is to value time saved as a consequence of the investments. What the transport analyst should recognise instead is that the real impact of infrastructure investment, by allowing us to travel further within our time budget, is to change the use to which land is put; its transformation from one use to another, from agriculture to low density urban development on the city edge and to greater density development nearer to the urban core.

This leads, in Chapter 3, to a second hypothesis, the so-called Peak Car concept; per capita car use has in recent times

stabilised, an outcome aided by the development of denser cities, but other contributory factors include changing travel expectations by the young, who make greater use of public transport or cycle and walk more.

The author draws from this 'reinterpretation' of travel trends the lesson that we have to take a holistic approach and plan transport investment taking into account its spatial land use consequences; we have to plan for economic development and use transport more as an instrument for achieving prescribed outcomes. This implies that planning authorities, private sector developers and transport authorities should, jointly, be planning transport investment; government, in one guise or another, is intimately involved because transport investments are government-led. This is not to say that the author fails to appreciate the limitations of his prescription. He is, for example highly critical of investment mistakes made by government, particularly concerning investments on large projects, noting that senior politicians are keen on big investments: "*more generally, there is a 'bias to action' on the part of consultants and construction firms, and also very often on the part of politicians happy to spend other people's money.*"

The foregoing represents the core message of the book but there are a number of other 'sub-plots' (a Midsomer Murder of current transport policy). Digital technologies have played an important role; information technology has been important for boosting the recent growth of train travel; it is becoming important in urban transport (think Uber) and it will become more so as driverless car technology takes increasing hold. In spite of this, the author repeatedly makes the point that we have run out of transformational transport technologies that let us go much faster. Transport technology improvements will be, in the modern world, largely incremental.

Another theme is that many forecasts and models used to predict the future should be treated with a great deal of cautious interpretation because modellers/forecasters rely on established relationships between key parameters. The author frequently draws attention to counter trends: a reversal in London's population after decades of decline; ditto national rail passenger numbers; aviation trends (see below) and, of course,

the peak car argument. In these circumstances, it is difficult to forecast with confidence. For example, on HS2 "we cannot be sure that the main beneficiaries ... will not be businesses based in London". (An aside by the reviewer: think of the decimation of HS1 forecasts by the advent of low cost airlines).

I also liked the Chapter on air transport, 'Up in the air'. As might be expected, the author is critical of aviation forecasts, drawing particular attention to what has happened to annual passenger numbers flying between the UK and the US and Japan; the former has plateaued for nearly 20 years, the latter, after rapid growth, has declined markedly. The lesson: forecasts need decomposition and a better understanding of the underlying factors. David Metz is also critical of the Airports Commission's economic case for an extra runway in the London region, drawing attention to the UK's £10 billion deficit on tourism and how this might play out with expanded runway capacity allowing more trips to sun spots whilst inbound tourism is deterred by increasing congestion at UK visitor attractions.

There is a great deal in this short book to ponder and I have only skimmed the surface. Therefore, I strongly urge its reading. That is not to say that I am uncritical. I might have expected the author's remarks on forecasting to have led to the embrace of a more incremental approach to transport investments (and in this context to have drawn attention to the very long gestation period for HS2). I am also left to ponder the basic message that transport and land use planning should be integrated (back to the future: remember all those post-war regional plans?). If we follow this course of action, how do we assess what plan gives most value for money? Bear in mind though that we need to evaluate the return on investments because public money is being spent. Why not, therefore, consider an alternative approach used in post-war Japan: private railway companies develop land prescribed by the state for development and use the proceeds to fund the required infrastructure; another interpretation of 'back to the future'?

Review by David Starkie

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The Transport Economists' Group, formed in 1973, provides a forum for people involved in transport economics to meet regularly and discuss matters of mutual interest. Membership is open to economists working in transport and others whose work is connected with transport economics.

The aim of the Group is to improve the quality of transport management, planning and decision-making by promoting lectures, discussions and publications related to the economics of transport and of the environment within which the industry functions.

Meetings, held at Arup's Central London HQ at 13 Fitzroy Street from September to June (except December), consist of short papers presented by speakers, drawn from both within the Group's membership and elsewhere, followed by discussion.

The Group's Journal, "The Transport Economist", is published three times a year reporting on meetings and other activities of the Group. It reviews recent publications of interest and contains papers or short articles from members. The Editor welcomes contributions for inclusion in the journal, and can be contacted at petersgordon@blueyonder.co.uk.

The current membership of over 150 covers a wide range of transport modes and types of organisation. Members are drawn from transport operators, consultants, universities, local and central government and manufacturing industry. All members are provided with a full membership list, updated annually, which serves as a useful source of contacts within the profession. Applications from people in all sectors are welcome.

Applications for membership should be made on a form which can be downloaded from the Group's website at www.transecongroup.org.

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TEG Committee 2016-2017

Details of meetings are provided on our website at

<http://www.transecongroup.org/meetings.htm>

