Transport Research Foundation

# The Deregulation and Privatisation of Public Transport in Britain: Twenty Years On

**Dr John Preston**

**University of Oxford**

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St. Anne's College, Oxford

**Neil Paulley, Fellow, in the chair**

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# DR JOHN PRESTON
**University of Oxford**


Dr John Preston is Director of the Transport Studies Unit and Reader in Transport Studies at the University of Oxford. He is also a Fellow of St Anne's College. Dr Preston holds a BA degree in Geography from Nottingham University and a PhD in Economics from the University of Leeds. He has held some 90 research grants and contracts and has over 150 publications in the areas of transport demand forecasting, appraisal and evaluation, regulatory studies and information systems, with a special emphasis on public transport.

Dr. Preston is an editor of Transport Policy and is a member of the World Conference on Transport Research Society's Steering Committee and of the Institute of Logistics and Transport's Road Pricing Working Party. He is also on the organising committee of the International Conference on Competition and Ownership in Land Passenger Transport.


## Abstract

This report is a transcript of a lecture given by Dr John Preston on the deregulation and privatisation of public transport in Britain. The lecture looks firstly at the timetable of reforms in the British bus industry since 1980. It then examines the main trends in the local bus and national rail markets before highlighting the problem of the counterfactual—what would have happened if these reforms had not occurred. Dr Preston then reports on an aggregate macro-analysis of the bus market and a more micro route-based analysis. A significant conclusion was that on-the-road bus competition can lead to too much service at too high fares with too low quality of service. Micro-analyses were also provided of on-the-track competition and off-the-track competition, with the evidence suggesting the latter was preferable to the former for passenger rail services. This, and other issues raised by Dr Preston, were subsequently the subject of a lively debate among the audience.

# The Deregulation and Privatisation of Public Transport in Britain: Twenty Years On


## Dr John Preston

University of Oxford


The Deregulation and Privatisation of Public Transport in Britain: Twenty Years On

John Preston
Transport Studies Unit
University of Oxford
Transport Research Foundation Lecture,
5th May 2004.

UNIVERSITY OF OXFORD Transport Studies Unit

## Introduction

When thinking about what I would like to cover in a Transport Research Foundation lecture, I thought I would choose a topic of broad general interest. I could have chosen many, but I also want to address a topic where we can get into specific issues. The topic I have chosen is therefore deregulation and privatisation of public transport in Britain 20 years on and I'm going to effectively pick up this story in the early '80s.

Despite the picture of the Voyager Train here about to enter Oxford Station this is hardly virgin territory for me (excuse the pun!). My work in this area dates back to 1986 when I came into contact with John Carr, Malcolm Pickett and no doubt other people in the audience as a researcher on an Economics and Social Research Council project investigating the impact of bus deregulation. Since then I have also conducted research on rail privatisation for the Economic and Social Research Council and on public transport reform for the European Union. I have also done work for the Department for Transport, the Commission for Integrated Transport, local authorities and various public transport operators, both in the UK and abroad. It is a large body of work and I only hope that I can do justice to it over the next 45 minutes.

### Outline

1. The Reform Timetable
2. Trends in the Local Bus Market
3. Trends in the National Rail Market
4. The Counter-Factual
5. Macro-analysis
6. Micro-analysis
7. Conclusions

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Let me start by giving you the outline of my talk. I will very quickly describe the reform timetable, then look at the key trends in the local bus market and examine some key trends in the national rail market. I will highlight the problem of the counterfactual—what would have happened if these reforms had not occurred? I will then look at some fairly aggregate macro-analysis and some rather more disaggregate route-based micro analysis before I come to some conclusions and try and stimulate some debate.

## The reform timetable

### The Reform Timetable

1980 Transport Act
1984 Buses White Paper
1984 London Regional Transport Act
1985 Transport Act
1992 Railways White Paper
1993 Railways Act
1998 Integrated Transport White Paper
2000 Transport Act

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The first relevant regulatory reform was the 1980 Transport Act, which deregulated express coach services and liberalised some aspects of bus operation[1].

[1] *For early reviews of the impact of coach deregulation see Kilvington R P and Cross A S (1986) 'Deregulation of Express Coach Services in Great Britain'. Oxford Studies in Transport, Gower, Aldershot and Douglas N J (1987) 'A Welfare Assessment of Transport Deregulation: The Case of the Express Coach Market in 1980'. Gower, Aldershot. A later review is provided by Thompson D and Whitfield A (1995) 'Express Coaching: Privatisation, Incumbent Advantage and the Competitive Process'. In Bishop M, Kay J and Mayer C (Eds) 'The Regulatory Challenge'. Oxford University Press, Oxford. For the impact of the 1980 Act on bus services see Savage I P (1985) 'The Deregulation of Bus Services'. Gower, Aldershot.*

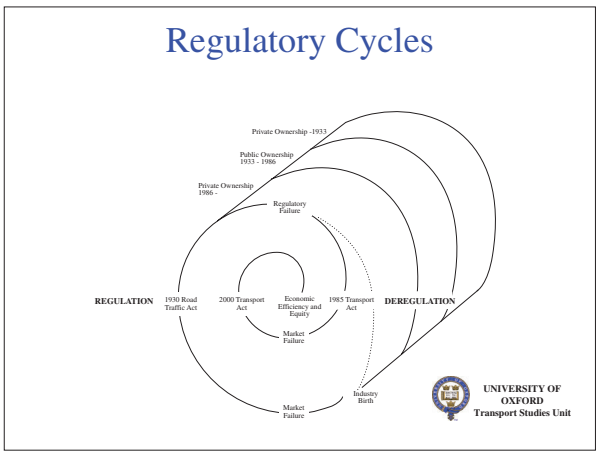
For the purposes of this lecture there are really four main subsequent pieces of legislation:

The 1984 London Regional Transport Act took public transport in London away from local government control, or particularly Ken Livingstone's control, and into national ownership. It also paved the way for introducing a system of comprehensive tendering, albeit one that took the best part of 10 years to roll-out completely.

This was followed, for bus services in the rest of Great Britain, by the 1985 Transport Act, the main feature of which was that it removed quantity controls. In other words, it deregulated the supply of local bus services outside London. Of course, it did a lot of other things too, not least paving the way for the commercialisation and eventual privatisation of publicly owned public transport companies outside London, and it also very importantly introduced tendering for socially necessary services.

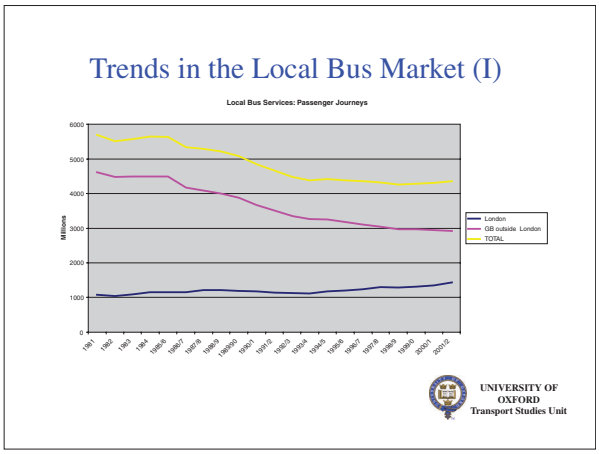
The next piece of legislation that we should highlight from this slide is the 1993 Railways Act. For the purposes of tonight's lecture, the main feature was that it separated the passenger rail business into 25 franchises which were let to the private sector by around March 1997. Of course, there were also other aspects to this Act which will be familiar to many of you—it did commit to some limited open access competition, regulated some fares and introduced various incentive regimes with respect to aspects of service quality. It also vertically separated operations from infrastructure, particularly through the creation of the infrastructure owner Railtrack—but this topic could be the basis of a lecture in itself[2].

And then perhaps the last bit of legislation we should mention is the 2000 Transport Act which I will come to towards the end. It offers the possibilities for some re-regulation, particularly with respect to quality contracts, and that perhaps is the issue that we are most likely to debate at the end of this lecture.




I call this the 'squashed Swiss roll' diagram but it's actually not meant to look squashed—and all it is really doing is to remind us how there have been cycles of both ownership and control in the public transport industry. If we look at the bus industry—at the industry's birth, it was uncontrolled and unregulated. Regulation came in with the 1930 Road Traffic Act[3], and survived for a period of over 50 years before deregulation came in with the 1985 Transport Act. A modicum of re-regulation, with the emphasis on modicum, came with the 2000 Transport Act. Similarly bus operations were initially largely in private ownership. There were some municipal owned enterprises in the 19th Century in such pioneering towns as Huddersfield, but the major phase of public ownership perhaps dates from 1933 with Herbert Morrison creating the London Passenger Transport Board to take much of public transport in the capital into public control. Transport Acts in 1947 and 1968 extended the public ownership of bus services in provincial Britain. Then from 1986 onwards came a renewed period of private ownership, with the percentage of the industry in public ownership declining from around 75% to 5%. One could postulate a similar diagram for the rail industry.

## Trends: bus




What I want to do now is to look at a number of trends. First of all I want to look at just crude trends in the local bus market over approximately the last 20 years, from 1981/2 to 2001/2. We can see for Great Britain outside London that there is a fairly steady decline, so that over this period passenger journeys have decreased by 37%. We can detect an

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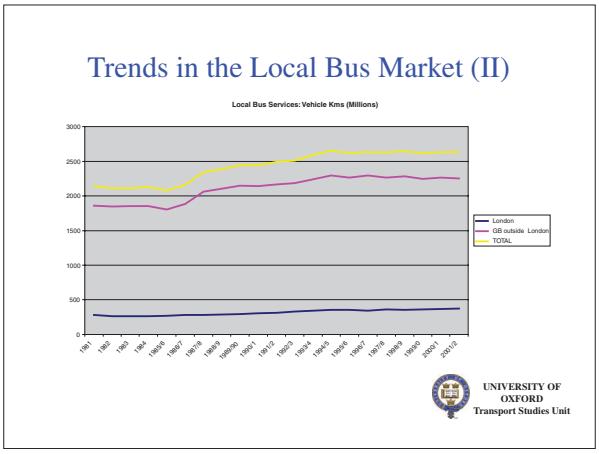
[2] *See, for example, Preston J (2002) The Transaction Cost Economics of Railways. Trasporti Europei, 7, 20/21, 6-15.*

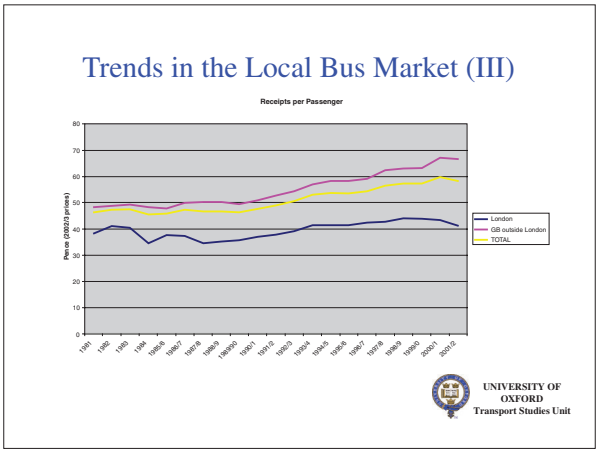
[3] *See, for example, Mulley C (1983) 'The Background to Bus Regulation in the 1930 Road Traffic Act: Economic, Political and Personal Influences in the 1920s'. Journal of Transport History, IV, 2 1-18.*

acceleration of this decline around 1986 when deregulation was introduced (with D-day on Sunday October 26th).

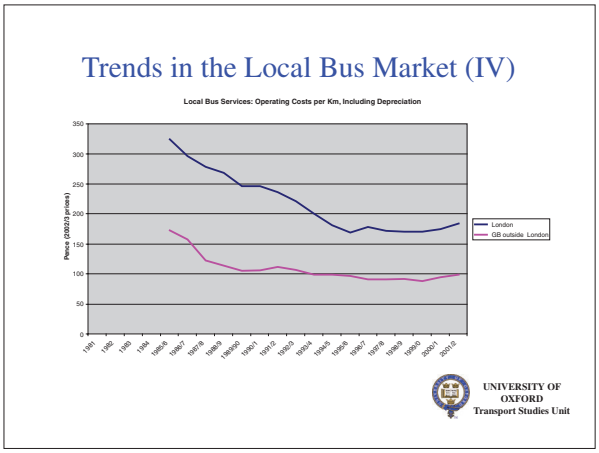
By contrast, in London, which wasn't deregulated and still had a regulated system, albeit with tendering introduced gradually, demand has, with some fluctuations, risen over the period by 33%. We can see that the total trend, is dominated by Great Britain outside of London, and that over the period 1981/2 to 2001/2 there has been a 24% decline in the number of passenger journeys by local bus.



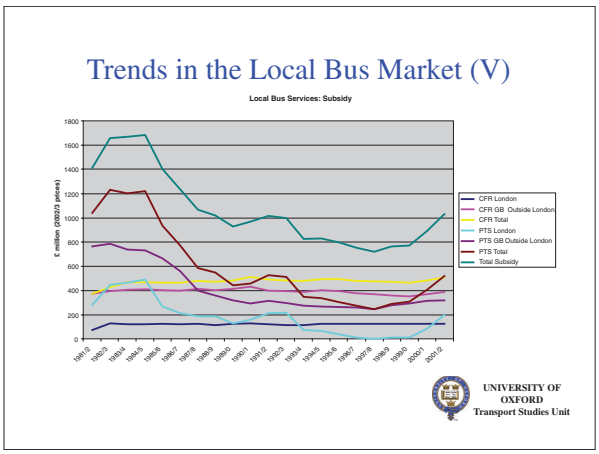

Perhaps surprisingly to those people not intimately involved in the public transport industry, vehicle kilometres have gone up not down over the period 1981/2 to 2001/2, with a 21% increase for Great Britain outside London, and in London, a more gradual 35% increase (the blue line). Incidentally again in the GB outside London you can see the clear impact of 1986, with large increases in supply on or shortly after D-day. Overall, in Great Britain there has been a 23% increase in vehicle kilometres.




This next slide shows receipts per passenger which is a proxy for fares. It is not an accurate measure of fares as mean trip lengths have changed during this period, but in the data sources that I have used data on trip lengths are not given—you would have to do some additional analysis with the National Travel Survey to obtain such data. What the graph shows is that outside London receipts per passenger have increased substantially by about 40% in real terms over the 20 year period studied. There has been some fluctuation for London, not least in the early 1980s, with the overall change being only an 8% increase. The overall increase in receipts per passenger for the whole of Great Britain is 26%.




Data on the trends in operating costs are only available from 1985/6 onwards. Interestingly, both London and Great Britain outside of London have experienced the same decrease of 43% in operating costs per vehicle kilometre including depreciation. We can see that outside London there were some quite quick cost reductions and then a levelling out, and evidence of an upturn in recent years. The position for London is similar but there is a more protracted initial period of decline as tendering kicks in. There is also a second period of unit cost decline in the early 1990s that I would ascribe to the privatisation of London Buses Limited.

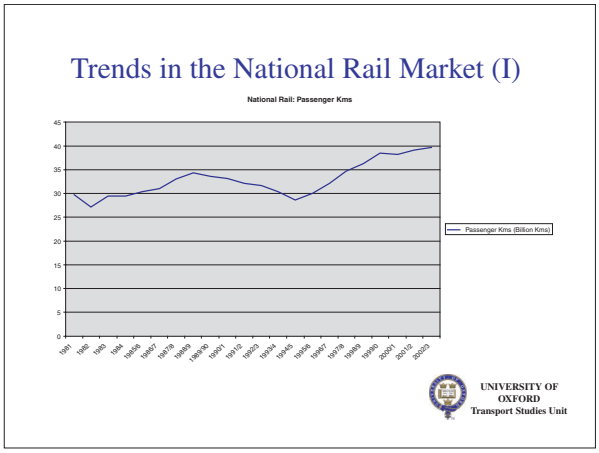



If we look at the very top line, in this rather busy slide, showing total subsidy at 2002/3 prices, we can

see that subsidy to bus services (excluding Fuel Duty Rebate) exceeded £1.6bn in the early 1980s. Indeed it was such levels of subsidy that inspired legislation such as the 1984 London Regional Transport Act. Bus subsidy subsequently came down very sharply and has just started going up to pass the billion mark.

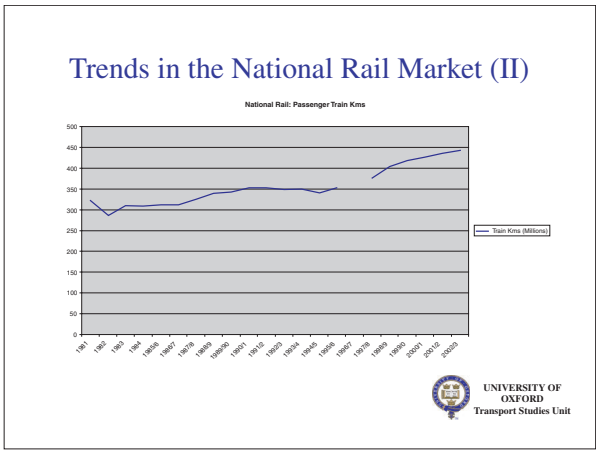
To get the total subsidy figure for outside London, we need to add the CFR – Concessionary Fare Rebates and the PTS – Public Transport Support. We find that over the period total subsidy outside London has declined by 37%, with a significant switch from blanket public transport support to more targeted concessionary fare repayment. The situation in London shows a similar story, but with public transport support declining almost to zero by 1997/98 and then beginning to increase sharply. More recent provisional data indicates that subsidy is going up even more sharply with the attendant risk of a budgetary blow-out[4]. Over the period 1981/2 to 2001/2 therefore subsidy in London has only gone down by around 8%.

## Trends: rail

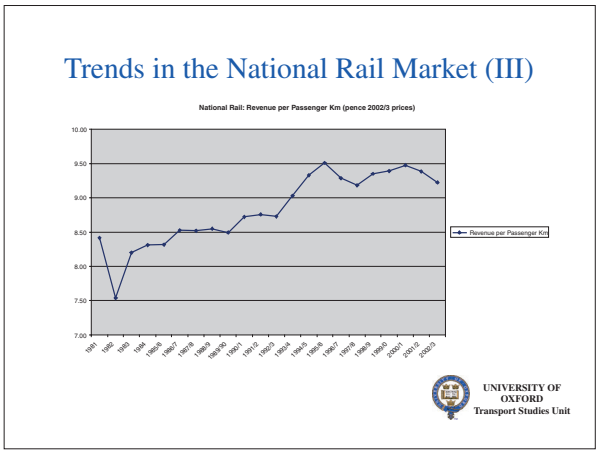



What I want to do now is to look at similar trends within the national rail market. For reasons of brevity as much as anything I wish to just look at trends for the market as a whole; clearly this is unreasonable in many respects as we would want to sub-divide this at the very least by inter-city, by London and the South East and by the former Regional Railway franchises. However, it is not easy to get the data in that form over the 20 odd year period presented here.

This slide shows the trends in passenger kilometres. What we can see is that up until the reforms of the mid 1990s there was a cyclical pattern which actually extended back to the 1950s. Since the mid 1990s, we observe fairly strong growth, with some levelling out around 2000/2001 for reasons relating to the poor reliability of the system following the remedial measures introduced following the Hatfield accident (October 2000). Overall, over this period passenger kilometres have gone up by 34%, with the number of passengers up by 36% between 1981 and 2002/3.



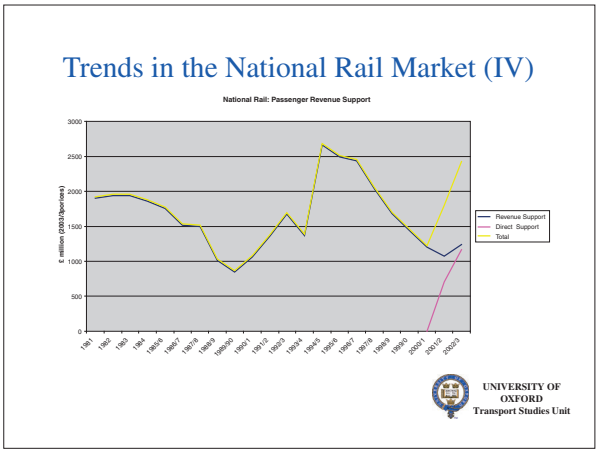

Moving on to passenger train kilometres, again perhaps surprisingly to people who are not active within the public transport industry, there has been quite significant growth particularly after the reforms of the mid 1990s. Note that there is actually a break in the data series: the data before the break is loaded train kilometres and after the break it is timetabled train kilometres. This may give a change of perhaps a percentage point or two, but generally the graph suggests that there has been substantial growth over this period of over 37%[5].




[4] *Between 2001/2 and 2002/3, Public Transport Support in London increased from £190 million to £355 million (2002/3 prices). This is an increase of 87%. This is only slightly offset by a reduction in Concessionary Fare Reimbursement from £132 million to £121 million (down 8%). Overall, in one year, bus subsidy in London has increased by 48%. (Source: Department for Transport (2003) 'A Bulletin of Public Transport Statistics: Great Britain 2003 Edition'. DfT, London)*

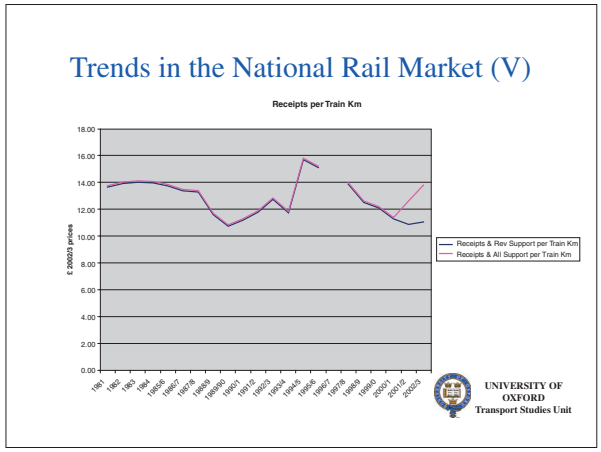
[5] *In 1999/00 98.8% of timetabled train kms were run. This was the last year that data on reliability was published, as from June 2000 the Passenger Charter measures were replaced by a Public Performance Measure.*

Next we move on to revenue per passenger kilometre. This is still only an approximation for fares, since if railway companies got better at managing revenue yield they might be able to increase this figure. In addition, it does not take into account improved product offer that might be expected to be accompanied by higher fares. We can see some fluctuations, with a rise in the 1980s and early 1990s and then a levelling off as the regulatory regime of the 1993 Act comes into force. Thus over the period revenues per passenger kilometre have increased by 10% in real terms. 1982 is distorted by the fact that that was a year of major industrial disputes.

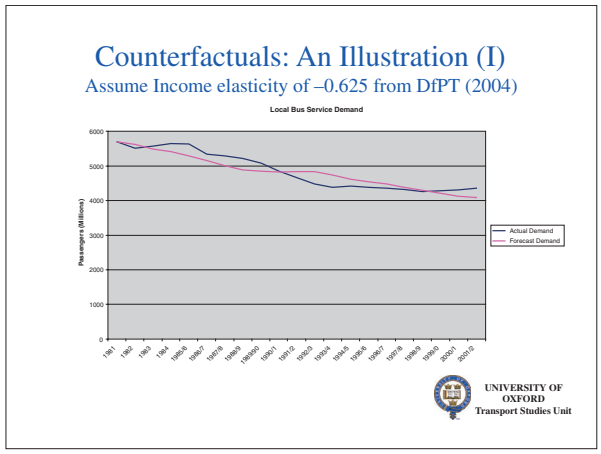



There is a similar up-and-down picture with respect to subsidy. We can see that the rail industry received subsidy, through the Public Service Obligation Grant and what used to be called Section 20 payments from the Passenger Transport Executives. It started at around £2bn (at 2002/3 prices) at the start of the period. The commercialisation of British Rail drove it down to under a £1bn (1989/90), followed by a sharp rise to £2.5bn in the transition to privatisation. It then came down to almost £1bn and is now rising again, particularly if one includes the direct support that is now going to Network Rail. Obviously some of this support could be attributed to the freight market. It is a rather confused and sometimes difficult-to-explain picture of rather big variations, but the point to note here is that the rail industry is receiving significantly larger sums of subsidy than the bus industry[6].

It would be quite nice to show some trends on costs, but the figures presented here are what I have called receipts per train kilometre, which is revenue plus subsidy (revenue support). If returns on sales were constant this would give an indicator of what is happening to costs. It suggests that costs have varied a bit but are broadly around £12 to £14 per train kilometre.




## Counterfactuals




Before I try and draw lessons from these very broad trends, I should say that I am aware of what we might call the counterfactual—that is, what might have happened if we hadn't had the reforms. One of the main external things we know is that income has grown over this 20 or so year period and that that is likely to have had an effect on rail and bus demand. To find out what would happen to the bus industry if only income had changed and everything else had stayed as it was in 1981, I have used a medium range income elasticity for bus suggested by the Demand for Public Transport, launched by TRL in March this year and of which I was a co-author[7]. Much to my surprise the overall trend is fairly well replicated. We can see that although actual demand was below that forecast for a period in the early 1990s, reflecting perhaps the initial impact of deregulation in the late 1980s, the differences aren't too extreme. Thus over the whole period the actual decrease was 24%, and the forecast

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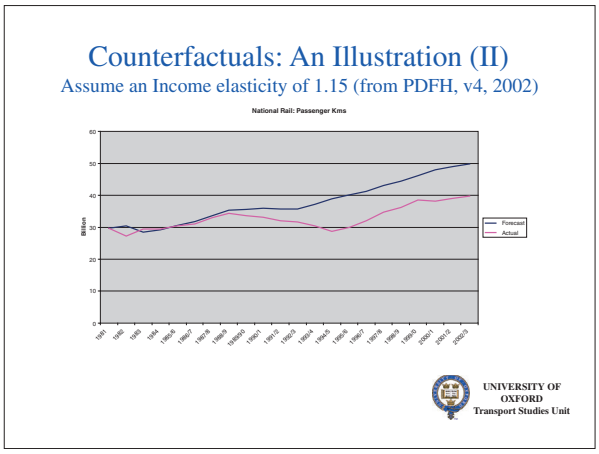
[6] *For example in 2001/2, the rail industry received revenue and direct support of £1,721 milllion. The bus industry received £503 million of Public Transport Support plus a similar figure (£501 million) for Concessionary Fare Reimbursement.*

[7] *Balcombe R, et al. (2004) 'The Demand for Public Transport: A Practical Guide'. TRL Report TRL593. Crowthorne: TRL.*

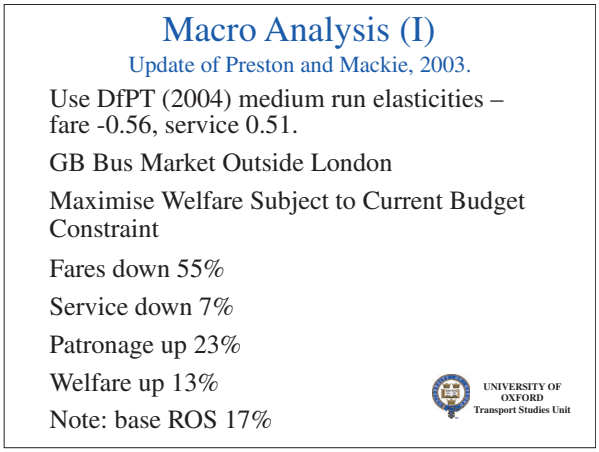
decrease based on income alone would be slightly higher at 29%. An important caveat is that this analysis is performed for Great Britain as a whole. We have seen that demand trends in London are quite different from the demand trends outside London, implying also that the elasticity of bus demand with respect to income might be quite different, and perhaps even positive in London.




I've done a similar thing for rail. For rail the income elasticity is a different sign: it is positive, not negative, according to the Passenger Demand Forecasting Handbook to which I was an adviser[8]. What we can see here is a slightly different picture where the actual increase in demand over the period is 34%, but the forecast increase is substantially higher at some 60%. It may well be that using a single elasticity for the whole country is wrong, but I think what we can actually see is that the discrepancy occurs in the transition period to privatisation in the late 1980s and early 1990s. After the reforms in the mid 1990s the trend lines for the forecasts and the actuals are very close. In other words, a lot of the patronage increases that some people could ascribe to privatisation could well have happened anyway.

What I think these kinds of analyses tell you is that the results of any cost benefit analysis of regulatory reform are highly contingent on your assumptions about these counterfactuals. It hasn't stopped analysts, including myself, attempting to do this. Unsurprisingly this work leads to different results since each analyst makes different assumptions about the counterfactuals[9]. I have resisted trying to do some cost benefit analysis of the rail and bus reforms in this lecture; instead I will explain some recent work I have done on the net benefit of public transport reforms at an aggregate macro-level and also at a more disaggregate micro-level analysis.

## Macro analysis




One piece of macro analysis is an update of some work that I did with Peter Mackie[10], taking latest year's data and adjusting the elasticity to be more consistent with those from the Demand for Public Transport mentioned earlier. Incidentally, if the Demand for Public Transport is right then long-run fare reductions are much more beneficial to society than we previously thought. The way our model is set up it is not easy to distinguish between short, long and medium run, so for the moment we are just using medium run elasticities of -0.56 for fare and -0.51 for service. We have looked at an objective of maximising welfare (that is the net economic benefits to society) subject to a budget constraints. According to the published statistics, bus operators in Great Britain outside London are making a return on sales of 17%; in our budget constraint total revenue equals total costs and all that return on sales is eliminated, although subsidy remains at current levels. The optimal configuration would be a big reduction in fares (down 55%) and a modest reduction in service (down 7%). Patronage would rise by 23% and welfare would rise by 13%. This is against a backdrop of the average load on a bus outside of London being below 10, so there is spare capacity for these effects to occur.

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[8] *Association of Train Operating Companies (2002) 'Passenger Demand Forecasting Handbook. Version 4'. ATOC, London. April.*

[9] *With respect to bus deregulation see, for example:*

*White, P.R. (1990) 'Bus Deregulation: A Welfare Balance Sheet'. Journal of Transport Economics and Policy, 24, 3, 311-332.*

*Mackie, P., Preston, J and Nash, C. (1995) 'Bus Deregulation: Ten Years On'. Transport Reviews, 15,3, 229-251.*

*Romilly, P. (2001) 'Subsidy and Local Bus Service Deregulation in Britain: A Re-evaluation'. Journal of Transport Economics and Policy, 35, 2, 161-194.*

[10] *Preston, J. and Mackie, P. (2003) 'Bus Regulation—from Workhorse to Thoroughbred'. In Hine, J. and Preston, J. (Eds) 'Integrated Futures and Transport Choices. UK Transport Policy beyond the 1998 White Paper and Transport Acts'. Ashgate, Aldershot.*

## Macro Analysis (II)

GB Bus Market London

Maximise Welfare Subject to Current Budget Constraint

Fares down 54%

Service down 2%

Patronage up 35%

Welfare up 16%

Note: base ROS 29%

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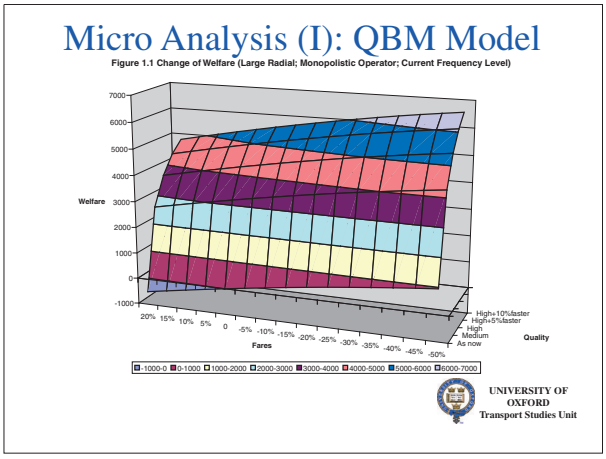
We have carried out a similar analysis for London. Now in London I don't think that what we have done really holds water, for one simple reason—we don't model supply side constraints very well, and in London the average load on a bus is more like 20 which at the margin is getting close to the capacity constraint. Also, published data suggests that the return on sales for London operators is 29%—London bus operators are more profitable than operators outside of London. This contradicts data collected by the TAS Bus Industry Monitor[11]. But again this model is saying that with a budget constraint of break-even given current subsidy levels—and actually the London system is more subsidised than the system outside of London—fares should fall substantially by 54% and service levels should go down only ever so slightly by 2%. Patronage should rise by 35% and welfare should rise by around 16%.

What I am driving at here is that it seems that, perhaps contrary to many peoples' expectations, there may be reasons to believe that the bus industry as it is currently configured results in the production of too much service at too high a fare. The way to get a better return for society is to reduce services but particularly to reduce fares. But that is highly contingent on the availability of spare capacity.

[11] *For 1998/9, TAS calculated average margins for bus operators in London of 9.3%, compared to 11.0% outside London. Source: Transport Advisory Service (2004) 'Bus Industry Monitor 2003'. TAS, Long Preston.*

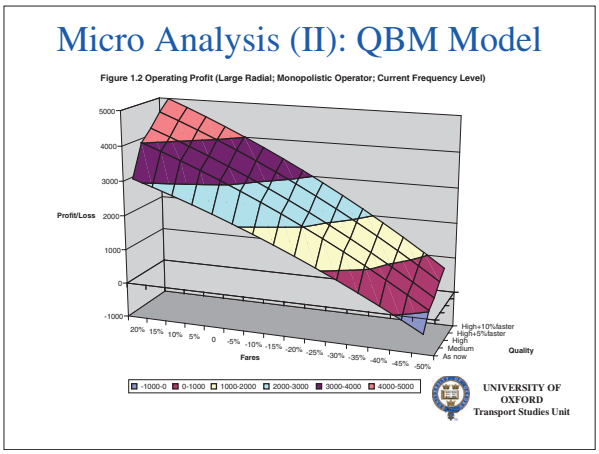
## Micro analysis

## Micro Analysis (I): QBM Model




This slide shows the results of some analysis to see whether this conclusion holds true at a route level. This analysis uses something we have called the Quality Bus Market (QBM) model, developed with people at ITS University of Leeds. This model is based on data on the preferences of individual bus users. These preferences will change with different fares and service levels. This graph shows the results for a monopolised radial route in a large city. We can see that the plane in the graph slopes upwards from left to right which shows that as you reduce fares you increase welfare. We also have the plane sloping upwards as it moves away from you indicating that as you increase quality you also increase welfare. One worry with this model is that our optimum was always what we would call the corner solution up at the top right of the graph; one of the reasons for that is that we did not model capacity constraints particularly well.

## Micro Analysis (II): QBM Model



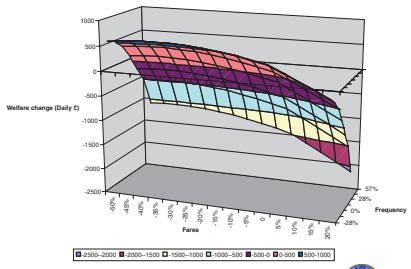

But what this type of model does highlight is that there is obviously a clash between welfare and commercial objectives in terms of fare reduction—because if you reduce fares, you reduce the profits, and the commercial operators are just not going to do that. What is also interesting is that, if our model is

right about how people value quality and the costs to operators of improving quality, then as you increase quality you also increase profits.

In fact in this modelling we looked at a situation where a high quality operator competed against a low quality cowboy-type operator, and it was in only very rare circumstances that the low quality cowboy operator could find a profitable niche in the market. The only way it could do so is if it had very big cost advantages over the incumbent operator. Thus the provisions for statutory quality bus partnerships that were provided by the 2000 Transport Act to prevent free-riding by such cowboy operators is probably a redundant bit of legislation. Our model suggests that such free-riding should not happen very often, and this seems to have been borne out by recent practical experience with voluntary quality partnerships, although I am sure that people in the audience could quote me some counter examples!

## Micro Analysis (III): QBM Model

Figure 1.3: Change in Welfare (Large Radial, Competed Route (Incumbent 5 buses an hour, entrant 2 buses an hour))

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This slide shows the results of some modelling we are doing in a Passenger Transport Executive (PTE) area. Now this is not a monopoly route, this is a competed route where on average the incumbent has five buses an hour and the entrant has two buses an hour. The graph is slightly confusing since fares now go up as you look from left to right (in the previous graph they went down), but you can see that as you reduce fares you do increase welfare, but then welfare stops increasing at around a 35% fares reduction. The graph also suggests that as you reduce frequency you increase welfare. This route looks to be over priced and over-bussed—just the kind of configuration that we think we have detected at a national level.

Thus for this route, which may not be particularly typical, the optimal policy might be a 35% fare reduction and a 28% reduction in frequency. That would be equivalent to taking away the entrant's two buses, although it could equally be two of the incumbent's buses. In addition, a significant increase in welfare results from a high quality package (which

## Welfare Maximisation of a Competed Route

'Optimal' policy

- 35% fare reduction
- 28% frequency reduction
- High quality package
- 5% Journey time reduction.

Leads to a 10% increase in patronage, 35% reduction in profits and increase in welfare equivalent to more than 30% of base profits.

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included CCTV and real time information) with a 5% journey time reduction (achieved by bus priority measures).

This reminds me of something else I meant to say about quality partnerships. I always thought that the stumbling block with quality partnerships was the operators, but if our analysis is right, and high quality bus routes are profitable for the operators, then the stumbling block is the local authority which has very weak incentives to invest in, for example, priority schemes which can deliver 5% journey time reductions.

The overall policy prescription on this route would lead to 10% increase in patronage. It has to be said that the elasticities used in this model are local estimates and are much lower than those in the Demand for Public Transport. There would also be a 35% reduction in profit, but the route remains profitable, and there is an increase in welfare equivalent to more than 30% of base profits.

## Micro Analysis (IV)

Analysis of 127 tenders in one PTE area over 5 years. Net subsidy costs per mile have increased by 27%

- If spread of bids increases by £1,000, net subsidy increases by around £100. Indicative of impact of revenue risk?
- If bus miles increases by one, net subsidy increases by £0.91
- If number of bids goes up by one, net subsidy goes down by around £1,500 (about 4%). Indicative of an independent value auction
- Net subsidy increased by around £2,000 (6%) per tender round (rising labour prices?)
- Evening and Sunday services have an additional net subsidy of £15,000 (44% premium)
- Little variation in net subsidy across operators

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In the same PTE area we have also done some micro-analysis of the tender markets. What I have talked about so far is what we might call competition *in* the market; what I would also like to talk about now is competition *for* the market and here we have analysed

127 tenders in this area over 5 years where the subsidy costs per mile have increased by 27%. All these tenders are in terms of net subsidy, that is operators bid for the difference between operating costs and revenue.

The results of this analysis show that as the spread of bids increases so does the winning bid, suggesting that operators are scared of revenue risk. If bus miles increase than subsidy goes up by 91p which seems a plausible figure. As the number of bids goes up the net subsidy requirement goes down; this is indicative of an independent value auction. Different people value the tender differently so the more people you have bidding the higher the bid price, i.e. the lower the subsidy required. However, the net subsidy in this area has been increasing by about £2,000 per tender round, that is by about 6%—tenders are quite small—partly due to rising labour prices. There is a substantial premium on evening and Sunday services. There is little variation in net subsidy across operators, which suggests that the market is competitive.

## Micro Analysis (V)

Application of PRAISE Model to an Inter City route.

Cream skimming entry most likely scenario.

- Both operators discount fares by up to 20%.
- Entrant provides two additional express services in the morning and evening peak periods in both directions of travel
- Incumbent's share reduced to 93%
- Rail market grows by 11%
- Profits down by 43%
- Consumer Surplus up by 40% of base profits
- Welfare down by 3% of base profits.

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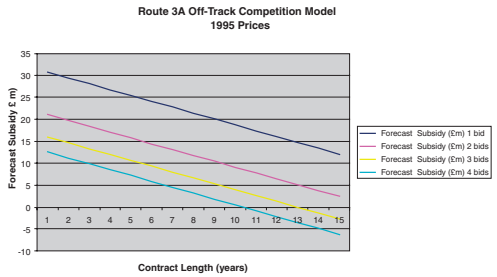
We have conducted a similar analysis for the rail industry using data dating back to the late 1990s. The PRAISE model used was actually a forerunner of the QBM model discussed earlier, applied to an inter-city rail route. This analysis of competition in the market (on-track competition) showed that cream skimming entry was the most likely scenario, but in this case both operators would discount fares by up to 20%. The entrant would provide two additional express services in the morning and evening peak periods, although this was contingent on the entrant being able to get access to cheap rolling stock. The incumbent's share reduced to 93% and the market grew by 11%, but profits were down. Consumers did benefit but this form of competition slightly reduced net social benefits by 3%.

Similarly we have developed models of competition for the market (off-track competition) in the mid-late 1990s for the British Rail system. This graph shows an example of an application of one such model, based

## Micro Analysis (VI)

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on a stated preference experiment of around 30 potential bidders. This model suggests that subsidy reduces as contract length increases and the number of bids increases. Perhaps the most difficult thing to forecast, at least for new markets, is thus the number of firms that will bid for a franchise. This model also showed that the winning subsidy depends on the extent of exclusivity, along with the various degrees of regulation with respect to fares and service levels.

## Summary and conclusions

## Overview

Key Trends since Reforms

| | Local Bus outside London | Local Bus London | National Rail |
|---|---|---|---|
| Demand | -35% | +25% | +31% |
| Fares | +40% | +8% | +2% |
| Service | +25% | +39% | +27% |
| Costs | -43% | -43% | ? |
| Subsidy | -33% | -18% | +78% (or –9%?) |

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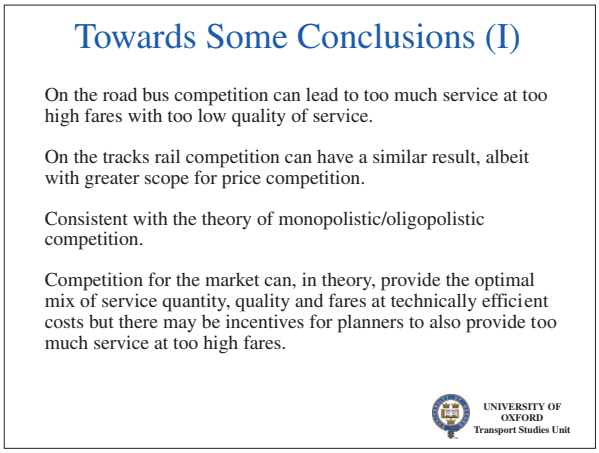
Despite what I said about the counterfactual, I have looked at the key trends since the date of the reforms, taken as 1985/6 for bus and 1993/4 for rail. Some simple comparisons can then be made, We can see that demand has gone up for local bus in London and for national rail, and it has gone down for bus outside London. Fares have gone up everywhere but most noticeably for buses outside London. Service is, perhaps surprisingly as I have already mentioned, up across the board. Operators' costs for buses both outside and in London are down by over 40%. I am not sure what the position is for national rail; we are fairly certain that they have not gone down by 40% and my guestimate would be that they have gone up by 20% or so, a result of reduced operating costs

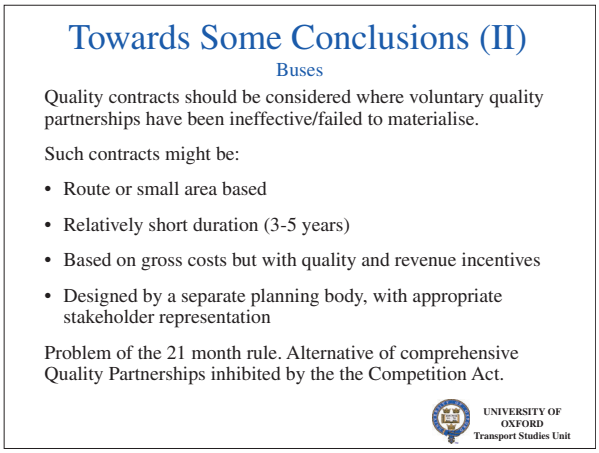
(around 40% of total costs) by as much as 30% but with as much as 50% higher capital costs (around 60% of total costs). Subsidy has reduced for local bus both inside and outside London, and particularly for the latter. For National Rail, subsidy has increased if we take into account the recent direct support, and has reduced slightly if we take it away.




Well I know it is difficult to draw conclusions without doing a very thorough analysis but for argumentative purposes I am going to do that nonetheless.

Having looked at these problems for almost 20 years one of the conclusions I am coming to is that on-the-road bus competition can lead to too much service at too high fares with too low quality of service. On-the-track rail competition can have a similar result, albeit with greater scope for price competition because the rail market is more heterogeneous and therefore there is more scope for product differentiation and price discrimination within the rail market.

Now my comments, particularly with respect to bus competition, are consistent with the theories of monopolistic and oligopolistic competition which have a long pedigree in the economic literature and indeed was applied to the local bus industry by the likes of Andrew Evans back in the late-1980s[12]. Competition for the market, i.e. tenders or franchises, can in theory provide the optimal mix of service quantity, quality and fares at technically efficient cost. But there may be incentives for planners to also provide too much service at too high fares, or for politicians to demand that planners provide too much service because service is highly visible—low fares are less visible.




Quality contracts should be considered where voluntary quality partnerships have been ineffective or failed to materialise. In my view, based on reviews of tendering both in the UK and overseas, these should be route or small area based—if the contracts are too big, competition will be inhibited and there will be a resultant impact on prices. They should be of relatively short duration, say 3 to 5 years. They should probably be based on gross costs but with quality and revenue incentives, provided those incentives are not too complicated and are reasonably easy to predict. And ideally such contracts should be designed by a separate planning body or department, perhaps with appropriate stakeholder representation. One issue we need to think about is whether it is really sensible to put all the emphasis on introducing competition in the operations. Competition for the planning function ought to also be contemplated.

However, if it ain't bust, don't try to fix it, so I would suggest that in a city such as Oxford where the bus system has performed fairly well since deregulation you might want to leave things broadly as they are.

One problem with the 2000 Transport Act that should be highlighted is the requirement that the incumbent operators must be given 21 months before a quality contract comes into operation. This is I think a big disincentive because there will be a worry that unsuccessful incumbents would engage in a policy of what has been described as 'slash and burn'. A more hands-off alternative might be more comprehensive quality partnerships which might incorporate features such as minimum headways, maximum fare levels and timetable co-ordination rules. However, as these are likely to be inhibited by the 1998 Competition Act, without further legislation the alternative is very unlikely.

I don't want to say too much with respect to rail because it's obviously a topic of its own. My work suggests that you should limit open access competition to instances of genuine product differentiation. I think

[12] *See for example Evans, A. (1990) 'Competition and Strucutre of Local Bus Markets'. Journal of Transport Economics and Policy, 24, 3, 255-281.*

## Towards Some Conclusions (III)

Rail

Limit open access competition to instances of genuine product differentiation.

Build on the success of some aspects of franchising but:

- Larger contracts for the main network
- Micro-franchises for branch lines
- Longer contracts (15 years)
- Net cost contracts with revised quality incentives
- Operators have some responsibilities for infrastructure operation and maintenance (virtual integration?)
- Contract design by a separate planning body, with appropriate stakeholder representation

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there is scope to build on some of the successes of some aspects of franchising but my work would recommend larger contracts for the main network, albeit with a possibility of micro franchises for separate branch lines, and longer contracts. These could perhaps be net cost contracts with revised (dare I say simplified) quality incentives. Operators should have some responsibilities for infrastructure operation and maintenance. Again, contracts should be designed by a separate planning body with an appropriate stakeholder representation.

## Concluding Comment

Twenty years on the regulatory regimes for bus and rail in Great Britain still require further adjustments.

Discuss.

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This is the time of year that those of us working in Universities think of exams and I have therefore framed my conclusion as an exam question. It is my contention that 20 years on the regulatory regimes for bus and rail in Great Britain still require further adjustments. Discuss.

# DISCUSSION

**Neil Paulley**

Thank you very much, John; there are some quite challenging statements in there for operators and local authorities alike. I am sure that it will lead to some lively debate.

**Question**

You have presented some fascinating statistics but I want to concentrate on one or two of perhaps the wider policy angles. You, in my view correctly, said that one of the failures of quality partnerships has been the failure of local authorities to deliver as much as they were apparently committed to. Certainly that is the well known view in the bus industry—that they have put the new buses in but they have not been given the benefits of bus priorities or new bus infrastructure that has been promised to them. Then in your conclusions you were talking about stakeholder representation and the planning system. Of course, when Barbara Castle established the PTEs, the original Passenger Transport Authorities had on them representatives of various stakeholders that could well have included representatives of the operating industry.

I have two comments that I would like you to respond to. First of all should we be moving away from simply passenger transport authorities to transport authorities, so that the highway network is more visibly linked to the bus network and, for that matter, the rail network? And, secondly, would you think that politically it would be worth giving the bus operator representation in the composition of such authorities?

**John Preston**

First of all, with respect to wider transport authorities, of course what I have talked about today is a highly partial analysis, but it suggests that there may well be social benefits from lower bus fares that is predicated on the current pricing regime for private cars. And if one went to a system of road pricing, that would no doubt change, at least in the areas where road pricing is implemented. So yes—clearly a wider transport authority would be more sensible and would then be able to deal with those pricing questions in the round.

Regarding these separate planning bodies, I can understand why some people are sceptical about whether problems can be solved by creating a new type of institution. But if quality contracts are going to be taken forward, input from operators will be vital to their success. This is particularly so if, as I would expect, there will be a skills shortage in public transport planning capability, particularly within local authorities in the Shires. This might also suggest that quality contracts are only introduced in areas where such skills exist.

Other alternatives, such as more area-based franchises where the operator could have a much bigger say in network design, have some attractions but I think the big danger is whether those types of franchises will be competitive in the long run. You might even get to a situation when you only have one serious bidder each time such area franchises are re-let. I think there are elements of that in the French system, although there are many other dangers with the French system as well.

**Question**

Congratulations for a very stimulating talk. You were very provocative in saying that local authorities have little incentive to invest in infrastructure measures, and as an ex-local authority transport planner for Oxford which has spent considerable amounts of money in improving the infrastructure, that is particularly provocative to me. That improvement has been, I suggest, very successful without substantially increased subsidies. Oxfordshire subsidies have probably increased four-fold pre- and post-deregulation but the numbers of bus passengers have increased by 80% in Oxford, and in Oxfordshire they have grown substantially. My question is how can researchers help practitioners to decide on how much it is worth investing in infrastructure improvements? It would help us and the country enormously in improving the public transport system at the most effective costs.

**John Preston**

I could re-phrase my discussion about local authority incentives and say 'short-sighted local authorities have little incentive….'. By this I mean that far-sighted authorities will realise that there may be net social benefits that will accrue to them, but the problem is that the financial incentives just aren't there. This is a cost commitment with no subsequent revenue stream, and it could be all the more galling to both officers and members when actually what they see is an increase in the profitability of the dominant monopoly incumbent operator—which I think does have some incentive to invest in quality buses because they can be profitable.

So this, I think, is the dilemma. The solution might be some kind of revenue sharing arrangement, although how or who would be able to negotiate with the likes of Brian Souter to deliver such an arrangement I wouldn't like to say. If our models are right there is a clear financial incentive for operators on well used corridors, but there aren't clear financial incentives for local authorities, and the political and emotional effort needed to introduce bus priority is also a disincentive.

**Question**

The point is that there are other factors to consider in the operation of public transport and management of demand than just service quality and service changes, so perhaps more is going on in terms of the way the system is being managed than your figures might suggest.

**John Preston**

All I can say is that for every operation where there may be internal factors improving demand, there may be other operations where internal factors actually reduce demand, and therefore in aggregate they cancel out and the external factors, such as rising car ownership, remain quite strong. I am not suggesting for one moment that everything is due to external factors but I think in aggregate they probably do explain a significant amount of the trend.

**Question**

In terms of your presentation and your discussion about buses, it seems to me that what you are saying might well be valid for the large PTE areas, but for other areas there is a much finer grain of bus operation. I think particularly that there is the issue of the deeper rural services, together with Sunday and evening services across a broader range of locations. In my county the perception is that it is particularly those rural and evening and Sunday services that have been decimated by deregulation in the 1980s, and that presents us—the county councils—with a major problem in trying to respond. The problem is basically one of significantly rising costs. One senses that if it weren't for the government's introduction 4 years ago of rural bus quotas much of the rural bus network in this country would be dead. I wonder if you could comment on that.

Also, regarding your comments on infrastructure, again the imperfections in the bus market seems to me to drive us in slightly different directions in terms of the infrastructure investment. For example, in our urban areas we may well be concentrating on what are essentially traffic management improvements for the benefit of transport services, but our investment in the acquisition of vehicles themselves is growing significantly. Our medium term expectation is that there will be a significant growth in our investment in buses that we will either operate directly in competition with the existing monopoly provider or else will be leased out to other operators to operate with mixed public/private sector investment. This is my defence of local authority investment in public transport and wonder whether you have any comments.

**John Preston**

I fully accept that much of my policy prescription is drawn from analysis of the metropolitan and bigger city bus networks. Obviously in terms of policy it will be 'horses for courses', and it will be a different policy prescription in respect to rural bus services. A core urban network into which rural feeder services operate, of perhaps a more flexible type involving smaller vehicles than is the norm, and with lower fares might be much more effective than just filling the gaps left by the dominant operators.

I would be interested to know much more about your county's investment in vehicles. I should point out that my analysis of local bus does not include the likes of school buses etc. The statistics show that this is not an insignificant part of the market—it is actually about half the size of the local bus market and in rural counties could easily be bigger than the local bus market itself. The lack of ability to integrate local and non-local bus services is in my view a big problem in the public transport industry—but it's not the focus of my talk tonight because the legislation was all targeted towards the local bus market rather than the bus market in its entirety.

**Question**

On a slightly lighter note, you showed us your 'squashed Swiss roll' which rather implied there was a cycle to all this. Where in this cycle are we now and how long do we have to wait before we go back to full public ownership?

**John Preston**

I don't know whether I believe in the exact inevitability of cycles—I think what we are trying to do is fine tune things to get the right balance between regulation and deregulation that delivers a public transport network that meets our objectives. Being an economist I think of that in terms of maximising net benefits to society—but where the benefits take into account the impacts on operators, users and non-users including environmental effects etc. My view is that there ought to be a swing towards more regulation. Political change may drive things in the opposite direction in the short run—which actually will be a retrogressive step—but, if my analysis is right, more regulation may actually increase the prospects for a more beneficial public transport system in the longer run.

**Neil Paulley**

On that interesting note, I'm afraid we must close since time has run out. There is no doubt much more debate is to be had, and I am sure the discussions will continue. It's an important subject, and you have thrown valuable light on it, John. So once again, many thanks for an excellent lecture.