

Alternative Tendering Systems and Deregulation in Britain

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1. Introduction

This paper follows those presented at the first conference in this series at Thredbo in 1989 (Turner and White 1991) and the second conference in Tampere, Finland (White 1993a). It concentrates on one specific aspect of deregulation in Britain - the use of competitive tendering systems. The effectiveness of different systems has been examined in work by Stephen Tough, originally undertaken while working at Essex County Council as part-time member of the MSc Transport Planning and Management course at the University of Westminster (then known as the Polytechnic of Central London): an earlier version was presented at the January 1992 Universities' Transport Study Group conference, at the University of Newcastle-upon-Tyne. Since April 1992 he has been based in the public transport group of the Planning Department of Nottinghamshire County Council.

2. Overall Trends

The broad impact of bus deregulation remains similar to that described in papers at earlier conferences. Taking 1985/1986 (the last year before deregulation and abolition of the metropolitan counties) as a base, trends may be identified over a six-year period (to 1991/1992, the latest year for which statistics are currently available). London and Northern Ireland were excluded from the deregulation process. In the deregulated areas, total bus-kilometers have risen by 20 percent, largely associated with extensive introduction of minibuses but also through commercial competition using full-sized vehicles. However, passenger trips have fallen by 22 percent, leading to an alarming drop in passenger trips per bus-kilometer operated of about 35 percent. This almost wholly offsets the otherwise impressive drop of 36 percent in real operating cost per bus-kilometer.

The greatest decline occurred in the metropolitan counties (28 percent), with smaller reductions in the English shires (i.e., of all of England outside London and the Mets.) of 16 percent, Wales (18 percent), and Scotland (15 percent). Nonetheless, in all cases, these declines are greater than would have been expected due to factors such as rising car ownership and increased real fares levels (the latter confined mainly to the Mets.). Conversely, in London, passenger journeys fell by about one percent over the same period. In Northern Ireland, which could be seen as comparable with Wales or Scotland in the type of area served, passenger trips fell by eight percent, very much what one would expect due to the effect of rising car ownership during this period. Further analysis is provided by White (1993b) and the Chartered Institute of Transport (1993).

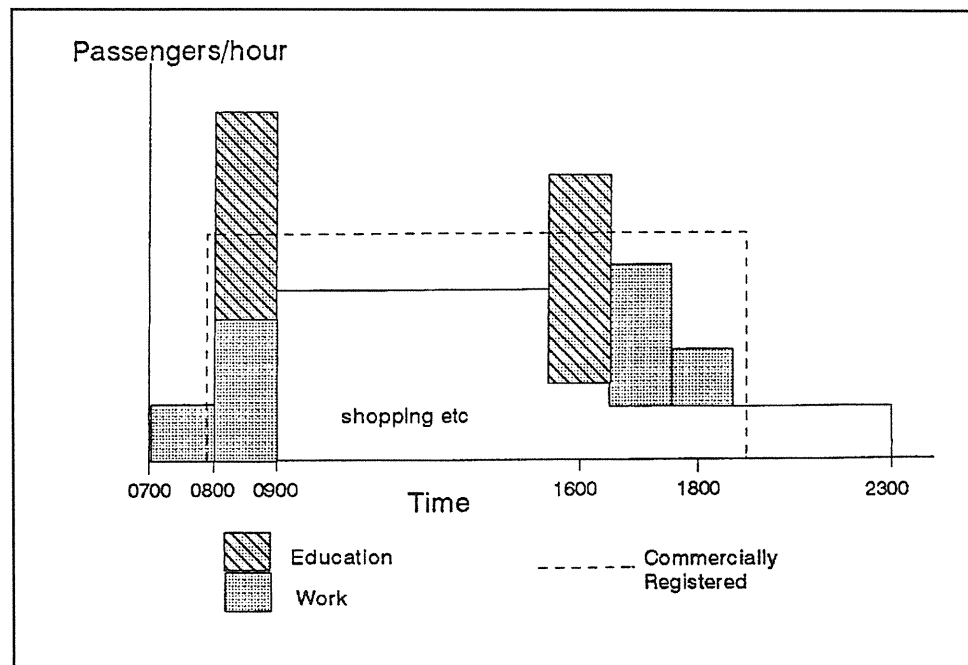
3. Deregulation and the Role of Tendered Services

The Transport Act of 1985 specified the framework for deregulation, effective from October 1986. Essentially, operators register those services which they are willing to run commercially (i.e., without route-specific subsidy payments). Where local authorities wish to see the resultant gaps in provision filled, they may support services to do so on the basis that a competitive tendering procedure is followed. Hence, it is not necessarily the incumbent area operator who will run the tendered service.

The "Buses" White Paper of 1984 which set out the thinking behind the 1985 Act (Department of Transport 1984) appeared to envisage such tendered services as largely separate from the main commercial network: low-density routes in rural areas are the obvious example. However, in practice, much commercial registration has been based on time of day and week rather than entire routes. Even in low-density rural areas, commercial operation is often found for daytime (0800-1800) services on Mondays to Saturdays, while early morning, evening and Sunday services are not run commercially. And if the local authority wishes to fill these gaps, tendered services are required. Operators are also aware of the cost of peak-only operation and, in many cases, are unwilling to register additional peak-only journeys geared largely to school travel (see also below). These likewise form part of tendered provision; a typical situation is illustrated in Figure 1.

Overall, a high level of commercial registration was experienced at deregulation: about 84 percent of total bus-kilometers in local services, a proportion which has varied little since. In absolute terms, total local bus-kilometers (excluding London) rose from 2,065 million in 1987/1988 to 2,172 million in 1991/1992 by 107 million of which 98 million (92 percent) was represented by additional commercial operation, and the balance of 9 million

Figure 1: Typical bus use by time of day



(8 percent) by tendered services.¹ In many areas, one may find both types of service growing, but for additional different reasons. Poorly-loaded evening and Sunday services by incumbent operators may be de-registered (i.e., no longer run commercially, either in response to falling loads or a reduced ability to cross-subsidize them from Monday-Saturday daytime traffic). The latter period is that in which most new commercial competition has developed.

An element in the high proportion of commercial mileage is that concessionary fare compensation payments and fuel duty rebate apply equally to all services, enabling routes with relatively low direct fares income to nonetheless be commercially viable. The deregulation in New Zealand, effected in 1991, has produced almost exactly the opposite proportions of commercial and tendered kilometers to those in Britain (around 80 percent running as tendered services) in part due to this difference and also the low average population density and higher car ownership in that country.

Powers to provide tendered services (under sections 88 to 91 of the 1985 Act) are held both by county councils and district councils - the lower tier. Within the former Metropolitan counties, this role is taken by the PTE (Passenger Transport Executive). In practice, the great majority of tendered services are provided through the counties, which also have responsibility for public transport co-ordination, strategic

planning, and education transport. The element provided through district councils is relatively small and generally is found in towns that traditionally operated their own bus services and aim for a high service level. The maximum duration of a contract is five years.

4. Education Transport

Under the Education Act of 1944, local education authorities (English and Welsh county councils, Scottish regions, and English metropolitan boroughs) are required to ensure provision of free transport for children travelling to and from school (where the child is below eight years of age for journeys above two miles each way; for children eight and over for journeys above three miles). This provision may be met by purchase of season tickets for travel by the schoolchild on scheduled public transport services; operation of buses owned directly by the local education authority; or, most commonly, hiring buses and coaches from existing bus and coach operators to provide a separate free service. These services grew rapidly from the 1950s as village schools were closed and the leaving age for secondary education was raised. Further growth has come about through more pupils staying on beyond the minimum leaving age of 16.

In most areas, buses and coaches were directly contracted by the education departments, a function wholly separate from provision of scheduled public passenger transport. This represents an early example of contracting for services with competitive bidding. Most such vehicles are provided by small local coach operators with flexible working practices and low overheads. The presence of many such firms, especially in rural areas, provided a useful base for tendered services and new commercial operations, when deregulation of public transport services was introduced in 1986.

In addition to the statutory provision of transport, non-statutory education travel on scheduled public transport services has become increasingly important, especially where many children travel shorter distances than would require statutory provision, often on existing public transport services, or using duplicate vehicles and/or special direct routes operated on fare-paying basis. Traditional child fares do not cover the costs of such peak-only operation over short distances. Hence, at deregulation, many operators were unwilling to register such services commercially. Although the local authorities are not obliged to provide transport for these shorter distances, its provision is often seen as a legitimate need for public bus services - along with evening, Sunday services, etc. - especially where road traffic conditions make walking or cycling is dangerous for children.

From the 1970s, an increased awareness developed in rural areas that separate support for school buses and general public transport services was potentially wasteful. In many areas, public transport coordinators are now responsible for school transport provision also (although education budgets still contribute to the costs). Hence, a typical service contract in a rural area might specify peak journeys that are extended to/from schools in term time, plus other journeys for shopping, leisure, etc. at other times of day. This process of considering both service needs together was also encouraged under section 88 of the 1985 Act.

5. The Current Role of Tendered Services

A common pattern now exists in areas outside London in which a mix of tendered services is provided, typically geared to peak school travel, early morning and evening journeys, Sundays, and low-density, all-day routes.

In London, a different policy has been followed (deregulation was not introduced, and the distinction between commercial and tendered services does not apply). London Regional Transport currently plans the entire service network. Traditionally, this was operated almost entirely by its own subsidiary, London Buses Ltd. However, beginning in 1986, competitive tendering was introduced: earlier stages of this

process were described at the 1989 Thredbo conference (Higginson, 1991). By April 1993, about 40 percent of the network had been tendered out in this fashion, operated both by London Buses Ltd. and other operators dependent upon success in the tendering process. This proportion is now being increased to almost 50 percent. The other half of the services is still operated directly by LBL companies but on a negotiated contract basis since April rather than a block grant for the whole network. A fuller description may be found in Nick Newton's paper.

The tendered services in London are operated on a gross cost basis, i.e., all revenue accrues to the tendering authority (London Transport), and the operator is paid for total costs incurred (including capital charges on vehicles, etc.). Hence, the operator does not incur revenue risk. This system also has the advantage that complex apportionment of revenue between routes and operators is not required in fine detail: about 70 percent of bus journeys in London are made on bus passes, travelcards, or concessionary passes, which do not involve cash transactions on the vehicle. The negotiated contract with LBL companies, however, does function on a net subsidy basis.

6. Major Types of Service Contract

In areas outside London, two main forms of contract are found:

- (a) Minimum subsidy (hereafter MS): also known as net subsidy. The operator makes a bid based on the difference between total operating costs and estimated revenue.
- (b) Gross cost (GC): as in London, total cost of the service is charged by the operator with revenue accruing to the tendering authority.

Another variant is the revenue guarantee in which a minimum subsidy contract exists, but a certain level of revenue is guaranteed by the tendering authority.

The notion of a net subsidy might be considered rather unusual. In most contracting and bidding processes, the total cost is the basis for payment (for example, construction, contracted refuse services, etc.). The extensive school contract bus services for statutory travel also fall in this category.

In theory, if all bidders had equally good knowledge of revenues, the net cost to the tendering authority of each method should be the same. Consider the situation in Figure 2. An existing route has a cost of 100 units and revenue of 70 units. The incumbent operator is not prepared to continue cross-subsidizing the route as a commercial service, and accordingly deregisters it. A lower-cost operator (such as a locally-based independent) might have a cost of 85 units. Hence, the net cost to the authority might only be 15 units (rather than the 30 implied by the incumbent operator's costs), *provided that the same revenue applies in both cases.*

7. Comparison of the Cost Effectiveness of Minimum Cost and Minimum Subsidy Tendering

To compare alternative tendering methods, four local authorities in Britain were visited and at each authority all information on bids and contracts since deregulation was made available for analysis.

The authorities were:

Essex, who offer contracts on a gross cost basis (GC);

Oxfordshire, who use the minimum-subsidy (MS) method;

and two authorities who use both methods, Wiltshire and East Sussex.

In addition, a request was made to all other local authorities in Britain for information on their tendering policies and on bids received. To obtain operator views, several companies in the four 'case study' areas were interviewed and their opinions and procedures recorded.

The initial key objective in undertaking the comparisons was to establish which method was found to be more cost-effective for the authority. Between 100 and 150 contracts from each of the four areas were analyzed and compared on the basis of a cost per mile operated. Because costs and the type of local authority contract vary at different times of the day and week, it was appropriate to split the contracts into five categories to ensure comparability in the analysis, as follows:

- a) Peak operations
- b) Home to school transport
- c) Evening/Sundays
- d) All-day services
- e) Occasional services, e.g., twice weekly shopping services, diversions and extensions of commercial routes.

8. Results

Table 1 indicates the cost per mile by tender method and service type for each authority. All revenue (i.e., fares, concessionary payments, and scholars tickets) has been subtracted from the GC contracts to ensure a direct comparison.

Statistically significant differences were identified between the overall mean values by using the two sample t-test for the cost per mile for GC and MS contracts. In all the totals and sub-totals, the GC means are lower. Taking each category individually, the evening and Sunday figures are consistent with the overall pattern, although Oxfordshire and Essex experienced higher overall costs. This may be due to varying competition for this type of work. School work is expensive due to the need to commit a resource in the peak and an awareness by operators that authorities often have an obligation to award such contracts. The cost per mile for all-day operation tended to be just below average but highly consistent with the GC/MS differential.

A similar difference in costs, with much higher costs for school peak services in particular, has been observed in a major conurbation, Greater Manchester. The PTE incurred a cost per mile (after taking revenue into account) of £3.62 per mile in 1991/1992 compared with an average of £0.74 per mile for all tendered services at October 1991 levels. School services represented 32 percent of all tendered service costs compared with only 6.5 percent of all tendered service mileage (Tripp, 1992). No distinct pattern

Figure 2: Minimum Subsidy Tendering

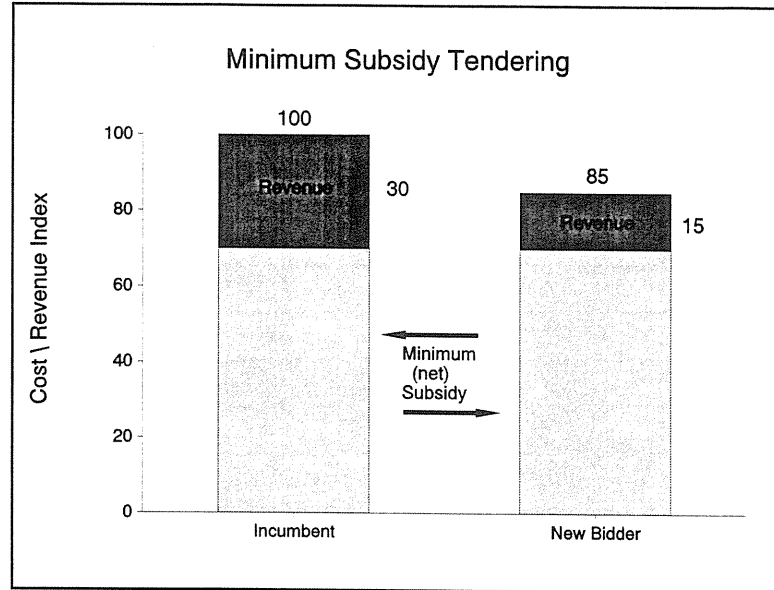


Table 1

Cost per Mile by Tender Method and Type of Service (£ at 1991 prices)							
	Type of Service					Method Mean	Authority Mean
	Eve/Sun	School	Peak	All Day	Others		
Oxon (MS)	1.16	1.50	1.27	0.50	0.98		0.81
Essex (GC)	0.81	2.08	0.98	0.95	0.93		0.70
Wilts (GC)	0.37	2.12	1.65	0.67	0.42	0.57	
(MS)	0.38	N/A	0.78	0.73	0.68	0.79	
Total	0.38	2.37	0.80	0.69	0.50		0.70
Sussex (GC)	0.56	2.57	0.65	0.61	0.54	0.67	
(MS)	0.89	5.71	0.71	0.67	0.41	0.72	
Total	0.63	3.05	0.70	0.63	0.48		0.69

Table 2

Mileage and Budget Comparison between Essex and Oxfordshire				
Authority	Method	Cost Per Mile	Typical Local Authority Budget = £3 million How Many Miles?	Typical Annual Mileage = 4 Million How much will it cost?
Essex	GC	0.70	4,286,000	£2,800,000
Oxfordshire	MS	0.81	3,704,000	£3,290,000

emerged for "other" journey contracts, although this is due to the very nature of this type of contract, as the group includes very cheap extensions to commercial routes on the one hand and expensive Saturday evening operations on the other.

Overall, the pattern in each category is consistent with the hypothesis that GC contracts are cheaper for the authority. Indeed, GC contracts in Essex represent a 13 percent saving on the cost per mile compared with MS contracts in Oxfordshire. Similarly, within the dual tendering authorities of Wiltshire and East Sussex, GC contracts represented savings of MS on a cost per mile basis of 27 percent and seven percent respectively. In considering the effect of these GC advantages on a typical local authority budget of around £3 million,² Essex County Council could either operate 600,000 more contracted miles on the same budget as Oxfordshire or spend £950,000 less on Oxfordshire's mileage. These differences are substantial given the overall budget magnitude, and the differences between Oxfordshire and the dual-tendering authorities are even greater.

By undertaking GC contracting, authority involvement is greater and, therefore, additional internal costs are incurred. Experience suggests these will be in the region of £50,000 per annum per authority, comprising two full-time revenue inspectors, white collar staff to process revenue returns, and general additional administrative expenses. However, on the basis of the savings indicated above for GC contracts, this additional expenditure represents only a small reduction in the cost-effectiveness of the GC method

and does not significantly affect the findings.

9. Analysis of Reasons for These Differences

Having established the significance of the cost per mile differential between GC and MS tendering, it is now appropriate to examine the influences that cause this result. These will be examined under the following headings: a) Auction theory, b) Operator bidding policies, and c) Quality of information and risk.

9.1 Auction theory

Auction theory suggests that the expected lowest price decreases on the number of bids increases (Waterson 1988). By taking increasing samples from the population, the lowest bid cannot increase and will usually decrease. Relating the theory to public transport tendering, GC tendering incurs far less risk as there is no requirement to estimate revenues and only a need to estimate costs. Hence, it is likely that this method will encourage more bids, and so a cheaper lowest bid can be expected. MS tenderers not only have to calculate their own costs but also have to accurately predict future revenues, often from poor information, and take into account external factors such as rising car ownership, which will affect future revenues. Therefore, as the risks are clearly greater, in theory, MS contracts will be less popular, particularly amongst smaller, less profitable operators. Larger operators will be better equipped to bid for MS contracts as they can spread the risk over a larger area and so survive a loss-making service. But the reluctance of small operators means a lower level of bidding is expected to occur on MS.

Section 90 of the 1985 Transport Act stipulates that all local authorities must publish tender results, which include the number of bids, and consequently copies of results were requested from all authorities to test the above theory on bidding. In areas where both GC and MS contracts were offered, ensuring that the tender population (i.e., the number of operators) was the same for each tender method, the same number of bids was analyzed to see if GC contracts encouraged more bids. The results are given in Table 3.

The results suggest a significant preference for GC bidding by operators, as all authorities in Table 3 received a higher number of GC bids on average. The figures were found to be statistically significant using the 2-sample 't-test'. Of the two case study single tendering authorities, Oxfordshire (MS) and Essex (GC), the latter received an average of 1.93 more bids per contract, consistent with Table 3. Initially, this appeared to be due to the larger number of operators on the Essex tender list (Oxfordshire 68, Essex 93). However, the two authorities had similar numbers of large and medium sized operators,³ with 25 more small operators on the Essex list. But, because of the risks, small operators are less likely to tender by the MS method, and therefore, by adding 25 small operators to Oxfordshire's list only a very marginal difference would be made, and the differential in the number of bids would remain. This discrepancy is at least partly due to the very nature of the tendering systems, as smaller operators are less likely to apply for inclusion on the tender list of an MS authority. Overall, there is strong evidence to suggest that GC tendering encourages more bids.

9.2 The number of bids and costs per mile

It is now appropriate to test whether a significant link can be found between the number of bids obtained by an authority and the cost per mile. The results, calculated from over 100 tenders for each authority, are given in Table 4.

The position of Oxfordshire is atypical: in each service category there is an increase in the cost per mile as the number of bids has increased. In the other three authorities, who all use the GC tender method, the

Table 3

Average Number of Bids per Contract by Authority				
Authority	Total Contracts Analyzed	Bids per Contract		Difference
		MS	GC	
Wiltshire	113	4.10	4.61	0.51
East Sussex	212	3.29	3.75	0.46
Cheshire	53	3.84	4.22	0.38
Norfolk	31	1.03	3.23	2.20
Shropshire	37	4.40	4.60	0.20
Gloucestershire	37	3.10	4.40	1.30
Lancashire	300	3.05	3.66	0.61

Table 4

Cost per Mile by Service Type, and Method by Authority (£)							
Authority	Method	Bids	Eve/Sun	School & Peak	Inter Peak	Occasional	Average
Oxfordshire	MS	1-3	0.65	1.24	0.43	0.85	0.58
		4+	3.64	1.51	0.79	1.08	1.25
Wiltshire	GC/MS	1-3	0.61	2.12	0.90	0.90	0.62
		4+	0.29	0.94	0.66	0.45	0.45
E Sussex	GC/MS	1-3	0.62	3.79	0.62	0.94	0.79
		4+	0.72	2.45	0.49	0.61	0.58
Essex	GC	1-3	0.78	2.48	0.65	0.99	0.83
		4-6	0.83	1.26	0.33	0.96	0.54
		7+	0.95	1.11	0.58	0.61	0.70

Table 5

Average Number of Large Companies Bidding by Bids Received for Two Authorities						
No of Bids	1	2	3	4	5	6
Essex	N/A	1.3	1.6	1.6	1.7	1.5
Oxfordshire	0.9	1.67	1.75	1.81	1.5	N/A

cost per mile reduced as the number of bids increased, although in Essex there was a lower cost per mile for four to six bids than seven or more. In each service category, the cost per mile of bids reduced as the number of bids increased with the exception of evenings and Sundays in both East Sussex and Essex. (This may be due to large operators not believing smaller operators were serious competitors for contracts at these times.) Overall, it appears that under GC or dual tendering procedures the cost, as expected, normally reduces as the bids increase.

The size of operators is significant in explaining why this logical conclusion does not stretch to MS contracts. A typical set of bidders will usually include one or two large operators irrespective of the total

number of bids submitted. Normally, a specific area will not have more than two large operators, and they tend to bid for all contracts irrespective of tendering method. As the tendency of large operators to bid on other operators' "patches" has receded, there will only be local companies tendering. Therefore, there will only be one or two large operators bidding in each case.

This is confirmed in Table 5 which shows the number of large companies bidding as a proportion of total bids submitted. It can be seen that there is very little difference in the number of large operators bidding whether there are three, five, or six bids submitted. So as the number of bids increases, the additional bids will usually be from smaller and medium-sized operators who will be more selective in their choice of tender and tendering method.

In terms of winning tenders, large operators are likely to be successful on MS contracts. Either by having better knowledge or, more importantly, a greater number of assets over which to spread the risk, their prices will usually be lower as smaller and medium operators over-compensate for risk. Table 6 shows just how much more successful large operators are on MS contracts.

Therefore, it is quite likely on MS tenders that there will be no cost per mile reduction as the number of bids increases. These extra bids will be from smaller and medium-size operators who are far less likely to win, preferring GC instead with the successful bidders being the large operators who tender for everything.

On GC contracts, however, because no risk compensation is required, small operators are bidding on at least an equal basis. Therefore, on submitting tenders, they are far more likely to be successful than on MS. Consequently, as the number of bids increases (and as stated, this increase comes from smaller operators who are more selective in what to tender for) there is a significant chance of one of these bids being successful. So the extra bids may well have resulted a lower price. Table 6 classified results by operator size (L-large; M-medium; S-small as defined in endnote 3).

Therefore, our conclusion has to be cautious. It appears that auction theory is not consistent in simple terms, as there is not a straightforward declining cost as the number of bids increases. With GC contracts, it does seem that more bids result, as expected, in a lower cost per mile as those extra bids are likely to be from smaller operators with competitive low risk prices. With MS contracts, additional bids from smaller companies are rarely competitive and are, therefore, unsuccessful.

10. Operator Bidding Policies and Contestable Market Theory

As stated earlier, auction theory suggests that as the number of bids increases, the chances of a lower winning bid also increase. Of more relevance to operators, however, is contestable market theory. Very briefly, assuming ease of entry and exit to/from a market, this theory suggests that even if there is no direct competition, operators will always be aware of the threat of competition and their behavior will be affected by this threat. The temptation to take advantage of a monopolistic situation will be curbed in their tendering.

Since authorities are obligated by statute to publish details of the number of bids received (except in London), operators have a good idea of the competition in securing contracted services. It will clearly be in the authorities' interest to encourage more bids to avoid successful operators becoming complacent and expensive.

As can be seen in Table 7, the decision whether to use full, average, or marginal costing in their tendering varies greatly between operators with most willing to bid for some services on a marginal cost basis. A typical marginal cost would be the running cost of a vehicle (e.g., tires, fuel) on a standard cost per mile

Table 6

Winning Companies and Method of Tendering (%)								
	GC				MS			
	L	M	S	%	L	M	S	%
Oxfordshire	--	--	--	--	71	28	1	100
Essex	45	29	26	100	--	--	--	--
Wiltshire	25	37	37	99	36	57	7	100
E Sussex	68	18	14	100	97	3	0	100

Table 7

Operators' MS Tendering Policies		
Size/Location	MS Tender Policy	Cost to Authority of Revenue Risk
Small, Essex	Assume no revenue, so tender on cost only. In effect, a GC tender.	All revenue (e.g. revenue of £38/day taken on Mon-Fri inter-peak service)
Large, Kent	Authority gives revenue estimates. Operator cuts it by 50% and then subtracts this from costs.	50% of revenue, assuming that over a large number of tenders, authority estimates are fairly accurate
Small, E. Sussex	Each stage in the costing is generously costed, especially if a large revenue is expected.	Unknown percentage
Large, E. & W. Sussex	15-20% safety margin.	15-20% additional cost.
Large, Herts	A safety margin depending on the degree of knowledge and the rough percentage of revenue element against cost, (i.e. higher safety margin to reflect risk).	Unknown percentage.
Small, Oxon	Cover all costs. Revenue irrelevant. Again, in effect a GC tender.	All revenue
Small, Berks	Do a survey to estimate revenue, add 10-15% safety margin.	10-15% of cost.

basis plus basic labor costs and overtime costs but would not include overheads and other costs that would still accrue without that particular contract. Marginal costing will provide a lower price for the authority.

The element most affected by the threat of competition is the final profit margin the operator allows. As can be seen from the table, all operators confirmed that margins were reduced as a direct result of competition. In addition, two were willing to go below marginal cost (i.e., make a loss) to secure a service and stop other operators entering the market (e.g., to protect a network). Four operators changed their policy of costing from full cost or average cost (i.e., including costs that would have occurred without the contract) to marginal costing due to competition, and operator 4 admitted that competition was the only reason that would prevent a full cost tender. The response to competition is thus very clear, and as there is clearly greater competition on GC (with a higher number of bids) operators tendering for these contracts are more likely to reduce their costings and profit margins accordingly. Small operators stated that,

generally, they much preferred GC bidding and that the competition on these contracts could reduce their intended profit margin substantially. Similarly, larger operators saw a real threat posed by smaller companies on GC and so priced accordingly.

Although competition varies spatially within and between tendering authorities, perceived competition is also of importance for larger operators. All large operators interviewed acknowledged that they were generally dismissive of the threat of smaller companies on MS tenders as they felt it was unlikely that they would submit a lower bid. With MS, the large operator's views of the threat of small companies suggested a greater difference was perceived, and it was this on which operators based their profit margin reduction due to competition. Most MS competition was dismissed, whereas most GC competition was considered a genuine threat. So the costings undoubtedly reflect a greater margin between GC and MS than the number of bids would suggest. Hence, there is clear evidence that real and perceived competition will reduce operators' prices on GC.

11. Quality of Information and Risk

Most operators interviewed liked the theory of MS, a view already suggested by Price-Waterhouse (1990), because of the incentives to perform well by keeping revenue. However, in practical terms, only one operator preferred this method. All the rest cited a lack of good quality revenue information as the key problem.

The one operator who preferred MS, a large company in Essex, had reasons for this stance that are consistent with those of other operators. Because of good staff resources allowing extensive surveys, and the fact that many tendered services were formerly operated by his company, he believed that his revenue information was accurate and that no other companies (except the incumbent) could obtain such good management information. Therefore, he would expect to win more tenders on MS, as companies with poor information would have to overcompensate for revenue in their tenders or simply not bid at all. One small operator in Oxfordshire stated he would bid only locally on routes he knew well. The large Essex operator also felt that if a company did underbid, based on poor information, he would benefit in the medium to long term as that company might go out of business if it was a significant contract. Three operators expressed this as a possibility. Of the other operators interviewed, only two undertook surveys, and these were normally only one or two journeys just as a "taster". All operators cited a lack of resources as the key problem.

Some authorities offer information to the tenderers as a guide. East Sussex and Kent, for example, offer "high" and "low" revenue estimates, and Oxfordshire give patronage information. However, all operators felt these figures could not be trusted. These assertions were based on revenue estimates on services they had operated being substantially at odds with authorities' estimates. This was thought to be due mainly to high variations in patronage and a low number of council surveys. The best information channel was found to be from the drivers.

So, given this problem of revenue information, to what degree do operators acknowledge overcompensation in tender bids for MS contracts? Table 7 shows the policies of seven operators. The last column indicates the protection against a revenue shortfall that an operator incorporates into his bid (i.e., risk protection), and if he wins the tender, the cost the authority has to pay in the form of risk insurance.

Whilst it is impossible to quantify, it is clear that substantial additional costs are incurred by authorities as a result of operators' risk protection strategies on MS contracts. And, indeed, Price-Waterhouse (1990) identified that risk minimization was one of the six crucial areas that distinguished successful bus companies from the rest.

Arguably, the incumbent or the operator with good information will win the tender, so the extra costs in these tender bids will not be borne by the authority. However, because of his awareness of other operators' risk protection strategies, the operator with good information will be in a position to include a high profit margin in his tender price, thereby increasing the cost to the authority.

Therefore, it is clear that operators do cost in substantial sums for risk protection in their bids, due to poor revenue information, and that the increased cost filters through to the authority.

12. External Factors

Having established that there are three explanations for the GC/MS cost differences, it is necessary to consider whether there are other underlying explanations for the difference. Although it is not possible to go into details here, three other factors were considered. These were: the influence of individual contractors, contract length, and geography. All were considered not to affect the results.

12.2 The influence of individual operators

Tests were undertaken on the percentage of the market and cost per mile of the five operators with most contracts in each of the four case study authorities to assess whether any operator or operators exerted an undue influence on the overall cost per mile in an authority. Four operators had a share of the market in excess of 20 percent, but, by removing these operators from the cost per mile calculation, there was only a very marginal change in the costing for contracts. Therefore, the influence of individual operators was limited. It was also found that intense commercial competition between two operators in Oxfordshire actually brought the MS cost per mile down; without the competition, the differential with GC authorities would have been even greater.

12.3 Contract length

It is often believed that the benefit of a longer contract, such as increased security and ability to justify investment, will lead to a cheaper tender. Consequently, the cost per mile for successful tenders was tested against contract length, which is normally indicated in the tender specification. The conclusion suggested that a lower price was usually achieved on a longer contract, but all four authorities had similar policies with regard to contract length, and it was not, therefore, of relevance in explaining the cost differential.

12.3 Geography

When comparing values from different areas, the impact of spatial variation in the costs of providing bus service (e.g. labor, fuel, cost of vehicles) must be addressed. The largest and likeliest element to vary spatially was labor costs. However, the four authorities chosen were all of a similar nature, in or near to the home counties, and the driver rates between the large companies in each area were very similar, averaging £4.50 per hour, (1991 levels). So, again, it appeared unlikely that spatial variations influenced the cost differentials.

13. Possible Disbenefits of Gross Cost Tendering

Given the very strong financial case that has been made to operate a policy of GC tendering, it was necessary to briefly consider any apparent disbenefits with this system. These will be reviewed briefly as follows: a) Risk to the authority, b) Reliability of service, and c) Quality of service.

13.1 Risk to the authority

Risk avoidance by operators has been indicated as a key factor in the higher number of bids received for GC contracts and the consequential lower cost per mile. However, by removing the risk from the operators, authorities are forced to bear the risk themselves. Ten authorities, including the four case studies, were questioned on their attitude to the risk. Of these, only Gloucestershire implied any concern at the risk taken on GC contracts. No authority had unintentionally overspent their budgets or purposefully underspent to allow room for unexpected developments such as a poor revenue return. If revenue was not at expected levels, authorities had policies prepared. Some stated that they simply increased fares, or would cut services (this had not yet been necessary), or the risk element would 'disappear' into the considerable council planning budget. One large operator stated that he would be prepared to take contract price cuts if a serious situation arose, as local authority work was essential to his business. He was also confident that other operators would follow suit. Therefore, it would appear that risk was not of concern to the authorities due to their size and their ability to spread the risk across a large number of contracts and other activities if absolutely necessary.

13.2 Reliability of services

In theory, the minimum subsidy (MS) method would appear advantageous with regard to the reliability of services with the operator having an incentive to improve service to maximize revenue. However, all GC authorities questioned felt that reliability was good on their services, and the key role in ensuring reliability was played by the revenue inspectors. For smaller operators, the council inspectors are normally the only check any driver will encounter, and, consequently, drivers will be aware of this threat when undertaking local authority work. Larger companies usually have their own inspectors, who also tend to cover subsidized services. And given the number of commercial services also operated by such companies, it would be difficult and very unlikely for a company or driver to adopt a slacker approach specification for GC local authority contracts.

In addition, the loss of tendered work through poor performance could potentially cause large companies to lose a new significant element of their annual turnover and could cause serious survival problems for small operators partly dependent on local authority contracts. So operators did not underestimate the importance of local authority work and the consequent need to operate efficient, reliable services on their behalf irrespective of the tender method.

As a back-up to their monitoring staff on contracted services, many authorities (e.g., Suffolk, Hertfordshire, West Sussex) assess penalties for lost mileage and other irregularities that were not caused by external factors (such as congestion). Although hard to measure, it is nevertheless a system that encourages reliable performance irrespective of tender method. This was acknowledged by operators, three of whom voluntarily stated they felt that penalties were the best way to encourage premium service on GC contracts provided the system was fair. Thus, there is not considered to be a significant difference in reliability standards between GC and MS contracts due to the revenue inspectors, the threat of contract terminations and, in some cases, the imposition of penalties.

13.3 Quality

The quality of the vehicle used and the general operation is likely to vary by three factors: the type of company operating the service; who gains the benefit of the quality; and the length of contract. It was felt that the tendering method made no difference as to the quality of vehicle offered by larger operators, because a vehicle would be found within the existing fleet, and almost certainly it would be in a satisfactory condition with regard to age, vehicle type, and suitability. The position was different for

smaller operators, who often had to purchase vehicles if they won contracts. Clearly, small operators would be more willing to invest in higher quality if they had secured a long contract. From a sample of 52 contracts awarded to small operators, 19 were of two years or less. It is on such contracts that investment in quality is unlikely. Most contracts won by small operators, however, are for three years or more.

For such contracts most authorities suggested that small operators appeared to invest to the degree that the benefit accrued to them. Three alternative investment decisions were offered: a) Purchase a low quality vehicle; b) If it is a long term contract, purchase a high quality vehicle but use it on commercial routes and move a lower quality vehicle to the tendered route; and c) Use a current back-up vehicle that would normally be of a very low quality.

With long-term contracts, operators would sometimes invest in quality. But quality would not be used on tendered routes as small operators tended to be successful on GC contracts, and the revenue benefits would not therefore accrue to the operator. So it appears that long-term contracts are a security for small operators to invest in vehicles for their commercial networks. Of five small operators seen, only one could be said to have genuinely quality buses in his fleet. Three had vehicles of poor quality, and two fleets were filled with coaches often not considered suitable for local bus service work. A solution to this potential problem is use of vehicle specification in tender documents requiring a certain minimum standard to be attained. This has recently been experimented with in several local authorities. However, it is too early to assess whether the introduction of standards will filter through and increase the lowest bid.

14. Other Applications of Competitive Tendering

Although closely associated with provision of 'socially necessary' services by local authorities since deregulation, competitive tendering may also be used within a purely commercial context. The provision of fuel, new vehicles, and ancillary services has long since functioned in this manner. Tendering for construction and maintenance work is now being extensively adopted within London Underground Ltd. and British Rail.

Within the bus and coach industry, National Express (formerly a subsidiary of the National Bus Company, privatized since 1988, and recently floated on the stock market) operates a network of express services throughout Britain in a common livery and marketed as a single network. It owns only six vehicles; the other 800 are hired from other operators at a tendered rate per coach mile. This practice began with the NBC group, which used regional bus companies to provide convenient operating bases for coaches. But the practice now extends to a range of operators including traditional 'independents' and operators who formerly ran separately-marketed express services in competition with National Express but find it more beneficial to operate on contract to a nationally-marketed network. All revenue accrues to National Express; the contracts are on a GC basis.

There is little commercial contracting of operations within local bus networks, although the Southern Vectis company (based on the Isle of Wight, its subsidiary 'Solent Blue Line' is in the Southampton area) "franchises" some services to local independents (Morris, 1993). There may be benefits in adopting this elsewhere to enable more comprehensive marketing of services than in the typical case where commercial and tendered services are provided through entirely separate operations.


Elsewhere in Europe, there is little sign of the deregulation policies found in Britain or New Zealand being adopted. But in some areas, sub-contracting to locally-based independents has a long history, and contracting of urban services on the London model is also found. The major recent example is Copenhagen (also mentioned in Wendell Cox's plenary lecture at the Tampere conference). Experience

Figure 3: Example of a Tendered Service

SCUNTHORPE - FLIXBOROUGH - BURTON - WHITTON Hornsby Travel Services 60																
Mondays to Fridays										Saturdays						
Code	am	am	A am	A pm	B pm	C pm	pm	E pm	pm	Code	am	am	B pm	pm	pm	pm
St Bedes School	...	...	...	...	...	...	...	3.50	...	Scunthorpe Bus Station	7.15	8.35	12.00	2.30	4.05	6.45
Scunthorpe Bus Station	7.15	9.00	10.00	11.00	12.00	2.05	3.00	4.05	5.45	Grosvenor Hotel	7.22	8.42	...	...	...	...
Grosvenor Hotel	7.20	9.05	10.05	...	...	...	3.05	...	...	Normanby Park Workshop	7.25	8.45	...	...	...	...
Normanby Park Workshops	7.25	9.10	10.10	...	...	...	3.10	...	...	Berkeley	...	...	12.06	2.36	4.10	5.51
Berkeley	...	...	...	11.06	12.06	2.11	...	4.10	5.51	Ferry Road West	...	...	12.09	2.39	4.13	5.54
Ferry Road West	...	...	...	11.09	12.09	2.14	...	4.13	5.54	Neap House	...	...	12.12	2.42	4.15	5.57
Neap House	...	...	...	11.12	12.12	2.17	...	4.15	5.57	Flixborough Works	...	...	12.14	2.44	4.17	5.59
Flixborough Works	...	...	...	11.14	12.14	2.19	...	4.17	5.59	Flixborough Inn	...	...	12.17	2.47	4.20	6.02
Flixborough Inn	...	...	...	11.17	12.17	2.22	...	4.20	6.02	Normanby Park Gate Cnr.	7.30	8.50	12.20	2.50	4.23	6.05
Normanby Park Gate Corner	7.30	9.15	10.15	11.20	12.20	2.25	3.15	4.23	6.05	Burton Post Office	...	...	12.23	2.53	4.26	6.08
Burton Post Office	...	...	...	10.24	11.32	12.23	3.18	4.26	6.08	Burton Stather	...	...	12.26	...	...	...
Burton Stather	...	...	...	...	12.26	2.31	...	...	...	Burton Tee Lane	...	...	12.30	2.55	4.28	6.10
Burton Tee Lane Corner	...	...	10.22	11.30	12.30	2.35	3.20	4.28	6.10	Theaby	7.34	8.54	12.32	2.58	4.30	6.12
Theaby	7.34	9.20	10.18	11.27	12.32	2.37	3.22	4.30	6.12	Coleby	7.38	8.58	12.35	...	4.32	6.14
Coleby	7.38	...	...	...	12.35	...	3.24	4.32	6.14	West Halton	...	...	12.40	...	4.35	6.20
West Halton Short Lane	...	...	...	...	12.40	...	3.26	4.35	6.20	Alkborough	...	...	12.52	...	4.42	6.25
Alkborough	...	...	...	...	12.52	...	3.30	4.42	6.25	Whitton	7.45	9.02	12.45	...	4.47	6.30
Whitton	7.45	...	...	...	12.45	...	...	...	6.30							

Codes:
A: Bus travels via Theaby
B: Bus travels via Whitton
C: On Fridays only bus serves Burton Stather
E: The bus operates to and from St Bedes School on School Days Only

✓ This service is provided with financial support from Humberside County Council

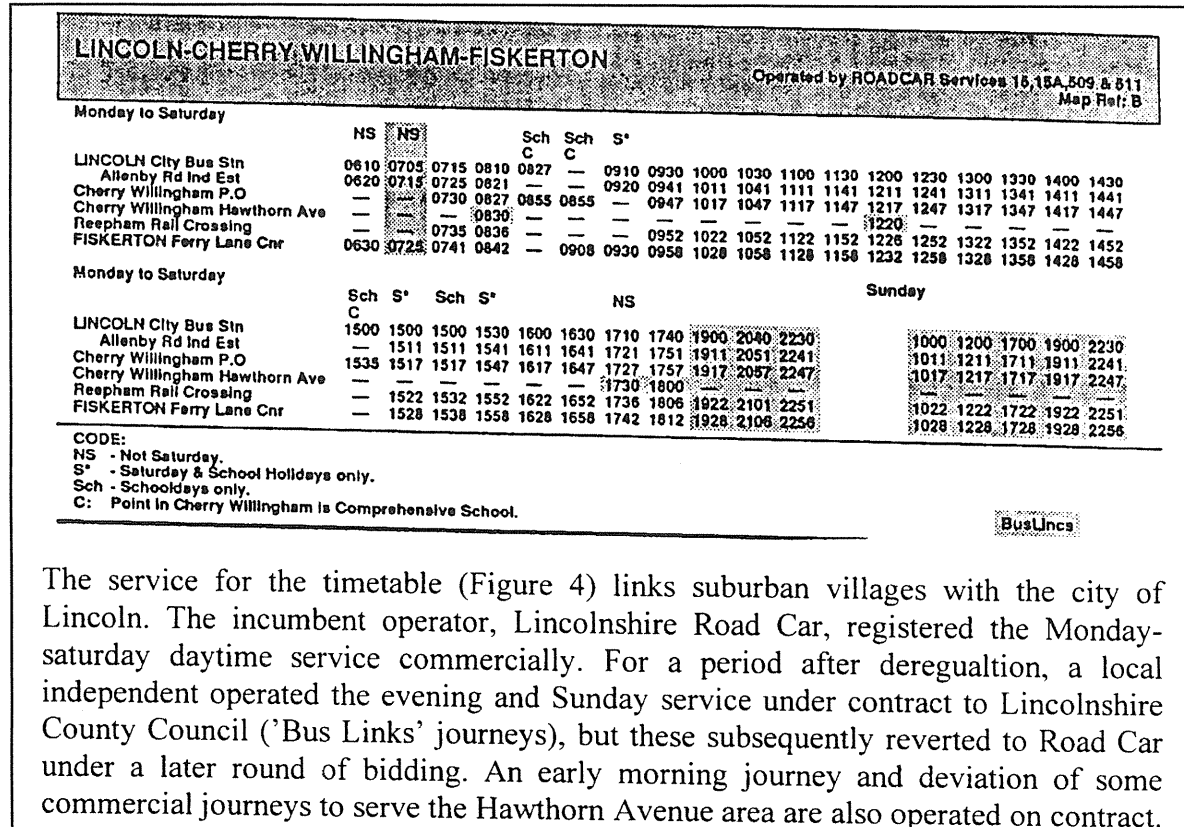


The timetable extract is for service 60, operated within South Humberside from villages north of Scunthorpe (the main town in the area). Prior to deregulation, it was operated by the incumbent regional company (NBC Subsidiary Lincolnshire Road Car) but was not registered commercially by Road Car. The contract is held by a long-established local independent, Hornsby's, covering provision of service throughout the week. A regular journey is extended on schooldays in place of running a separate school service. The contract also specifies use of vehicle to DPTAC (Disabled Persons Transport Advisory Committee) standards: local authorities do not have such powers in respect of commercial services.

in this city and initial efforts in Oslo and in Sweden are documented by Kjolstad (1993). Within Copenhagen, the principal public transport operator, HT, has successively contracted more of its operations (a further 325 buses — about 35 percent of its operations — being advertised in April 1993). In this case, contracting has also been used as a form of privatization, since HT itself has not been permitted to bid for services (akin to British government proposals for British Rail privatization prior to the House of Lords' amendment in July 1993). HT has even advertised in the British transport press, although no British operators have yet obtained contracts despite their extensive experience under deregulation in Britain.

In some regional networks, the practice of contracting with many smaller local operators (running in the colors of the regional or nationwide company) is long-established. Many services of SNCV in Belgium (bow split into separate Flemish and Walloon companies) have operated in this form. In Germany, the former Bundesbahn and Bundespost regional bus operations have been merged under Bahnbus Holding GmbH: of its fleet of 10,000, some 7,000 are contracted. Under EC regulations designed to encourage competitive tendering of goods and services, competitive bidding is likely to develop in such networks, especially through international bids.

Figure 4: Example of Mixed Commercial and Tendered Operation



The experience of competitive bidding is also relevant to the rail industry. In Britain, the government has proposed franchises in which groups of services would be taken over by private companies, who would operate to an agreed service pattern and with some constraints on pricing (notably in acceptance of railcards and through-booking facilities). The extent of genuine interest from the private sector now seems limited, in part, due to the high risk element involved (Tomkins, 1993). It may be relevant to consider the experience in Sweden. Here, a separate track authority was set up with a published scale of charges for train operators. Low-density services have been put out to competitive bidding on a gross cost basis; several services are now operated by the company 'BK Tag'. Fares are set by regional authorities, which support the services, and are integrated with bus fare scales. The competitive pressure has also stimulated lower costs for services that continue to be operated directly by SJ, the state-owned rail operator (Spaven 1993).

Were a more modest starting point to have been set for rail privatization in Britain, the PTE-funded services would have been appropriate. Here, the level of service and fares is specified by the PTE, which pays BR the net subsidy required under section 20 of the 1968 Transport Act. The PTEs have also gained extensive experience of competitive tendering through securing provision of bus services as described in this paper but in rail services have, to date, remained a monopoly supplier. The PTE services would lend themselves to a gross cost type of contract (none being profitable in the sense of covering total costs, and fares being determined by the PTE). New bidders might then enable lower cost and/or higher service quality to be obtained. A welcome move in this direction has been the abolition of the requirement for PTEs to reach agreements only through the proposed Franchising Director and, instead, to be able to make contracts directly with the rail operators.

Finally, one may return to the case of London. Here, a shift toward net cost tendering has occurred,

through the negotiated contracts reached for those services still run directly by LBL subsidiaries, which have not passed through the tendering process on a route-by-route basis. However, where a high proportion of revenue is collected off-bus, this creates significant problems in the need for more complex revenue apportionment procedures than was previously necessary. For the future, uncertainty is created by the government's proposals to deregulate in London (the benefits of which appear somewhat questionable). Strong doubts have been raised by the House of Commons Select Committee on Transport, which has suggested an inquiry into net cost tendering, franchising and deregulation as potential alternatives (Transport Committee, 1993).

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End Notes

1. Derived from Table 1.2 in *Bus and Coach Statistics Great Britain 1991/2* (HMSO, London, November 1992).
2. The typical figure of £3 million for a local authority tendered services' budget was derived from authority responses in the research.
3. For the purposes of this paper, 'small' operators were considered to own 1-9 vehicles, 'medium' 10-49, and 'large' 50 or more.

