Alternative Tendering Systems  
and Deregulation in Britain

By Peter White and Stephen Tough*

1. Introduction
This paper concentrates on one specific aspect of bus deregulation in Britain: the use of competitive tendering systems. Under the framework for deregulation specified in the Transport Act of 1985, operators register those services which they are willing to run commercially (that is, 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. It is therefore 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 catering largely for school travel. 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 per cent of total bus-kms in local services, a proportion which has varied very

* Professor Peter White is at the Transport Studies Group, University of Westminster. Stephen Tough is at the Planning Department of Nottinghamshire County Council. The work described in this paper was initially undertaken by Stephen Tough as a member of the MSc Transport Planning and Management course, under Peter White’s supervision, at the University of Westminster (then the Polytechnic of Central London) in 1991. A paper he presented at the January 1992 Universities’ Transport Study Group conference at Newcastle-upon-Tyne won the Smed prize for the best student paper. A revised version, by both authors, was presented at the Third International Conference on Competition and Ownership in Surface Passenger Transport, Mississauga, Toronto, in September 1993. The assistance of county councils and bus operators who provided data for the study is gratefully acknowledged.
little since. In absolute terms, total local bus-kms (excluding London) rose from 2,065 million in 1987/8 to 2,237 million in 1993/4, a rise of 172 million, of which 159 million (92 per cent) was represented by additional commercial operation, and the balance of 13 million (8 per cent) by tendered services. In many areas, one may find both types of service growing, but for different reasons. Poorly loaded evening and Sunday services by incumbent operators may be “deregistered”, that is, no longer run commercially, either in response to falling loads, or because of a reduced ability to cross-subsidise them from Monday to Saturday daytime traffic. This period is that in which most new commercial competition has developed.

One element which accounts for the high proportion of commercial mileage is the fact that concessionary fare compensation payments and rebate of most fuel duty apply equally to all services, enabling routes with relatively low direct fares income to be commercially viable. The deregulation in New Zealand, effected in 1991, has produced almost exactly the opposite proportions of commercial and tendered kilometres to those in Britain (with approximately 80 per cent running as tendered services), in part due to differences in this factor, and also because of 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 Passenger Transport Executive (PTE). In practice, the great majority of tendered services are provided through the counties, which also have responsibility for public transport coordination, strategic planning and school transport. The element provided through district councils is relatively small, and is generally found in those towns which traditionally operated their own bus services, and aim for a high level of service provision. The maximum duration of a contract is five years.

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 above specified distances. 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, the hiring of buses and coaches from existing operators to provide a separate free service.

In most areas, buses and coaches were under contract for these services directly to the education departments, a function wholly separate from provision of scheduled public passenger transport. This represents an early example of contracting-in 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 public services, and also new commercial operations, when deregulation of public transport services was introduced in 1986.

In addition to the above “statutory” provision of school transport through education authorities, “non-statutory” school travel on scheduled public transport services has become increasingly important, especially where many children travel distances less than those for which statutory provision is required. This is often undertaken on existing public transport services, or by using duplicate vehicles and/or special direct routes operated on a 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, school travel is often seen as a legitimate need for public bus services — along with evening, Sunday services, and so on — especially where road traffic conditions make walking or cycling 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 which are extended to/from schools in term time, plus other journeys for shopping, leisure, and so on, at other times of day. The process of considering service needs together was also encouraged under section 88 of the 1985 Act.
2. The Current Role of Tendered Services in London

In London, a different policy has been followed, in which deregulation was not introduced, and the distinction between commercial and tendered services does not apply. London Regional Transport plans the entire service network. Traditionally, this was operated almost entirely by its own subsidiary, London Buses Ltd (LBL). However, beginning in 1986, competitive tendering was introduced. By April 1994, about 50 per cent of the network had been tendered out, operated both by LBL and other operators. The other half was operated directly by LBL companies, but on a negotiated contract basis.

The separately-tendered services are operated on a gross cost basis, that is, all revenue accrues to the tendering authority, London Transport (LT), and the operator is paid for total costs incurred (including capital charges on vehicles, and so on). 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 per cent 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, did function on a net subsidy basis. In the absence of a sufficiently precise system for revenue apportionment, this has produced serious problems both for LT and the operating companies (Chartered Institute of Transport, 1994).

In November 1993 the government announced that all future contracts (whether with former LBL companies, or other operators) would be on a net cost basis. Privatisation of LBL companies was completed in December 1994, but in view of the difficulties encountered in net cost tendering, further route-by-route tendering has been resumed on a gross cost basis for the period to 1997.

3. Major Types of Service Contract, and Their Effects

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

1. **‘Minimum subsidy’** (MS): also known as ‘net subsidy’. The operator makes a bid based on the difference between total operating costs and estimated revenue.\(^1\)

2. **‘Gross cost’** (GC): as in London, total cost of the service is charged by the operator, with revenue accruing to the tendering authority.

The notion of a net subsidy might be considered rather unusual. In most contracting-out and bidding processes the total cost is the basis for payment (for example, in construction, and contracted-out refuse services, and so on). 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-subsidising the route as a “commercial” service,

\(^1\) 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.
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.

In order to compare the alternative tendering methods, four local authorities in Britain were visited in 1991 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.
Table 1
Cost per Mile by Tender Method and Type of Service
(at 1991 prices)

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Method Mean</th>
<th>Authority Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eve/Sun £</td>
<td>School £</td>
<td>Peak £</td>
</tr>
<tr>
<td>Oxfordshire (MS)</td>
<td>1.16</td>
<td>1.50</td>
</tr>
<tr>
<td>Essex (GC)</td>
<td>0.81</td>
<td>2.08</td>
</tr>
<tr>
<td>Wiltshire (GC)</td>
<td>0.37</td>
<td>2.12</td>
</tr>
<tr>
<td>(MS)</td>
<td>0.38</td>
<td>N/A</td>
</tr>
<tr>
<td>Ave*</td>
<td>0.38</td>
<td>2.37</td>
</tr>
<tr>
<td>Sussex (GC)</td>
<td>0.56</td>
<td>2.57</td>
</tr>
<tr>
<td>(MS)</td>
<td>0.89</td>
<td>5.71</td>
</tr>
<tr>
<td>Ave*</td>
<td>0.63</td>
<td>3.05</td>
</tr>
</tbody>
</table>

* Weighted average for all contracts within the authority shown above.
** Absolute number of contracts studied in each authority.

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 analysed, 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: (i) Peak operations; (ii) Home to school transport; (iii) Evening/Sundays; (iv) All-day services; and (v) Occasional services — for example, twice-weekly shopping services, diversions and extensions of commercial routes.

4. Results
Table 1 indicates the cost per mile by tender method and service type for each authority. All revenue (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-tailed 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 because of the need to commit a resource in the peak period 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 (Tripp, 1992). The PTE incurred a cost (after taking revenue into account) of £3.62 per mile for such services in 1991/92, compared with an average of £0.74 per mile for all tendered services at October 1991 levels. School services represented 32 per cent of all tendered service costs, compared with only 6.5 per cent of all tendered service mileage.

No distinct pattern emerged for “other” journey contracts, although this is explained by 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 per cent 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 on MS on a cost per mile basis of 27 per cent and 7 per cent respectively. In considering the effect of these GC advantages on a typical local authority budget of around £3 million, a GC contractor such as Essex County Council could operate 600,000 more contracted miles on the same budget as an authority using MS methods.

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, staff to process revenue returns, and 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.

5. The Reasons for the Differences Between MS and GC Tendering

Having established the significance of the cost per mile differential between GC and MS tendering it is now appropriate to examine the influences which cause this result. These will be examined under the following headings:

1. Auction Theory
2. Operator bidding policies
3. Quality of information and risk
4. Other Factors
5.1 Auction Theory
Auction theory suggests that the expected lowest price decreases as the number of bids increases (Waterson, 1988). In taking successively larger numbers of bids, 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 predict future revenues accurately, 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 wider area and so survive a loss-making contract. 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, including 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 tendering population (that is, the number of operators) was the same for each tender method, the same number of bids was analysed to see if GC contracts encouraged more bids. The results are given in Table 2.

The results suggest a significant preference for GC bidding by operators, as all the authorities in Table 2 received a higher number of GC bids on average. The differences were found to be statistically significant using the two-tailed $t$-test. Of the two single tendering authorities in the case study, Oxfordshire (MS) and Essex (GC), the latter received an average of 1.93 bids more per contract, a result consistent with Table 2. 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, with 25 more small operators on the Essex list.²

However, 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 certainly at least partly due to the very nature of the tendering systems themselves, 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.

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 3.

The position of Oxfordshire was atypical: in each service category there was an increase in the cost per mile as the number of bids increased. In the other three authorities, who all used the GC tender method, the cost per mile reduced as the number of bids increased. For the purposes of this paper, "small" operators were considered to own 1-9 vehicles, "medium" 10-49, and "large" 50 or more.

²
### Table 2

**Average Number of Bids per Contract by Authority**

<table>
<thead>
<tr>
<th>Authority</th>
<th>Total Contracts Analysed</th>
<th>Bids per Contract</th>
<th>Difference between Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MS</td>
<td>GC</td>
</tr>
<tr>
<td>Wiltshire</td>
<td>113</td>
<td>4.10</td>
<td>4.61</td>
</tr>
<tr>
<td>East Sussex</td>
<td>212</td>
<td>3.29</td>
<td>3.75</td>
</tr>
<tr>
<td>Cheshire</td>
<td>53</td>
<td>3.84</td>
<td>4.22</td>
</tr>
<tr>
<td>Norfolk</td>
<td>31</td>
<td>1.03</td>
<td>3.23</td>
</tr>
<tr>
<td>Shropshire</td>
<td>37</td>
<td>4.40</td>
<td>4.60</td>
</tr>
<tr>
<td>Gloucestershire</td>
<td>37</td>
<td>3.10</td>
<td>4.40</td>
</tr>
<tr>
<td>Lancashire</td>
<td>300</td>
<td>3.05</td>
<td>3.66</td>
</tr>
</tbody>
</table>

### Table 3

**Cost per Mile by Service Type, and Method by Authority**

<table>
<thead>
<tr>
<th>Authority</th>
<th>Method</th>
<th>Number of Bids</th>
<th>Eve/Sun</th>
<th>School &amp; Peak</th>
<th>Inter Peak</th>
<th>Occasional</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>£</td>
<td>£</td>
<td>£</td>
<td>£</td>
<td>£</td>
</tr>
<tr>
<td>Oxfordshire</td>
<td>MS</td>
<td>1-3</td>
<td>0.65</td>
<td>1.24</td>
<td>0.43</td>
<td>0.85</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4+</td>
<td>3.64</td>
<td>1.51</td>
<td>0.79</td>
<td>1.08</td>
<td>1.25</td>
</tr>
<tr>
<td>Wiltshire</td>
<td>GC/MS</td>
<td>1-3</td>
<td>0.61</td>
<td>2.12</td>
<td>0.90</td>
<td>0.90</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4+</td>
<td>0.29</td>
<td>0.94</td>
<td>0.66</td>
<td>0.45</td>
<td>0.45</td>
</tr>
<tr>
<td>East Sussex</td>
<td>GC/MS</td>
<td>1-3</td>
<td>0.62</td>
<td>3.79</td>
<td>0.62</td>
<td>0.94</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4+</td>
<td>0.72</td>
<td>2.45</td>
<td>0.49</td>
<td>0.61</td>
<td>0.58</td>
</tr>
<tr>
<td>Essex</td>
<td>GC</td>
<td>1-3</td>
<td>0.78</td>
<td>2.48</td>
<td>0.65</td>
<td>0.99</td>
<td>0.83</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-6</td>
<td>0.83</td>
<td>1.26</td>
<td>0.33</td>
<td>0.96</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7+</td>
<td>0.95</td>
<td>1.11</td>
<td>0.58</td>
<td>0.61</td>
<td>0.70</td>
</tr>
</tbody>
</table>

### Table 4

**Average Number of Large Companies Bidding, by Bids Received, for Two Authorities**

<table>
<thead>
<tr>
<th>Number of Bids</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essex</td>
<td>N/A</td>
<td>1.3</td>
<td>1.6</td>
<td>1.6</td>
<td>1.7</td>
<td>1.5</td>
</tr>
<tr>
<td>Oxfordshire</td>
<td>0.9</td>
<td>1.67</td>
<td>1.75</td>
<td>1.81</td>
<td>1.5</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>GC</td>
<td>Medium</td>
<td>Small</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxfordshire</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Essex</td>
<td>45</td>
<td>29</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wiltshire</td>
<td>25</td>
<td>37</td>
<td>37</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Sussex</td>
<td>68</td>
<td>18</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MS</td>
<td>71</td>
<td>28</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>71</td>
<td>57</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>97</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

increased, although in Essex there was a lower cost per mile for 4 to 6 bids than 7 and over. In each service category, the cost per mile of the bids reduced as the number of bids increased, with the exception of evenings and Sundays in both East Sussex and Essex. Overall, it appears that under GC or dual-tendering procedures the cost, as expected, normally reduces as the number of bids increases.

The size of operators is significant in the explanation of why this logical conclusion does not stretch to MS contracts. A typical set of bidders for a contract 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 automatically for all contracts irrespective of the 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 4, 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 3, 5 or 6 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 because they have 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 5 shows 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-sized

---

3 This may be due to large operators not believing that smaller operators were serious competitors for contracts at these times.
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, in submitting tenders, they are far more likely to be successful than on MS. Consequently, as the number of bids increases, and, as stated earlier, 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 and so the extra bids may well have resulted in a lower price.

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, however, additional bids from smaller companies are rarely competitive and are therefore unsuccessful.

5.2 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 to and exit 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 behaviour will be affected by this threat. The temptation to take advantage of a monopolistic situation in their tendering will be curbed.

Given the statutory obligation for authorities (except London) to publish details of the number of bids received for contracts, operators have a good idea of the competition they face in securing contracted services. It will clearly be in the authorities’ interest to encourage more bids in order to avoid successful operators becoming complacent and expensive.

The type of costing used in tendering varied greatly. Some operators used full costing (that is, calculated the specific costs for the service), and others an average based on similar existing services. Most operators were willing to bid for some services on a marginal cost basis: typically the running cost (for example, tyres, fuel) on a standard cost per mile basis, plus basic labour costs and overtime costs, but not including overheads or other costs that would still accrue without that particular contract. Marginal costing provided a lower price for the authority.

The element most affected by the threat of competition is the final profit margin which the operator allows. In discussion, all operators confirmed that margins were reduced as a direct result of competition. In addition, two were willing to go below marginal cost (that is, make a loss) in order to secure a service and stop other operators entering the market (for example, to protect a network). Four operators changed their policy of costing from full cost or average cost (that is, including costs that would still have occurred without the contract) to marginal costing as a result of competition, and one operator 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 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 both within and between tendering authorities, perceived competition is also of some 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 GC, the larger operator’s view of the threat of small companies suggested a greater difference was perceived, and it was on this perception that operators based their profit margin reduction due to competition. Most MS competition was dismissed whereas most GC competition was considered to be a genuine threat. So the costings undoubtedly reflect an even 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.

5.3 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 which are consistent with those of the 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 either have to overcompensate for revenue in their tenders or simply not bid at all. One small operator in Oxfordshire stated he would bid only very 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 offered information to the tenderers as a guide. East Sussex and Kent, for example, offered “high” and “low” revenue estimates, and Oxfordshire gave patronage information. However, all operators had reservations on the value of this information.

Given this problem of revenue information, to what degree do operators acknowledge overcompensation in tender bids for MS contracts? In interviews, examples were found
of operators' approach to this uncertainty. One small operator in Essex, and another in Oxfordshire, assumed that no revenue would be received (in effect, treating the case as a gross cost bid). Hence, the cost to the authority would be the same as for a gross cost bid (but without offsetting revenue). A large operator in Kent halved the local authority's estimates of revenue. A large operator in East and West Sussex adopted a 15 to 20 per cent safety margin on the estimate finally produced for each bid. A large operator in Hertfordshire added a safety margin, dependent on the degree of knowledge of the specific route(s) concerned, and the percentage of revenue to cost (that is, applying a higher safety margin to reflect risk).

All these approaches resulted in a considerably higher cost to the authority than the simple total cost minus revenue difference as shown in Figure 2.

Whilst it is impossible to quantify them, 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 risk minimisation as one of the six crucial areas which distinguished successful bus companies from the rest.

Arguably, the incumbent or the operator with good information will win the tender and so the extra costs in these tender bids will not actually 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 higher profit margin in his tender price, thereby increasing the cost to the authority.

5.4 Other factors
Having established that there are three explanations for the GC/MS cost differences, it is necessary to consider whether there are any other underlying explanations for the difference.

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, in order to assess whether any operator or operators exerted an undue influence on the overall cost per mile in an authority. It was found that four operators had a share of the market in excess of 20 per cent, 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 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 an explanation of the cost differences between authorities.

When comparing costs from different areas the impact of spatial variation (such as labour, fuel, cost of vehicles) must be addressed. The largest and likeliest element to vary spatially was labour 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 in our sample.

Given the very strong financial case that has been made to operate a policy of GC tendering, it was necessary to consider briefly any apparent disbenefits with this system. Risk avoidance by operators has already 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 study areas, were questioned on their attitude to the risk. Of these authorities, only Gloucestershire indicated any concern at the risk taken on GC contracts. No authority had ever unintentionally overspent its budget, 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 the fares, or would cut services (this had not yet been necessary). 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.

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 the service in order to maximise 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 prospect when undertaking local authority work. Larger companies usually have their own set of inspectors who also tend to cover subsidised 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 to the 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 who are 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 staff who monitor contracted services, many authorities (for example, Suffolk, Hertfordshire, West Sussex) operate a system of 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 which encourages reliable performance irrespective of tender method, a fact acknowledged by operators, three of whom voluntarily stated that they felt that imposing penalties was the best way to encourage a premium service on GC contracts, provided the system was fair.

The quality of both 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 to the quality of vehicle offered by larger operators, because a vehicle would be found from
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. Out of a sample of 52 contracts awarded to small operators, 19 were of two years or less. It is on such short-term 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.

6. Conclusions

While intuitively attractive, through the apparent incentives given to operators to maximise ridership and revenue, minimum subsidy (MS) tendering is in practice often less cost-effective than gross cost (GC) tendering, in which revenues accrue to the tendering authority. The explanation lies mainly in the risk faced by operators making bids, resulting in smaller operators being less willing to bid, and a general tendency for operators to compensate for revenue risk by increasing the cost of bids made. Hence, a tendering authority may secure better value by taking the revenue risk itself, and obtaining the benefits of lower-cost GC bids from a wider range of operators. In complex networks with a high proportion of off-bus ticketing (such as in London) the complexity of revenue allocation adds a further argument in favour of the gross cost approach.

References


Date of receipt of final manuscript: January 1995