Building Maintenance Direct Labour Organisations A Management Handbook
Building Maintenance Direct Labour Organisations

A Management Handbook

LONDON: Her Majesty's Stationery Office
# Table of Contents

## SUMMARY

1

## INTRODUCTION

3

— The legislative framework  3
— Changes in prospect  4
— Turnover, pricing and market share  5

## 1. THE RATIONALE FOR BUILDING DLOs

11

## 2. ANALYSING DLO PERFORMANCE

15

— Materials  17
— Profit  19
— Productivity  19
— Effectiveness  23

## 3. IMPROVING DLO PERFORMANCE

25

— Upgrade materials management  25
— Control overhead costs  26
— Increase working time  31
— Improve the rate of work  36
— Management information  40
— Improve effectiveness  43

## 4. THE BUSINESS PLAN

49

## APPENDICES

1 - The work model  55
2 - The cost model  60
3 - Incentive bonus schemes for building maintenance DLOs  63
4 - The DLO market place  70
Summary

The building maintenance Direct Labour Organisations (DLOs) of local authorities have a total turnover of £1 billion. They have very largely been successful in meeting the competitive requirements of the Local Government, Planning and Land Act 1980. Indeed since 1980 their aggregate turnover has risen in real terms, though their share of local authority work has fallen. But DLOs face an uncertain future as their clients are affected by the Housing and Education Acts. And there is strong evidence that many DLOs’ costs are far higher than they need to be. Service quality is also uneven.

In this report the Commission aims to advise DLO managers on how to improve their effectiveness and efficiency. The work complements two earlier reports on the client side of housing maintenance and property management.

The performance of a DLO must be seen within the context of the council’s own objectives. Some see their DLOs primarily as a brake on private sector prices; others emphasise such objectives as training, equality of opportunity and direct employment as ends in themselves. But whatever the objectives efficient and effective operation is still essential.

The Commission’s earlier studies have shown that, for the work undertaken by DLOs in the provinces, the prices charged for similar jobs vary by ± 20 per cent even for the middle 50 per cent of authorities. This report diagnoses the causes of that variation. Productivity is shown to be the most significant item. Comparable measurements show that relative productivity varies by about ± 20 per cent.

Productivity is significantly lower in London and the South East than elsewhere. Even with the addition of London weighting national wage scales have not been sufficient to attract tradespeople; many DLOs have responded by slackening incentive targets so as to increase earnings. This has had the side effect of depressing real performance.

There is also evidence that many DLOs pay insufficient attention to service quality. Some are seeking to improve their performance by introducing reply cards which enable the tenant to report on the quality of the repair and through training programmes which emphasise service standards and customer care. But more could be done.

The report focuses on six areas of potential improvement.

Better materials management. Overhead costs, and in particular the costs of storekeepers, should be controlled. In larger stores, storekeepers should issue about £150,000 of goods per annum (less in smaller stores). Travel and waiting time should be identified to allow calculation of the cost at site. In many areas imprest stocks should be used for jobbing maintenance.

Controlling overhead costs. Supervisory costs vary greatly. Much of this variation is caused by external factors but DLOs should seek to limit the paperwork generated by poor bonus schemes
and place more emphasis on work planning and control. DLO management, together with central establishment charges, account for about 12 per cent of total operating costs. Some DLOs waste money in administering over-complex bonus schemes which are not linked to the schedule of rates. Many do not have clear agreements over the level of service and the charge for work undertaken by their parent department and by central departments. Many DLOs are also paying more than the Commission's benchmark for transport.

Increasing the working time. Management should monitor sickness time closely. More than 10 days per operative per annum suggests problems. Time on productive work can also be increased by improved materials delivery, use of imprest stocks, flexible working, reducing abortive calls and reducing the ratio of labourers to tradespeople.

Improving the rate of work. Bad incentive schemes are the most important cause of poor performance. Many are too detailed. Allowances for travel, abortive calls etc. should be consolidated into the basic job times, the number of jobs should be simplified and the times updated in response to changes in working methods. But incentives must be preserved and bonus should not be consolidated with basic wages.

Increasing effectiveness. Effectiveness can be improved by operative training which emphasises the implications of working in someone's home, by keeping tenants informed of the progress of their repair order and by keeping the quality of the work up to standard through post inspection.

Management information. Management information should allow the performance and profitability of one unit of a DLO to be compared with another. This information is also a prerequisite to a sensible tendering strategy.

The changes outlined above will affect each DLO differently, depending on its current performance levels. Overall, however, achievement of the Commission's benchmarks would allow prices charged to local authorities to fall by between 15 and 20 per cent - saving £150-200 million a year, or allowing 20 per cent more repair and maintenance work to be done for the same cost.

DLOs should prepare a business plan which sets out ways in which they intend to improve performance. The nature of the plan rests on the council's own objectives. Some wish to maximise full-time employment and therefore aim for as high a turnover as possible. Others aim for a mixed economy with the DLO restraining private sector prices. Yet others have DLOs which may only undertake emergency work that the private sector cannot provide. The council's choice must be made clear to DLO managers before the business plan is set.
Introduction

1. Two recent reports by the Commission, one on housing maintenance* and the other on property management†, examined building maintenance from the 'client' perspective. Both reports concluded that local authorities face a considerable and growing backlog of maintenance. One way of at least partially addressing this problem is to achieve better value from existing maintenance expenditure.

2. Local authorities commission £1 billion of general building maintenance from themselves as contractors. This report focuses on the contractor side of the equation and aims to advise the management of these Direct Labour Organisations (DLOs) on ways of improving the value for money they deliver. The recommendations should also be of interest to members of committees supervising DLOs.

THE LEGISLATIVE FRAMEWORK

3. The Local Government, Planning and Land Act 1980 (as amended by subsequent regulations) defined four groups of work and required local authorities to keep separate DLO revenue accounts for each:

(a) general highway works and works in connection with the construction or maintenance of a sewer;

(b) new construction, other than general highway or sewer works, the cost of which in the estimation of the authority or development body will exceed £50,000;

(c) new construction, other than general highway or sewer works, the cost of which in the estimation of the authority or development body will not exceed £50,000; and

(d) maintenance within the meaning of the Local Authorities (Goods and Services) Act 1970, other than in connection with highways or the maintenance of a sewer.

Each DLO is required to make a five per cent rate of return on capital employed calculated on a current cost accounting basis.

4. This study is confined to (d) above (termed Division IVs in CIPFA statistics). Only 65 local authorities now have DLOs which undertake works of new construction. Their turnover is relatively small and declining (Table 1).

---

* Improving council house maintenance, HMSO, 1986
† Local authority property: a management handbook, HMSO, 1988
5. The Act and subsequent regulations prescribed that all maintenance works contracts above £10,000 must be put out to tender and could only be awarded to the DLO if the contract was won in open competition. Of the balance, emergency work was exempted from competition, as was 40 per cent of works contracts below £10,000. DLOs are able to undertake work not only for their own authority but also for other local authorities and public bodies as defined in the Local Authorities (Goods and Services) Act 1970.

### Table 1

**DLO TURNOVER**

<table>
<thead>
<tr>
<th></th>
<th>£m</th>
<th>Major works of new construction</th>
<th>Minor works of new construction</th>
<th>General maintenance</th>
<th>Col.1+2%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>1981-82</td>
<td></td>
<td>106</td>
<td>25</td>
<td>677</td>
<td>19%</td>
</tr>
<tr>
<td>1987-88</td>
<td></td>
<td>94</td>
<td>34</td>
<td>1,024</td>
<td>13%</td>
</tr>
<tr>
<td>(1987-88 at 1981-82 prices)</td>
<td></td>
<td>68</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Real terms change on 1981-82</td>
<td></td>
<td>-30%</td>
<td>+9%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: CIPFA statistics*

6. Following consultation in July 1988 the DOE intends to change the regulations governing building maintenance DLOs with effect from 1 October 1989. The changes will:

(a) reduce the size of DLOs which are exempt from the competition requirements (the *de minimis* rule) from 30 to 15 employees;

(b) remove the 40 per cent competition free allowance for non-emergency work, i.e. no non-emergency work can be awarded 'as of right';

(c) prohibit authorities from renewing maintenance contracts with their DLOs without first going out to tender.

7. The DOE is also examining the scope for restricting the kinds of emergency work which can be carried out by DLOs without open competition. The consultation paper spoke of narrowing the definition of emergencies to include in the requirements for competition frequently recurring jobs such as mending burst pipes and broken windows. In the DOE's view, work of this sort could easily be included in ordinary schedules of rates, with appropriate stipulations regarding response times etc.

8. Further changes affecting DLOs were made in the Local Government Act 1988 which requires authorities to seek tenders from at least three persons who are not local authorities or development bodies and prevented them from excluding contractors from the tender list for non-commercial reasons. The Act also requires the auditor to submit a written opinion on the DLO's rate of return statement both to the local authority and to the Secretary of State.
9. Although the direct effect of the Act on building DLOs is relatively minor, other legislation introduced in 1988 will have a major impact. Even in metropolitan districts and outer London boroughs 70 - 80 per cent of a DLO's income comes from housing. The Housing Act 1988 allows tenants to choose a landlord other than the local authority and some authorities are considering the wholesale transfer of their stock to a housing association. The second largest customer is also affected because the Education Reform Act 1988 allows schools to opt out of local authority control. It is not possible to forecast either the pace or scale of such changes but they are likely over time to reduce the amount of maintenance work undertaken by local authorities and hence the size of DLO contracts. The Education Reform Act also requires Local Education Authorities (LEAs) to introduce a system of financial delegation to schools. This will place control of day-to-day maintenance in the hands of schools rather than LEAs. This too will affect DLO contracts.

10. The DOE and Welsh Office issued a consultation paper on a new financial regime for local authority housing in July 1988. A new Housing Revenue Account (HRA) subsidy is proposed for 1 April 1990 which will replace the present housing subsidy, rate fund contributions and the rent rebate element of housing benefit subsidy. The initial entitlement to the new subsidy will be based on the current levels of these three items. In future years it will be set at a level 'to make good the deficit that would arise if the housing were managed with reasonable efficiency'. This will place pressure on maintenance budgets especially where local authorities wish to limit rent rises, or where other costs or income are out of line. Furthermore, if in the longer term the new system increases rents, tenants will be looking for a better service in response to their higher outgoings.

**TURNOVER, PRICING AND MARKET SHARE**

11. DLOs are market leaders in building maintenance because of their size and approach to jobbing repairs. Many DLOs are substantial businesses - 27 (9 per cent) have an annual turnover of £10 million* and another 217 (70 per cent) have a turnover greater than £1 million, i.e. about 40 operatives (Exhibit 1). There are very few private sector firms of this size in the jobbing maintenance industry. In general building maintenance in the private sector is a cottage industry of small firms and the self-employed, who work for a given price for each task.

12. The pricing regime in local government is also unusual in the building industry context. Local authorities, especially housing authorities, have prepared 'schedules of rates' which specify the content of a wide range of jobbing repair work. The DLO and other contractors then tender a price against each item or quote a percentage on/off pre-priced schedules; jobbing work is then paid for on the basis of the value of work done rather than on the time taken. Such an approach is virtually unknown in the housing association and owner occupied housing sectors. Private firms typically base charges for jobbing maintenance on day works or individual estimates not related to any consistent yardstick. This difference of approach makes it hard to compare value for money. Auditors continually find cases where contractors have a cheaper day works rate than the DLO but when the value of their work is calculated from a schedule of rates their prices can be as much as 50 per cent higher.

* All national statistics quoted in this report are drawn from CIPFA's statistics on DLOs. These must be treated with caution because a number of local authorities do not respond to CIPFA's questionnaires. In 1986-87 only three of the twelve inner London boroughs replied and statistics from seven of the metropolitan districts were also missing. In 1987-88 returns from inner London improved. Eight of the boroughs replied.
DLO INCOME
1987-88 actuals £m
Many DLOs are substantial businesses - 27 have a turnover of more than £10 million

Source: CIPFA statistics, DLO IVs

13. DLOs have usually been successful in meeting the targets imposed by the 1980 Act (Exhibit 2). In 1987-88 only nine out of the 284 DLOs made a loss and a further nine made less than the five per cent rate of return on capital employed. When a DLO fails to achieve its rate of return, the authority must notify the Secretary of State. In the past the Secretary of State could order a special report at any time once an authority failed to make the required rate of return. It has been normal policy to order a special report from the authority when this occurs in two consecutive years (until February 1987 it was three consecutive years). In the light of these reports he could order the DLO to wind up its operation. For general building maintenance DLOs, there have been nine such reports but no closures have been ordered. This contrasts with DLOs engaged in new construction where 12 reports have been ordered and four instructed to close. Schedule 6 to the Local Government Act 1988 changes the way in which the Secretary of State may act against financial failures. He is now empowered to serve a written notice on an authority which fails to achieve the rate of return and require a written response. The Secretary of State can then order the DLO either to close or to comply with the conditions specified in the direction.

14. DLOs have also managed to increase their turnover in real terms since 1981-82 (Table 2). Their market share has fallen from 61 to 51 per cent over the period, though it is notable that most of the fall occurred between 1981 and 1983. Since then there has been little movement, except in London. One contributory factor behind this fall in share has been the growth of planned maintenance as a proportion of the total. DLOs’ traditional area of strength is jobbing repairs, which probably account for 70 - 80 per cent of DLO turnover.
Table 2

**DLO INCOME AND MARKET SHARE**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£m</td>
<td>%</td>
<td>£m</td>
<td>%</td>
<td>£m</td>
<td>%</td>
<td>£m</td>
</tr>
<tr>
<td>London</td>
<td>108</td>
<td>54</td>
<td>144</td>
<td>51</td>
<td>177</td>
<td>55</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Met. districts</td>
<td>272</td>
<td>76</td>
<td>305</td>
<td>69</td>
<td>301</td>
<td>62</td>
<td>331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shire districts</td>
<td>273</td>
<td>65</td>
<td>352</td>
<td>60</td>
<td>353</td>
<td>55</td>
<td>388</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counties</td>
<td>24</td>
<td>27</td>
<td>22</td>
<td>27</td>
<td>23</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>677</td>
<td>61</td>
<td>823</td>
<td>58</td>
<td>854</td>
<td>55</td>
<td>898</td>
</tr>
</tbody>
</table>

At 1981-82 prices

<table>
<thead>
<tr>
<th></th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
<th>£m</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>108</td>
<td>136</td>
<td>160</td>
<td>130</td>
<td>94</td>
<td>73</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Met. districts</td>
<td>272</td>
<td>288</td>
<td>272</td>
<td>284</td>
<td>338</td>
<td>326</td>
<td>285</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shire districts</td>
<td>273</td>
<td>332</td>
<td>318</td>
<td>333</td>
<td>326</td>
<td>345</td>
<td>309</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counties</td>
<td>24</td>
<td>21</td>
<td>21</td>
<td>24</td>
<td>21</td>
<td>36</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>677</td>
<td>777</td>
<td>771</td>
<td>771</td>
<td>779</td>
<td>780</td>
<td>740</td>
<td></td>
</tr>
</tbody>
</table>

Exhibit 2

**RATES OF RETURN OF DLOs**

**Percentage return on capital employed, 1987-88 actuals**

Almost all building maintenance DLOs make the required five per cent rate of return

Source: CIPFA statistics, DLO IVs
The analysis in this report is based on nationally published data, detailed visits to 12 DLOs and further investigation of six other authorities by the District Audit Service's special project officers. The Audit Guide*, which is now available to DLO managers, was tested at four other authorities. In all, therefore, data was collected from 22 DLOs representative of size and region. They were divided into two groups (Table 3). The Commission would like to thank all of these authorities for participating in this study.

Table 3

DLOs IN SAMPLE

<table>
<thead>
<tr>
<th>Annual turnover 1987-88 (£m)</th>
<th>£</th>
<th>PROVINCIAL</th>
<th>£</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SOUTH EAST</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London boroughs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lewisham</td>
<td>18.4</td>
<td>Met. districts</td>
<td>Birmingham</td>
</tr>
<tr>
<td>Croydon</td>
<td>5.5</td>
<td>Gateshead</td>
<td>19.9</td>
</tr>
<tr>
<td>Barnet</td>
<td>3.3</td>
<td>Rotherham</td>
<td>12.0</td>
</tr>
<tr>
<td>Hillingdon</td>
<td>3.1</td>
<td>Stockport</td>
<td>5.0</td>
</tr>
<tr>
<td>Richmond</td>
<td>2.4</td>
<td>Wtexham</td>
<td>3.3</td>
</tr>
<tr>
<td>Shire districts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southampton</td>
<td>3.2</td>
<td>Shire districts</td>
<td>Stroud</td>
</tr>
<tr>
<td>Dartford</td>
<td>2.5</td>
<td>Gloucester</td>
<td>1.2</td>
</tr>
<tr>
<td>East Herts</td>
<td>0.6</td>
<td>Alyn &amp; Deeside</td>
<td>Lichfield</td>
</tr>
<tr>
<td>County</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(plus one metropolitan and one shire district who have asked not to be named)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>8</td>
<td>14</td>
<td></td>
</tr>
</tbody>
</table>

Source: CIPFA statistics

Some of the data collected from these DLOs is of a sensitive commercial nature, particularly the target times for individual maintenance jobs. It is therefore excluded from this public report but is available in confidence to DLO managers on request to the authority's auditor. To preserve the confidentiality of data obtained from individual local authorities the guide contains only ranges and averages.

The study was directed by a senior manager of the Commission's Special Studies Directorate, Doug Edmonds, and was undertaken by Andrew Shute, an auditor seconded from the District Audit Service, and Joe Bailey of PA Management Consultants with assistance from Penny Eames of the Audit Commission. Three work study officers supported them: Andy Hill of Rotherham MBC, Colin Robinson of Gateshead MBC and Martin Upton of Alyn and Deeside DC. The Commission is grateful both to them and their employing authorities for making their time available. The Commission is also grateful for the support of an advisory group of senior local authority managers which included representatives of the local authority associations, Association of Direct Labour Organisations, and the Institute of Municipal Building Managers.

* Audit Guide: Building maintenance DLOs, available to DLO managers from the Audit Commission, St Lawrence House, 29-31 Broad Street, Bristol BS1 2EX
The report is in four Chapters:

Chapter 1: briefly discusses the rationale for building DLOs;
Chapter 2: analyses the performance of existing DLOs;
Chapter 3: suggests ways in which that performance could be improved;
Chapter 4: sets out the elements of a business plan which DLO managers should prepare.

Four Appendices provide more detail on:

1 - The work model
2 - The cost model
3 - Incentive bonus schemes
4 - The DLO market place
1. The Rationale for Building DLOs

20. A local authority is not required to maintain its own building maintenance organisation. Indeed about five per cent of authorities do not have one now. If the concept of the ‘enabling’ authority, promoted by the Government, gains ground in local government this percentage may grow. It is therefore worth considering the case for the existence of DLOs.

21. DLOs are not new. The first organisations which are recognisably ancestors of today's DLOs came into existence at the end of the last century. The motives for establishing them were varied, but in many cases 'social' objectives were certainly prominent. Local authorities wished to promote improved terms and conditions of employment within the building industry, as well as to ensure access to in-house staff to guarantee capacity and protect against the building industry cycle. They also saw DLOs as providing extra protection against price fixing or collusion amongst contractors.

22. The size and scale of local authority building organisations grew very rapidly alongside the major expansion of council house building from the 1930s to the 1970s. Though new build work was always undertaken by a mix of private and public sector contractors, it was widely assumed that repair and maintenance was natural territory for in-house staff.

23. The 1980 Act, in particular, challenged this assumption. And since then political attitudes to DLOs have tended to diverge. Some see little case for the local authority acting as a direct employer of building workers. Others hold that the social and political objectives of the founding fathers of the DLOs are as valid today as they ever were.

24. Some DLO managers argue that DLOs cannot be judged simply as commercial organisations because the social objectives of their councils limit their ability to manage with a view to maximising efficiency. A survey of council members' attitudes to the objectives of their DLO was undertaken in the course of the study. It revealed that objectives unrelated to the financial performance of the DLO, and not directly related to its effectiveness as a building organisation, were important to council members in a majority of cases. Six non-economic factors were dominant:

(a) the desire to maintain direct employment levels;

(b) within that, to maximise employment opportunities for local people;

(c) commitments to offer pay and conditions above the national or industry norm;

(d) the provision of employment opportunities to minority groups perceived to be at a disadvantage in the local labour market;

(e) commitments to employee involvement in decision-making;
(f) commitments to the achievement of broader community objectives.

In a number of cases these objectives were not explicitly stated, and their impact on DLO finances was rarely costed, but (a), (d) and (e) in particular were present in a majority of the councils which responded (Exhibit 3).

**Exhibit 3**

**LOCAL AUTHORITY OBJECTIVES**

Non-economic factors are important to members who supervise DLOs

![Diagram showing various local authority objectives with a gradient from low to high]

**Source:** Member survey

25. The Commission does not take a view on the validity of these objectives, which are essentially political in nature. If they are properly managed, some of these objectives may well enhance a DLO's commercial position. A well paid and secure workforce which recognises its contribution to the community could be strongly committed to higher productivity - particularly if they are properly consulted. (Of course if the objectives are poorly managed then the workforce can see itself as exempt from performance targets and protected against any market discipline.)

26. But it is important for authorities to recognise that the competition legislation reduces a DLO's freedom of action in that the rate of return requirement makes no allowance for the financial impact of most of the policies listed above. There is bound to be some tension between DLO managers who wish to maintain profitability and win contracts, and councillors who insist on other policies which may make these aims more difficult. These tensions need to be resolved and the trade-offs examined if DLO managers are to be able to manage competitively. Only then can management deal with its primary task which is to manage a business in a service industry. This change in focus from service delivery to business management is the biggest challenge that faces DLO managers.

27. It is nonetheless clear from the member survey responses, and from other anecdotal evidence, that two objectives are dominant in most authorities:

- first, the idea that the existence of a DLO exerts an influence on market prices; and
- second, that the DLO gives a higher quality of service, one particularly suited to the local authority's clients, whether housing tenants, headteachers or service managers.
28. What support may be advanced for these propositions? Hard evidence is difficult to find. But the building industry is particularly susceptible to the economic cycle (Exhibit 4) and DLOs can provide some protection against the higher prices that can prevail at the peaks. There is also some evidence that authorities with competitive DLOs secure keener prices from the private sector in competitive tender. This certainly ought to be true. The DOE has recently published research commissioned from the Centre for Housing Research at the University of Glasgow*. The study sought to compare the efficiency and effectiveness of housing management in local authorities and housing associations. It included a comparison of the prices for a series of common repair items. Although only limited evidence was obtained, the authors conclude that the well organised council using its DLO secured greater economy in undertaking repair work. In the provinces, housing associations appeared to pay more than twice as much as councils using their own DLO. Although the service to tenants (in terms of progress reports and appointments) seemed better, this would not explain such a large difference. The use of day works by housing associations is a much more likely explanation.

Exhibit 4

MARKET CONDITIONS INDEX

The building industry is particularly susceptible to the economic cycle

29. As to the second point, the general proposition that in-house organisations necessarily offer a higher quality of service does not hold. Some do, some don't. There are advantages inherent in the schedule of rates and repairs ordering systems operated by many DLOs. These are rarely if ever duplicated by the private sector, yet are particularly suitable for jobbing repairs on housing estates. Tenants and housing managers also welcome a service from a single contractor, rather than having to look to different contractors for different trades.

30. But the potential structural advantages in the DLO model and the price discipline argument will only apply where the DLO can demonstrate that it is efficient and effective. Thus, in the Commission's view, the economic case for DLOs is potentially valid, but may be nullified by poor operating performance and, as this report shows, often is.

* * *

* The nature and effectiveness of housing management in England, HMSO, 1989
31. The next two Chapters look at ways in which an authority may analyse its DLO's performance (Chapter 2) and improve it (Chapter 3). With a clear view of the existing performance of its DLO and the opportunities for the future, a council is better placed to make the longer-term strategic decisions, and to establish a business plan for its DLO as discussed in Chapter 4.
2. Analysing DLO Performance

32. Most DLOs win contracts in competition and make the five per cent rate of return. Many DLO managers see this criterion as a sufficient measure of efficiency. But no market stands still and every successful business has continually to analyse its performance and secure improvements if it is to survive.

33. Moreover for some DLOs competition has - at least for the main jobbing repair contracts - been more apparent than real. Immediately after the 1980 Act many authorities sought a single tender for the whole of the jobbing repair work. In the larger authorities this often resulted in contracts in excess of £5 million for just one year. Now, in part because of prompting by auditors, many of these contracts are subdivided and let separately for different areas. Even so, a recent survey by the AMA of its members found that 78 per cent of responsive repair contracts were for the whole borough and 71 per cent were for a year or less. In the study authorities the minimum contract size of the larger authorities was for £1 ½ million. Such a contract would employ about 60 operatives from a wide range of trades, 20 vehicles and one or two depots, and require about £1/4 million of working capital. This puts the work beyond the reach of the majority of maintenance contractors. Given that contracts are usually for no more than a year, this in turn deters the larger companies so the extent of competition is necessarily limited. In any event, as the Property Services Agency’s experience with Ministry of Defence jobbing repair contracts has shown, the existing contractor has an 80 per cent chance of winning the new contract, if only because of his greater knowledge of the stock and the frequency of particular tasks.

34. There is powerful evidence to show that the operating performance of DLOs is highly variable and that in many cases there are significant opportunities for improvement. The Commission’s study of housing maintenance showed that the inter-quartile* range of prices charged for a comparable basket of work varied by more than 20 per cent above and below the median. The results for authorities outside London and the South East are described in Table 4 and Exhibit 5.

Table 4
RANGE OF TRADE MODEL PRICES
Provincial local authorities: 1985 survey, prices updated to 1987-88

<table>
<thead>
<tr>
<th>Trade Model</th>
<th>Carpentry</th>
<th>Plumbing</th>
<th>Bricklaying</th>
<th>Roofing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
<td>489</td>
<td>618</td>
<td>1,055</td>
<td>610</td>
</tr>
<tr>
<td>Lower quartile</td>
<td>406</td>
<td>499</td>
<td>889</td>
<td>368</td>
</tr>
<tr>
<td>Upper quartile</td>
<td>653</td>
<td>649</td>
<td>1,207</td>
<td>868</td>
</tr>
<tr>
<td>Ratio lower / upper quartile</td>
<td>1:1.6</td>
<td>1:1.3</td>
<td>1:1.4</td>
<td>1:2.4</td>
</tr>
</tbody>
</table>

* A quartile is the dividing point between the lowest (or highest) quarter of values and the rest
Exhibit 5

TRADE MODELS: CARPENTRY AND PLUMBING
Schedules of rates (1985 survey prices updated)
The inter-quartile range of prices for a common basket of work varies by more than ± 20 per cent even when London and the South East are excluded

Source: Improving council house maintenance, HMSO, 1986

35. These 'trade models' contain a full specification of the maintenance tasks and cover a wide range of work (not just jobbing repairs). Some of the observed variation may be due to different local interpretations of the specification but it is mainly attributable to the underlying variation in prices. This in turn must be caused by variations in one or more of:

— materials costs (inclusive of the on-costs of purchasing and stores);
— the input costs of labour, overheads and transport;
— profit; and
— productivity

since these four elements are the determinants of price (Exhibit 6). The variation of these elements should be separately identified in each DLO. The general picture is analysed below.

Exhibit 6
CAUSES OF PRICE VARIATION
The causes of price variation need to be separately identified
MATERIALS

36. Materials account for about a third of total cost and the stores overhead is in turn about 20 per cent of the cost of stores (Exhibit 7). While the relative proportions of direct purchases, materials bought through stores and in-house manufacture vary considerably, the total cost of materials only varies by about ± 10 per cent. Much of this variation is attributable to the balance of the workload, since programmed repairs consume a higher proportion of materials.

Exhibit 7
MATERIALS COST PER ATTENDANCE HOUR
1987-88 prices
The relative proportions of stores issues, direct purchase and in-house manufacture vary considerably. But total materials costs vary by only ± 10 per cent

Source: Provincial study DLOs

INPUT COSTS

37. Appendix 2 describes a standard analysis of DLO accounts which allows input costs to be compared. The results for the provincial DLOs studied show that total input costs varied between the quartiles by ± 10 per cent. But the variation of transport and overhead costs were greater (Exhibit 8). Appendix 2 also details the cost for authorities in London and the South East. Their costs were 24 per cent higher than those of provincial DLOs.

Exhibit 8
COST RANGES OF PROVINCIAL DLOs
Cost per attendance hour: 1987-88 prices
Total input costs vary by ± 10 per cent

Source: Study DLOs
38. The analysis is based on cost per attendance hour of productive operatives so the variation is dependent both on costs and on the number of attendance hours. The latter is comparatively stable because overtime and sickness, although variable, are small by comparison with basic hours and holidays (Exhibit 9).

Exhibit 9

ANALYSIS OF NET ATTENDANCE HOURS
Annual hours per productive operative
Overtime and sickness are a small part of net attendance hours

Source: Provincial study DLOs

39. The analysis of input costs, when amplified (Exhibit 10) shows the key variations (apart from bonus which is discussed as a part of productivity) to be:

- the cost of supervision (chargehands and trade and general foremen);
- the DLO's own overheads i.e. employees and area offices and depots;
- central establishment charges (CEC); and
- vehicle costs.
ANALYSIS OF INPUT COST VARIATIONS

Provincial DLOs: Cost per attendance hour 1987-88 prices
The key cost variables relate to supervision, DLO overheads, CEC and vehicles

<table>
<thead>
<tr>
<th>Cost Component</th>
<th>£</th>
<th>Lower quartile</th>
<th>Upper quartile</th>
<th>Range (UQ-LQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct wages</td>
<td>£4.03</td>
<td>2.69</td>
<td>2.96</td>
<td>27</td>
</tr>
<tr>
<td>Overtime</td>
<td>0.26</td>
<td>0.15</td>
<td>0.41</td>
<td>26</td>
</tr>
<tr>
<td>Bonus</td>
<td>0.94</td>
<td>0.76</td>
<td>1.16</td>
<td>40</td>
</tr>
<tr>
<td>National insurance and superannuation</td>
<td>0.64</td>
<td>0.55</td>
<td>0.70</td>
<td>15</td>
</tr>
<tr>
<td>Wage overheads</td>
<td>£1.77</td>
<td>0.56</td>
<td>0.74</td>
<td>18</td>
</tr>
<tr>
<td>Holiday pay</td>
<td>0.62</td>
<td>0.56</td>
<td>0.74</td>
<td>18</td>
</tr>
<tr>
<td>Sick and injury pay</td>
<td>0.17</td>
<td>0.11</td>
<td>0.22</td>
<td>11</td>
</tr>
<tr>
<td>Chargehands and trade foremen</td>
<td>0.19</td>
<td>0.09</td>
<td>0.31</td>
<td>22</td>
</tr>
<tr>
<td>Apprentices</td>
<td>0.07</td>
<td>0.05</td>
<td>0.12</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>0.08</td>
<td>0.05</td>
<td>0.10</td>
<td>5</td>
</tr>
<tr>
<td>Transport</td>
<td>£1.01</td>
<td>0.52</td>
<td>0.86</td>
<td>34</td>
</tr>
<tr>
<td>Drivers</td>
<td>0.13</td>
<td>0</td>
<td>0.26</td>
<td>26</td>
</tr>
<tr>
<td>Other</td>
<td>0.17</td>
<td>0.05</td>
<td>0.31</td>
<td>26</td>
</tr>
<tr>
<td>Employees</td>
<td>0.57</td>
<td>0.38</td>
<td>0.87</td>
<td>49</td>
</tr>
<tr>
<td>Central establishment charges</td>
<td>0.45</td>
<td>0.26</td>
<td>0.72</td>
<td>46</td>
</tr>
<tr>
<td>Area staff, premises, and depots</td>
<td>0.34</td>
<td>0.29</td>
<td>0.38</td>
<td>9</td>
</tr>
<tr>
<td>General foremen</td>
<td>0.34</td>
<td>0.11</td>
<td>0.55</td>
<td>44</td>
</tr>
<tr>
<td>Other</td>
<td>0.23</td>
<td>0.04</td>
<td>0.36</td>
<td>32</td>
</tr>
</tbody>
</table>

NOTE: The 'social wage' i.e. superannuation, national insurance and sick, injury and holiday pay amounts to £1.43 per attendance hour which is 16 per cent of total operating costs and 35 per cent of direct wages.

PROFIT

40. The profit element in prices is estimated by taking profit as a proportion of turnover. Although there is a large variation and in two-thirds of DLOs profit ranged between 8.9 and -0.2 per cent of turnover (the average being 4.4 per cent), it is only a small part of the variation in prices.

PRODUCTIVITY

41. Productivity depends on two elements:

— the work rate; and

— the proportion of attendance time spent on productive work.

42. Productive time is usually about 80 per cent of attendance time. Data on this ratio is often not available because many DLOs have consolidated allowances for travel and other non-productive time into the time allowed for the job. Operatives then have an incentive to
minimise non-productive time since their bonus depends solely on the value of work done. Productivity is measured in different ways by different DLOs:

- measurements direct from the work studied bonus scheme;
- time spent compared to target times for jobs completed;
- standard costs of jobs (based on time spent) compared to income.

These different incentive schemes are described in Appendix 3.

43. Some incentive bonus schemes enable the standard time for repair jobs (the time value of work completed which may be more or less than actual time) to be calculated. Standard hours compared with attendance time give a measure of productivity. The results for DLOs in the sample which operated such schemes (Exhibit 11) show a range of productivity between the quartiles of 15 per cent.

Exhibit 11
INDEX OF DLO TARGET HOURS TO ATTENDANCE HOURS
Local measures of productivity show a variation of ±15 per cent (between the quartiles)

Source: Study DLOs

44. However, the measure of productivity used depends on local standards; an hour of work in one DLO may not be the same as in another. In order to compare local measures of productivity the study team prepared a work model which set out a standardised description of a range of maintenance work (including jobbing repairs and external and internal redecorations) and a
standard value for each job. The coverage of this work model, (described in Appendix 1) is as follows:

<table>
<thead>
<tr>
<th>WORK MODEL FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local times can be deceptive; some DLOs have much slacker times than others</td>
</tr>
</tbody>
</table>

The results (Exhibit 12) show that some DLOs have slacker time values than others and therefore are a lot less productive than the local performance measurements would imply.

Exhibit 12

Local times can be deceptive; some DLOs have much slacker times than others

Source: Study DLOs

45. When these results are applied to the local measures a truer comparison of relative productivity can be made by comparing standardised productive time with attendance time (Exhibit 13). Authorities which do not have an incentive scheme which shows the standard time for each job cannot be treated in this way. Their productivity has been estimated by calculating the schedule of rates prices for the jobs in the work model, net of the cost of materials and the profit element, and dividing this into the cost per attendance hour, e.g.:

| Schedule of rates price net of materials for jobs in work model divided by the | = 10.20/hour |
| value in the model | Less profit of 2.0 per cent on turnover | = 10.00/hour |
| Cost per attendance hour | = 9.50/hour |
| therefore the productivity index is: | \( \frac{\text{\£9.50}}{\text{\£10.00}} \times 100 \) | = 95 |
46. When productivity is measured on a comparable basis in this way then it varies by about 20 per cent around the median. In some DLOs, productivity is thought to be higher than it actually is because the target times have been slackened so as to increase bonus earnings. Target times can also become slack when management fails to change them in the light of:

— changed organisation, e.g. more vehicles;
— changed working methods, e.g. electric screwdrivers;
— changed materials, e.g. plastic guttering and rainwater pipes;

each of which will reduce the required time for a job.

47. Productivity in the South East is considerably lower than elsewhere. In recent years DLOs in the South East have faced a very considerable recruitment problem. Until the 1987 wage agreement, bonus was paid not as a percentage of basic pay but with reference to a bonus calculator which was 70 per cent of basic pay. Thus an operative achieving one-third bonus would only receive a payment of about one-quarter of basic pay. In a tight scheme one-third bonus is about the norm. In London this would give a weekly wage of about £170 per week inclusive of London weighting. This is considerably below the market rate of £250 or more per week. In an attempt to boost earnings many London authorities have slackened their schemes either by using slack times or introducing extended allowances. While this has helped to increase pay it has also depressed true performance either because of ceilings on bonus performance, known as 'cut-offs', or because operatives kept their performance down to what they perceived to be a credible level.

48. Other authorities in London and the South East have departed from traditional work study-based incentive schemes and introduced other incentive schemes which can facilitate a higher payment (see paragraphs 99-100). Even these authorities achieve a lower performance, probably because the better tradespeople are able to obtain higher wages in the private sector. The combination of higher costs and poorer productivity in London and the South East makes
the comparative cost of work nearly 50 per cent higher than in the provinces. Exhibit 14 combines the costs per attendance hour (Exhibit 8) with the comparative productivity index (Exhibit 13) to give the input cost of a comparative hour of production.

Exhibit 14
INPUT COST OF A COMPARATIVE HOUR OF PRODUCTION
The costs of a comparative hour of production also vary by ± 20 per cent. Production costs are 50 per cent higher in London and the South East.

Source: Study DLOs

49. The inter-quartile range of the costs of a comparative hour of production varies by ± 20 per cent. Improved productivity would enable DLOs to improve their competitive position and to reduce prices. If the high cost DLOs were able to improve their performance the gains would be very substantial. If all were to reach the lower quartile (taking account of higher costs in London and the South East) there would be a saving of about 20 per cent of input costs (or, more likely, an equivalent increase in output). Nationally, this would be worth about £200 million per year although a larger sample would be necessary to confirm this estimate.

50. But efficiency is not the only goal of DLOs. To satisfy the needs of their customers DLOs must also consider their effectiveness. As the survey quoted in Chapter 1 shows, members say they attach high importance to the quality of service delivered.

EFFECTIVENESS

51. For jobbing maintenance in particular, effectiveness can be more important than economy and efficiency. Even in the owner occupied sector, where householders pay directly for maintenance, maintenance contractors are judged as much by their timeliness, quality of workmanship and general cleanliness as by the price of the work. In the local authority sector, where the rent includes the cost of repairs, the cost of a particular repair is almost irrelevant to the tenant. Effectiveness is all important. And the quality of repair will play a major part in a tenant’s choice of landlord under the new housing legislation.

52. The most common measure of effectiveness is the response time to repair requests. Some clients and DLOs seek to compare actual and target response times but it is more usual for
authorities merely to report the backlog of repairs in each repair category and the weeks of work that are outstanding are compared with response time. This simple method does not recognise that within the overall average some repairs may have been outstanding for a considerable period.

53. Effectiveness requires action both by the client and the contractor. The client sets response times and finances any improvements in effectiveness. Backlogs of repairs can be caused by the client when the cost of repair orders exceeds the jobbing repair budget. Post inspection of work also involves both the client and the DLO.

54. However, it is the contractor who undertakes the repair and is responsible for its timeliness and quality. Building maintenance is unlike work on a building site; the contractor needs to recognise the implications of visiting a home, a school or any other establishment which is in use and train the workforce accordingly. Management should encourage operatives to:

- take care of the home or other establishment;
- undertake the work with a view to a tenant's safety;
- show sensitivity to the particular needs of disabled or handicapped people and minorities;
- treat women equally; and,
- perhaps most importantly
- be pleasant to the customer.

55. These factors are of increasing importance given the rising proportion of tenants who are single parents, elderly or vulnerable for some other reason. Community care policies imply that a number of mentally handicapped people who would previously have been cared for in institutions will in future live independently. Other organisations such as the Gas and Electricity Boards, who also have staff who visit people's homes, have instigated staff training in this area, but few of the study DLOs had instituted such programmes. A few DLOs are considering the incorporation of effectiveness measures into their incentive schemes. Others are relying more on training and supervision.

56. A number of DLOs have augmented these steps by undertaking tenant surveys. Such surveys have shown that it is the certainty of the repair date which is regarded as more important than speed of response. Tenants would sooner wait six weeks for a non-urgent repair if they are forewarned of the particular morning or afternoon of the repair rather than being told that the repair will be undertaken sometime in the next four weeks.

57. In many authorities the greatest cause of dissatisfaction is not the standard of repair but the failure to repair or that repair rather than renewal was used to remedy the fault. Even with limited budgets such dissatisfaction could be reduced if more repairs were done for the same money. So effectiveness is closely linked to economy and efficiency.

* * *

58. The overall performance of DLOs in the most crucial areas has been shown to vary by ± 20 per cent. It is clear that in many cases there are significant opportunities to improve effectiveness. Ways of improving performance are discussed in the next Chapter.
3. Improving DLO Performance

59. There are opportunities to improve performance in all areas of the business, from material costs to effectiveness measurement. The relative importance of different areas will vary from authority to authority. But DLO managers should all review six key areas of their performance (Exhibit 15).

Exhibit 15
SIX STEPS TO IMPROVED PERFORMANCE
Improving performance requires attention to all aspects of the business

UPGRADE MATERIALS MANAGEMENT

60. DLO managers need to be concerned with the total cost of materials at the site. Higher prices can only be warranted if material is delivered straight to the site and overheads thereby reduced. Similarly, higher stores overheads may be justified if operatives spend less time on materials collection. It is vital to take account of collection costs and waiting time. For example, individual direct purchases by operatives from builders merchants sometimes look cheaper than central supplies, but could be considerably more expensive once travel and queuing times are costed.

61. About 12 per cent of total materials costs are overheads: the administrative costs of purchasing (about five per cent on purchases), and the cost of running the stores (about 15 per
The Commission's earlier study of supply management* found that such costs are frequently understated since the accounts often ignore holding costs and Central Establishment Charges (CEC) in stores are not separately identified. The study found that many stores contained excessive and redundant stock, such that stock turn was often less than 3.5 per annum.

62. The most significant influence on the stores overhead is the number of storekeepers. In the study DLOs storekeepers averaged about £83,000 of issues per year. Reduced stock holdings will reduce the workload as will the use of imprest stocks and pre-picking of orders. Both these measures will lead to a more even workload and greater productivity. In the larger central stores about £150,000 of issues per storekeeper is achievable.

63. Some of the larger DLOs manufacture materials required for their maintenance programmes in their own workshops. These workshops should always be treated as separate cost centres. Most DLOs include the labour cost of these workshops in the labour costs of other operatives. This prevents them from comparing the cost of in-house manufacture with direct supply.

CONTROL OVERHEAD COSTS

64. Chapter 2 showed that the areas where the highest variations of input cost occurred were:

- supervision;
- DLO management;
- CEC; and
- vehicles.

SUPERVISION

65. Supervision comprises the non-productive time of chargehands, trade foremen, general foremen and staff on management grades performing first line supervisory duties. Some DLOs use chargehands, others do not; some employ trade foremen while others have achieved greater flexibility by employing general foremen only. In part this is because of the different ways in which work is organised and in part because of the need to pay salaries sufficient to attract suitable personnel.

66. The required number of supervisory staff is obviously affected by their range of duties (Exhibit 16). Some supervisors are almost drowned in the paperwork generated by work tickets, clock cards and bonus. This, together with the collection and delivery of stores and tradespeople can mean that insufficient time is spent on the planning and supervision of the work itself.

* Improving supply management in local authorities, HMSO, 1987
Exhibit 16
THE ROLE OF SUPERVISORS
Reducing the complexity of the incentive scheme enables more time to be spent on workload planning.

67. Some aspects of supervision, e.g. maintaining progress and productivity at the workplace, can be delegated to the workforce by means of a well designed incentive scheme. If the incentive payment is solely based on completed work, then it is in the operatives’ interest to see that jobs are finished and to minimise the time spent on travel, the collection of stores and abortive calls. Supervisors then can direct more of their time towards workload planning and quality control.

68. Many authorities place insufficient emphasis on supervisor training (and also management training - paragraph 74). Such supervisors are often promoted direct ‘from the tools’ and while they may be technically proficient, they lack planning and management education and experience. The Local Government Training Board produces training packages for building superintendents and the National Examination Board in Supervisory Studies also promotes courses.

69. A few DLOs, particularly some of the larger ones, undertake at least some aspects of the client role in addition to the contractor function. They may operate the repairs reporting centre and be responsible for preparing and specifying programmes of work. In addition supervisors may prepare the technical specification of the works order. The DLO charges the client for these activities either in terms of staff time or as a percentage addition to the cost of the work. These costs are not charged to the DLO account and are excluded from the comparisons of supervisory and administrative costs in this report. In practice many DLOs do not have a satisfactory means of estimating them.

70. Work planning is a vital element of productivity particularly where operatives work from sub-depots or where the non-urgent work is organised into zones with mobile caravans. The supervisor has to ensure that there is a full workload even though the workload is itself variable.
Operatives may have to be 'imported or exported' between sub-depots or zones. Alternatively work may have to be added to or subtracted from the gang's workload. Where depots serve large areas the work has to be planned to keep non-productive time - particularly travel time - to a minimum.

71. The availability of materials in the right place and at the right time has a considerable effect on productivity. The supervisor has a vital part to play. Many materials can be held as imprest stocks in vans, sub-stores or caravans. But a supervisor's local knowledge of component types and the pre-inspection of repairs orders whose materials' requirement is not clear can reduce wasted time. Such inspections are simpler where non-urgent tasks are grouped into relatively small areas.

72. Supervisors should also post-inspect a proportion of completed work to check on the amount and the quality of work undertaken. Checks should include discussions with the customer about effectiveness (paragraph 127) as well as a technical inspection. They also need to ensure that, when bulky materials are replaced, they are promptly removed from the site.

73. The number of supervisors required is also affected by the type and mix of work, its geographical spread and the role of the client department in pre- and post- inspection all of which are outside the DLO's immediate control. It is not possible, therefore, to provide a benchmark for the supervisory ratio.

THE DLO'S MANAGEMENT COSTS

74. Many council officers obtained their early experience when maintenance was perceived as a service. Now it is a business in a service industry. Some managers cannot easily adjust to this new environment but management training can help. Such training is a necessary element of management costs which include senior management, production and control staff (concerned with estimating tendering, and work scheduling) finance and administration.

75. In some DLOs, particularly the smaller ones, a part of these duties - notably those of finance and administration - will be undertaken by another department. Their cost is then part of the CEC. Conversely some senior staff in the DLO may be undertaking tasks which are recharged to the client department. The latter have been excluded from the average costs shown in Chapter 2.

76. Comparisons of a DLO's management costs need to recognise the range of work. Some DLOs tender on one schedule of rates covering the whole workload for a year or more. Others tender separately for jobbing repairs in different areas and for lump sum contracts for painting, gas servicing, voids and programmed repairs.

77. The tendering method is determined by the client department, but the DLO can still exercise some control of its administrative overheads, particularly those that result from the bonus scheme and the charges against the schedule of rates. A traditional bonus scheme with separate allowances for travel, materials collection and other non-productive tasks and separate values for a large range of tasks is expensive to operate. This can be avoided if non-productive times are
consolidated and the incentive scheme simplified. If a bonus scheme is used then the shorter tasks should be banded, e.g:

<table>
<thead>
<tr>
<th>All tasks</th>
<th>0-20 minutes</th>
<th>→</th>
<th>Representative value</th>
<th>13 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20-40 minutes</td>
<td>→</td>
<td></td>
<td>28 minutes</td>
</tr>
<tr>
<td></td>
<td>40-80 minutes</td>
<td>→</td>
<td></td>
<td>57 minutes</td>
</tr>
</tbody>
</table>

(The representative time is different from the mid-point of the band because of the distribution of jobs).

78. Some DLOs have introduced other forms of incentive payment. They have introduced tender-led or time-saved schemes which do not have separate allowances for travel etc. They are derived from the schedule of rates prices. The calculation of the charge for completed work and the incentive payment can be linked and administrative economies can be achieved.

79. The incentive scheme and the charges against the schedule of rates should be linked by a common description. The worksheets then generate the incentive payment, the internal standard cost and the recharge. In a computerised system the schedule of rates file can hold the time or work value for the incentive scheme against each rate. One DLO devoted 15 per cent of the indirect overheads to transposing the work values from the bonus scheme into charges against a schedule of rates which had been imported from another authority. Such work is almost completely avoidable if the incentive scheme and the schedule of rates are harmonised. The task is simpler when the schedule itself is straightforward.

80. Recharges from the ‘parent’ department can be another source of high management overheads. Where a DLO is a part of a housing or technical department some of the time of the senior and technical management may well be charged to the DLO. DLOs should treat these in a similar manner to CEC ensuring that the charges both represent work done and that all work is necessary.
CENTRAL ESTABLISHMENT CHARGES

81. Most DLO managers complain about CEC. In fact they are generally a relatively small part of DLO costs and are usually less than DLO management and administrative costs. In the provincial authorities CEC average 45 pence per attendance hour, i.e. five per cent of operating costs. Table 5 gives an estimated breakdown of the charges made in the study authorities.

Table 5
CEC FOR PROVINCIAL DLOs

<table>
<thead>
<tr>
<th></th>
<th>Cost per attendance hour</th>
<th>£</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasurers</td>
<td></td>
<td>0.13</td>
<td>(29)</td>
</tr>
<tr>
<td>Legal / Personnel</td>
<td></td>
<td>0.05</td>
<td>(11)</td>
</tr>
<tr>
<td>Other departments</td>
<td></td>
<td>0.02</td>
<td>(5)</td>
</tr>
<tr>
<td>Computer</td>
<td></td>
<td>0.13</td>
<td>(29)</td>
</tr>
<tr>
<td>Management services and work study</td>
<td></td>
<td>0.07</td>
<td>(15)</td>
</tr>
<tr>
<td>Other, e.g. parent dept. administration</td>
<td></td>
<td>0.05</td>
<td>(11)</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>0.45</td>
<td>100</td>
</tr>
</tbody>
</table>

82. But these charges are not an inevitable overhead imposed from ‘on high’. Accountability is the key. In the past, accountability in many local authorities has been from the services to the centre. The introduction of competitive tendering has reversed the direction.

83. The DLO ought to be party to ‘service level’ agreements with the central departments which specify the service and its costs. DLOs should be able to determine the services that they receive as well as to challenge the associated charges. CIPFA has issued guidelines* on the approach to be adopted. For certain services, e.g. payroll and computing, DLOs should agree a unit price such as 75 pence per payslip. In other cases a ‘day works rate’ will have to be agreed. DLO managers will need to examine these accounts in the same way that they would expect their clients to examine such charges.

84. There is some trade-off between management costs and CEC, as explained in paragraph 75, so it is the sum of these two charges that should be examined and compared. Some DLOs keep these costs as low as 90p per attendance hour; this should be a benchmark for other provincial DLOs. In London and the South East it is £1.25 (Exhibit 17).

* Accounting for support services: practitioners’ guide, CIPFA, 1988
MANAGEMENT AND CEC COST PER ATTENDANCE HOUR

These functions may be carried out in-house or by central departments. Only the sum of the two should be compared.

Source: Study DLOs

VEHICLE COSTS

85. The last item which is a significant source of variation is the cost of vehicles. Because many operatives and supervisors drive vehicles themselves, the cost of full-time drivers is small. Expenditure obviously depends on the number of vehicles and their unit cost.

86. The number of vehicles is dependent on the method of working (paragraphs 91-93). The cost per vehicle should be compared to the benchmark in the Commission's study of vehicles* which, when updated to 1987-88 prices, was about £2,600 per annum for a light van including fuel (£3,400 for a medium van). Vehicle maintenance is to be the subject of compulsory competitive tendering; this may reduce the costs of the supplying department which should reduce charges to the DLO. If these costs cannot be brought into line then DLOs should consider leasing from external suppliers.

INCREASE WORKING TIME

87. More working time means more income. Working time can be increased by controlling sickness, better materials planning and the proper organisation of work. The analysis in Chapter 2 showed that the proportion of productive time to attendance time was around 80 per cent. Better management and a sensible incentive scheme can improve this proportion.

* Improving vehicle fleet management in local government, HMSO, 1984
CONTROLLING SICKNESS

88. Recorded sickness varies in the study authorities from one to three hours a week per operative, i.e. between about two and eight per cent. Other DLOs are known to have rates above 15 per cent (Exhibit 18). There is no 'right' figure for sickness absence, but an average of 10 working days ought to be sufficient to cater for genuine absences. Reducing sickness from, say, 20 to 10 days per annum reduces hourly operating costs by six per cent.

Exhibit 18
THE COSTS OF SICKNESS
Some DLOs are better at controlling sickness time than others; unnecessary sickness loses the DLO income

89. An analysis of the pattern of sickness is a prerequisite to proper control. Long and short-term sickness must be treated differently. Long-term sickness can usually only be dealt with by redeployment or retirement on grounds of ill health. Persistent short-term sickness requires firm management action by way of home visits, interviews and medical reports. In a few DLOs some sick leave seems to be regarded as an automatic addition to the annual leave entitlement. As such it is more akin to absenteeism. It is often associated with low morale, poor working conditions, high labour turnover and low productivity. The solution can therefore be linked to overall improvements to the DLO's performance.

WORK ORGANISATION, PLANNING AND CONTROL

90. Productive time can also be increased by effective work organisation, planning and control. For non-urgent jobbing repairs each housing repair order is worth about £60. If operatives work about 210 days in a year and income per operative is about £25,000 per annum then, on average, two such jobs are done per day. Obviously some jobs are shorter, particularly emergencies, and others, such as relets and programmed repairs and some cyclical maintenance, are much longer but operatives occupied on jobbing maintenance typically spend 75-85 per cent of their time on productive work.
91. In part the extent of non-productive time is determined by the client and by the pattern of work the DLO wins in competition. But DLO management can also have an effect principally by:

(a) improving materials delivery. Imprest stocks reduce materials collection by individual tradespeople. The client, through the repairs reporting clerks, can ensure that as many repair requests as possible are described as schedule of rates items. They should identify those orders which are likely only to need materials that are held in the imprest stocks. The client's technical officers or the DLO can then pre-inspect the other repair orders to identify materials requirements;

(b) zoning repairs. Non-urgent repairs can be grouped together and undertaken by small groups of tradespeople. They either work from fixed sub-depots or from mobile caravans which hold imprest stocks and provide messing facilities. Both can reduce travel time and abortive calls caused by the lack of correct materials (sometimes due to an incorrect works specification);

(c) reducing abortive calls. Effective work planning is the key. The original repairs request form usually enables the repairs clerk to note when the tenant is likely to be at home. This helps programming. If non-urgent repairs are undertaken on a cyclical basis then the tenant will know the likely period of repair. A few DLOs have attempted to reduce abortive calls, and to improve their effectiveness, by arranging a particular morning or afternoon for the repair (making an appointment for a particular hour is not feasible because of the inherent variability of maintenance work). This can only be done a week or two in advance of the repair when the supervisor is making detailed plans. However, the best controllers of abortive calls are the operatives themselves. Some are inevitable but if the allowance for lost time is combined with the allowance for the job then the operative will have the incentive to keep it to a minimum. Local knowledge will often enable the operative to locate the tenant and operatives can forewarn tenants of their arrival on their way home the night before;

(d) 'over-programming'. Operatives should be given work tickets for more than a day's work. Then, in the event of an abortive call or the failure of bulky materials to be delivered, the operative can move onto the next job without having to refer to the depot for further instructions. East Cambridgeshire gives operatives a complete week's work and the responsibility of organising it to best effect. This approach is only feasible when travel distances require each operative to have a van;

(e) ensuring that the main trade makes good. It is not possible to train an operative to undertake every maintenance task. Some DLOs have trained operatives as local 'handymen' who undertake the simpler and more frequent task across a range of trades. In the private sector the main trade usually 'makes good'; DLOs ought to overcome any resistance to this practice. Productivity is improved because less time is spent on travel and other non-productive tasks (Exhibit 19). Authorities which have negotiated the introduction of such practices have found that in aggregate no trade loses work to another. Effectiveness is also improved because the job is undertaken in one visit and the tenant is not disturbed more than is necessary;
(f) reducing the ratio of labourers to tradespeople. Traditionally most tradespeople had mates, i.e. labourers. Given the relative wages in the 1987 national agreement (£134.83 per week for plumbers and £108.26 per week for labourers) it only requires a small amount of non-productive time on the part of the labourer to make it better to use two tradespeople instead when there is a two-person job. The ratio of tradespeople to labourers in the study DLOs varied considerably. Adverse ratios can occur in times of labour shortage when skilled operatives are more likely to find a better paid alternative than are labourers.

Exhibit 19

FLEXIBLE WORKING

'Main trade makes good' avoids extra allowances

<table>
<thead>
<tr>
<th>Multi-trade</th>
<th>Waiting time incurred + 3 travel &amp; address allowances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single-trade</td>
<td>No waiting time + 1 travel &amp; address allowance</td>
</tr>
</tbody>
</table>

Source: a study DLO

92. No universal best practice for the organisation of work can be prescribed. It depends both on the volume of repairs and the density of the council's stock. Usually a combination of methods is appropriate. A hypothetical pattern of a council's stock demonstrates this (Exhibit 20). Zone A contains the main depot within a council estate and has a radius of one mile. Such an area might contain 3,000 to 4,000 dwellings and generate enough work for 15 to 25 operatives who could travel on foot to each job. In Zone B, which is further from the depot, the density of council housing may be less. Here zoned repairs based on caravans or sub-depots may be best. Finally, in the rural area, it may be best to provide each operative or pair of operatives with a van so as to minimise non-productive time.
93. There is an obvious trade-off between vehicle costs and non-productive time. Light vans cost about £2,600 per annum - 10 per cent of the income generated by the average operative (Exhibit 21). Except in rural areas it will probably be most effective for two operatives to share a vehicle. Some authorities pay car allowances rather than provide a van. At January 1988 rates the break-even point is about 10,000 miles per annum but, of course, operatives can only carry a very limited stock in addition to their tools. This method therefore may be most appropriate in areas typified by Zone B in Exhibit 20.

Exhibit 20
THE ORGANISATION OF NON-URGENT JOBING REPAIRS
The best method of organising jobbing repairs depends on the density of council housing and the distance from the depot

Exhibit 21
TRANSPORT AND PRODUCTIVITY FOR LIGHT VANS
More vans have to be paid for by increased productivity

Source: a study DLO
94. The larger DLOs offer the opportunity to experiment with different methods of working. To achieve any pay-off it is vitally important for management to negotiate changes in the time allowed for jobs at the outset. Once a new method of working is established it is exceedingly difficult to change times.

95. Exhibit 22 summarises the Commission's recommendations aimed at improving the productive time of operatives. Whatever methods are adopted, DLO management still has to ensure that the rate of work is up to standard. Productive time is already between 75 and 85 per cent of the working day so the rate of work is likely to be the more important factor.

Exhibit 22
INCREASING WORKING TIME
Working time can be increased by reducing travel time and abortive calls

IMPROVE THE RATE OF WORK
96. The key to improving the rate of work is a satisfactory incentive scheme. A good scheme makes it in the operative's interest to perform as the client, DLO management and the customer would wish. There are many poor bonus schemes which fall far short of these goals. Indeed some authorities have made the mistake of consolidating bonus in with basic wages and have lost any wage incentives to improve productivity. Other schemes have scarcely changed since the 1960s when central government exhorted local authorities to find ways of increasing the pay of their manual workers without increasing basic wages.

97. The worst features of many such schemes were:

(a) travel and other allowances earning bonus. Separate allowances were made for travel (x minutes per mile), collecting materials, abortive calls, waiting time, cleaning up etc. Operatives could still earn a considerable bonus without doing much productive work;
(b) the tasks undertaken were described in great detail and there was continual argument over the time to be allowed. Separate times were identified for each element and for different working conditions. As a result, the bonus scheme could identify as many as 3,000 tasks;

(c) times have not been updated to take account of improved working methods. The schemes are then subject to a cut-off so that operatives have a ceiling on their bonus payments. True performance is then much lower than is achievable.

98. Such schemes made bonus more dependent upon the skill of operatives at form filling than on their rate of work. The costs of bonus administration were also excessive. Since most such schemes were supported by work study, the profession got a bad name in the eyes of DLO managers who then sought alternatives.

99. Two such alternatives have been named 'time-saved' and 'tender-led'. Appendix 3 describes traditional bonus schemes and these others in some detail but the essence is:

(a) time-saved schemes identify target times for each schedule of rates item. The operative's bonus is then calculated by comparing the target hours earned with attendance time. Thus during a week an operative might perform 10 jobs whose total target time was 52 hours. Given an attendance time of 39 hours the operative would then have earned one-third bonus. No separate allowance is made for collecting materials, travel or any other purpose;

(b) tender-led schemes identify the labour element of the price for the job. Operatives are then paid the sum of the labour value of the tasks performed in the week. Theoretically the labour value for different tenders could vary between different contracts. If jobbing repairs were divided into areas for tendering purposes then the labour value in each area would be different. For programmed and cyclical repairs the labour value could be different for each lump sum tender. As a result different operatives would earn a different amount for the same work; indeed the same operatives could earn different amounts in successive weeks if they were working on different contracts. In practice such industrial relations tensions are usually avoided by determining a market-led labour element at the outset of the year, usually derived from the main schedule of rates tender for jobbing repairs (or from the average of several schedules).

100. Although 'tender-led' schemes are based on money, the labour element is calculated from the time for the job multiplied by the labour cost per hour. Such schemes are therefore almost identical in their end effect to time- saved schemes, especially as operatives are guaranteed the national basic wage whatever their performance. In this way the schemes differ from piece work which is often used to pay self-employed sub-contractors in the private sector (the so- called 'lump'). Where piece-work operates the rules are quite simple; no work - no pay.

101. Other DLOs have sought to reform their traditional bonus scheme rather than switch to an alternative. Travel and other allowances have been consolidated into job times and the myriad of individual tasks grouped together so that the bonus item links to the schedule of rates. (For example, changing a front door will involve changing locks, bolts, letter box and rehanging but only one composite time is given). For the shorter tasks the target times have also been
banded in the manner described in paragraph 77. The range of tasks is also simplified by treating the ‘rough with the smooth’. For example, some doors are simple to rehang whereas others are not. Rather than seek to allow for these differences in every particular case an average for this type of task is calculated and used, whatever the circumstances of a particular job. In these ways bonus is clearly linked to the value of work completed, administration is simplified, and algebraically the calculation of the incentive payment is very similar to time- saved or tender-led schemes.

102. Although the formula for calculating the incentive payment is similar, the philosophy behind the determination of target times is not. Consolidated bonus schemes derive their target times from work study, i.e. the estimated cost of work. Tender-led and time-saving schemes are in common use in the private construction industry. They derive their times from ruling market prices after allowance for materials, overheads, and other costs. While the market price for lump sum tenders won by the DLO is clear, the labour element of individual jobbing tasks described by the schedule of rates is not. Competition is based on the weighted sum of items and so the time for individual jobs has still to be determined. These times are often taken from the work studied bonus schemes that were in place before the adoption of the new incentive scheme.

103. While there has not been a revolution in the methods of undertaking maintenance work there have been a considerable number of improvements over the years, e.g.:

— rollers instead of brushes for painting ceilings and walls;
— the change to plastic or aluminium extruded gutters from cast ironware. The former are much simpler to install;
— the change from metal to plastic pipework for wastes and other plumbing;
— the introduction of many more electrical tools such as battery operated electric screwdrivers;
— patented lightweight scaffolding which is faster to erect.

104. Many of these improvements have been driven by the DIY industry and with the continued expansion of this market further changes must be expected. In order to realise the resultant productivity improvements, the allowed times for the affected work need to be reduced. Where changes affect the client’s specification, DLO management may need to persuade the client of the ensuing benefits. These changes can more easily be made if work study is available to estimate their effect.

105. The building cycle affects both price and pay as is evidenced by the rapid increase of wage rates in the South East in the last few years. In order to remain competitive local authority rates of pay must also respond to market conditions. In the South East, where national pay rates are uncompetitive, one way of achieving this is to pay a bonus supplement dependent on market conditions (Exhibit 23). Incentives are linked to realistic job times but wages can respond to the building cycle and to regional pressures. In addition operatives have an incentive, not only to improve efficiency, but also to economise on the use of materials and other resources.
MARKET RELATED SUPPLEMENT
A more effective incentive is the traditional scheme 'topped up' by a market related supplement.

Incentives have been weakened by the recent national wage agreement which consolidated 12.5 per cent of bonus into the basic wages of operatives (Exhibit 24). Previously bonus started at a 75 performance level but it now starts at 88. Even those operatives who achieve a performance of 100 only receive an extra 10 per cent on their guaranteed pay. These new arrangements make it particularly necessary for management to identify and counsel the poor performers. Anyone performing at less than about 85 BSI will lose the DLO money because the income earned will not pay for their wages, wage overheads, transport and materials costs. DLO managers need to improve their performance, or in the final analysis recommend alternative employment, if the DLO is to remain competitive.

TRADITIONAL BONUS SCHEME
Incentives have been weakened by consolidating 12.5 per cent of bonus into basic wages.
107. Individual incentive systems are preferable to a group profit system which pays the operative a basic wage plus a proportion of the DLO's profit for that group. Although such a system has the advantage of low administrative costs and an incentive to be economical with materials, profit can only be calculated for a large group of operatives because of multi-trade jobs. Since a depot might employ 60-90 operatives, the direct incentive to any one operative is relatively weak. Group incentive schemes are, however, suitable for lump sum contracts particularly if they are large programmed maintenance contracts subject to monthly valuations.

108. For many DLOs the data from the incentive payments system is the only available measure of cost and productivity. Bonus schemes often produce large volumes of undigested management information and can never be the complete answer to a DLO's information needs. Larger DLOs need a computer system to meet these needs.

MANAGEMENT INFORMATION

109. DLOs have a large variety of computer hardware and software. Some use custom-built programs on the local authority mainframe and obtain management information using the manufacturer's query languages. Within its authority the DLO is often in a queue for further software developments. The queues have been lengthened by the many legislative changes, notably housing benefit and the community charge. Other DLOs make use of a proprietary system which can be a part of a housing management and maintenance computer suite. Whatever system is chosen it should both progress and monitor individual repairs orders and their consequent charge and provide management information at a more aggregated level (Exhibit 25).

Exhibit 25
A CLIENT AND DLO COMPUTER SYSTEM
The computer system should provide an overview as well as progressing orders and generating charges
110. The AMA's recent guide to housing maintenance and repairs* contains a useful description and analysis of the requisite management information base. It concludes that in the rush to prepare for the 1980 Act and the necessary DLO trading accounts most systems concentrated on workload entry and charging. They did not meet adequately the requirements for work programming and management information.

111. Because bonus, supervision, transport and overheads of a DLO cannot be allocated to job level it is not possible to define the true cost of each individual job. All that can, and should, be known is the actual time or work done compared to the target. This information can then be used to create an estimate of the profitability of different groups (depots, trades, types of work) within the DLO. True costs should then be monitored at an aggregated level. The accountancy system should therefore be based on standard costing.

112. Each completed repair order generates income through the schedule of rates, the day works rate or the lump sum tender. The income is credited to a cost centre within the DLO accounts. There should be separate cost centres for each area or work group. The income generated from emergencies, non-urgent jobbing repairs and programmed and cyclical repairs should be held separately. The time spent by each operative on each job is recorded and transformed into cost at a standard hourly rate. The hourly rate should cover for direct wages and wage overheads as defined in the cost model. The cost of materials, inclusive of purchasing and stores overheads, and sub-contractors used on the job will be charged to the cost centre. The cost centre will also be charged for the vehicles and plant used by the work group.

113. The last set of costs to be covered is indirect overheads. These can either be apportioned to the individual cost centres or held in a central account and the contribution of the various cost centres to overheads can be credited to that account. If overheads are to be apportioned then it is important that they should not be a fixed percentage of direct wages. Different types of work can incur different proportions of the overhead, in particular painting work uses less by way of depot facilities and supervision than other maintenance work. To allow for this difference, and to introduce commercial flexibility, it is preferable not to apportion overheads. Instead the operational surplus should be a contribution to the overhead account (Exhibit 26). This has two advantages:

- it focuses management’s attention on overhead costs which must be met before the profit can be derived;

- it allows management to adjust prices for individual contracts. The overhead contribution is varied in the light of market conditions. This accords with normal commercial practice.

* Repairing for the future, Association of Metropolitan Authorities, 1988
In order to produce a weekly or monthly estimate of the contribution to overheads and profits of each work group, a number of cost estimates have to be made because knowledge of the actual costs will lag the completion of the work. The assumptions are:

- the hourly rate for direct wages and wage overheads;
- the hourly cost of transport and plant;
- the oncosts for purchasing and stores.

Each of these assumptions needs to be monitored through the medium of holding accounts. These accounts are credited with the charges to the cost centres and debited with their actual costs when they are known. The charge rate is based on an estimate of these costs which has to be made at the start of the year and updated periodically.

Some of these costs are usually determined outside the DLO, notably transport. This can introduce considerable uncertainty unless the DLO negotiates a fixed price for the vehicles that it 'hires' at the outset of the year, as it would with any commercial supplier.

In order to prepare its tenders the DLO also needs to estimate the cost of indirect overheads for the year. The DLO's trading position can be adversely affected if these change unexpectedly once tenders have been settled. If the DLO has a 'service agreement' with the central departments which specifies the type, level and costs of the services to be provided then variations to overhead costs can also be controlled.

Financial information in the format described, as well as knowledge of the market, are prerequisites to the development of a DLO's tendering strategy. Absence of such information
can cause the DLO to tender at inappropriate prices. If they are too high then work can be lost unnecessarily; if they are too low then prices can be set at considerably less than the market rate and a loss incurred. The Commission is aware of a number of DLOs in this position.

119. Even if a DLO controls its costs and improves its productivity it will not remain in business if it fails to meet the needs of the client and the ultimate customers, be they tenants, schools or other users of local authority buildings. The effectiveness of DLOs is the last issue to be considered in this Chapter.

IMPROVE EFFECTIVENESS

120. The AMA report, referred to in paragraph 110, placed great emphasis on effectiveness and identified 10 key principles as the basis for an effective service (Exhibit 27).

Exhibit 27

KEY PRINCIPLES OF AN EFFECTIVE MAINTENANCE SERVICE

Both the client and the DLO determine the effectiveness of the maintenance service

121. The roles of client and contractor are inevitably intertwined when it comes to providing an effective repair service to the tenant and other customers. The client has a number of duties including:

- determining target response times;
- receiving (and acknowledging) the repair request;
- deciding and communicating the relative responsibilities of client and tenants for repairs.
122. DLOs are now extending their measures of effectiveness. They need competent systems to ensure that work is done to the correct standard and quality. This is primarily done by the DLO’s own inspection staff but it is vital to involve the ultimate customer - the tenant or head teacher. Some DLOs leave a reply-paid card with the tenants asking them to report on the standard of repair, e.g. Gloucester City Council (Exhibit 28). But the University of Glasgow’s study (paragraph 28) found that only 15 per cent of councils monitored customer views on the repair service (in contrast to housing associations, where it was 33 per cent).

Exhibit 28

THE CUSTOMER’S VIEW

Effectiveness can be improved by obtaining the customer’s opinion

123. Some DLOs are seeking to project a new image. They use uniforms, logos and other devices to support operative training. Dartford Borough Council has organised a series of two day courses for both management and front line staff which outline the importance of customer care, and train staff on ways of identifying and meeting customer needs and dealing with their problems. Subsequent training programmes have also been organised for the workforce itself. This development is reinforced by renaming the DLO ‘DARTFORCE’ and by the introduction of uniforms and a new logo for the vans and letter headings.

124. Most DLOs seek to measure their adherence to response times by measuring the backlog of maintenance by repair categories, e.g. emergency, urgent, and non-urgent repairs. However, very few computer systems enable the date of the order and the date of completion to be compared so as to get an exact picture of response time. For non-urgent work tenant surveys
have shown that they are more concerned about the certainty of the repair date than about the speed of response. It is rarely practical, and certainly uneconomic, to attempt to arrange a fixed time for the repair at the time of the order. The best that can be achieved is to attempt this a week or so before completing the order when the likely workload is known. Few of the DLOs studied did this. Where a DLO undertakes non-urgent repairs through a zoning system then the supervisor can attempt to arrange this during the pre-inspection period. In any event the tenant will know the planned cycle of repair. (Other ways of reducing abortive calls were discussed in paragraph 91 (c)).

125. One problem of adhering to planned response times is the variable nature of the workload. Localised repair services are particularly affected by variation which is to some degree evened out in the larger units. If the variation in orders is to be accommodated without the creation of large backlogs then the capacity of the work unit must be capable of variation. This can be achieved by:

- switching tradespeople between work groups;
- using overtime;
- employing temporary labour;
- using sub-contractors or other groups within the DLO to meet the peaks of demand. This method is particularly effective in ensuring that the cycle of zoned repairs (where this system is used) is adhered to.

126. Overtime can be cost effective if productivity does not fall and supervision costs are not above average. It enables overheads to be spread more widely. However, systematic use of large amounts of overtime generally does affect productivity. It is not a long-term answer to skill shortages.

127. The next element of effectiveness which a DLO can influence is the quality of the repair itself including making good, the cleanliness of the job and the removal of bulky waste materials. Repair quality and tenant satisfaction concern both the client department and the DLO. The University of Glasgow's study found that housing associations inspected 35 per cent of all jobs, roughly double the proportion inspected by councils. They ask 'are councils right to place such faith in the effectiveness of their DLO?' DLOs need to be able to demonstrate that such faith is well placed. 'Right first time' should be the policy. Even where a DLO rectifies any faulty work, there is still unnecessary disturbance to tenants caused by repeated visits and duplicated work.

APPRENTICE TRAINING

128. A limiting factor on the effectiveness of some DLOs is the size of their labour force. The recruitment and retention of staff in a competitive labour market were discussed in paragraph 105. A further aspect is apprentice training. Because of their size DLOs should have a major role in such training. In every region firms (and DLOs) are reporting skill shortages (notably carpenters and bricklayers). During the period 1979-86 the number of permanent employees in the construction industry fell from 1.2 to 0.9 million. Conversely the number who were self-employed rose from 156,000 to 411,000 in the 10 years to 1987. The base for apprentice training was cut by about 25 per cent (Exhibit 29).
Exhibit 29

APPRENTICE TRAINING FOR BUILDING WORKERS 1976-86

Apprentice training has fallen both in the public and private sectors

![Graph showing apprenticeships over years]

Source: Incomes Data Services Ltd. Study no. 396. Building Workers Pay. October 1987

129. This shortage is the combination of people leaving the industry for good during the last slump and a reduction to the volume of apprentice training. The problem has been the need to cut costs in the light of tight tender prices in the early 1980s. Training may now be recovering but it may well be an example of too little too late as the supply of suitable candidates reduces as the falling number of school pupils works it way through. Employers will need to widen their net to include the long-term unemployed and to increase the presently minuscule number of women employed on maintenance work.

130. In the short term it is not in any particular employer's interest to recruit apprentices when competitors do not. Less than 20 per cent of private firms subscribe to the training board levy. The Commission would support local authorities in taking the lead and encouraging all of its contractors to engage apprentices (although the law does not allow this to affect the way in which contracts are awarded). DLOs must absorb the cost of apprentice training within their accounts. The DOE has stated that it will take into account any costs of apprentices, over and above those related to the DLOs needs, when the Secretary of State considers any failure to make the required rate of return.

131. There is a growing recognition of the need to improve the effectiveness of the repair service. In view of its earlier analysis of the repair and maintenance backlogs on many council properties, and the implications for the value of public assets, the Commission is strongly in favour of improving the quality of the maintenance effort overall. DLOs can contribute to this aim by improving efficiency and enhancing effectiveness. With the advent of tenants' choice, delegation to schools and other legislative changes in prospect there is an increasing need to continue these improvements.
132. The last two Chapters have identified a wide range of potential improvements. The major elements that can be quantified are summarised in Table 6. (Other important items such as effectiveness and management information cannot be quantified in this simple way). The summary also gives a broad estimate of their contribution to reducing the cost per comparative hour calculated from the difference between the target and the upper quartile. These are only intended to show the relative importance of each item; the sample does not permit a more confident estimate. Such improvements need to be built into the business plan: the subject of the final Chapter.

Table 6
TARGETS AND ESTIMATED POTENTIAL SAVINGS

<table>
<thead>
<tr>
<th>INPUT COSTS</th>
<th>Target</th>
<th>Potential Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>London &amp; South East</td>
<td>Provincial</td>
</tr>
<tr>
<td>Stores overheads as percentage of stores issues</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Management plus CEC</td>
<td>90p/hr</td>
<td>£1.25/hr</td>
</tr>
<tr>
<td>Cost per vehicles including fuel (light vans)</td>
<td>£2,900</td>
<td>£2,600</td>
</tr>
<tr>
<td>Sickness (days per annum)</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Comparative productivity index</td>
<td>80</td>
<td>85</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

47
133. While the threats to many of the DLO's markets are real, there are a number of opportunities which few DLOs exploit. Increasing the market share of their own authority's maintenance expenditure may be difficult since this will very often involve programmed work where they are less competitive. Nonetheless some DLOs have expanded their market by creating units to deal with specialist work, e.g. asbestos removal and servicing gas boilers. Other DLOs have created joinery workshops and factory units to produce UPVC windows for their maintenance programmes. DLOs can also work for other public bodies (Appendix 4). The list is a long one but the main potential customers are:

- other local authorities;
- health authorities;
- housing associations.

134. A particular opportunity is often open to shire district DLOs to work for the county. Only nine counties have a DLO with a turnover of more than £1 million; most use private contractors. These contractors are usually employed on a day works basis and counties have little idea of the value they get for their money. A switch to schedules of rates would enable them to do so and would open up an opportunity for DLOs to compete on an equal footing.

135. The DLO's response to these threats and opportunities must depend on the objectives set by the local authority. The authority's vision of the sort of DLO it wants to see will dictate the target market. The DLO might seek to maximise its turnover subject only to legislative constraints so that the opportunities it presents for permanent employment, apprentice training and good working conditions are maximised. Alternatively the authority might wish to promote a mixed economy of the DLO and private contractors and see the DLO as an essential lever to check private sector prices at peaks of the building cycle. A third alternative is to use the DLO only to plug gaps which the private sector cannot fill. Some DLOs have dealt only with emergency work, leaving other jobbing and all other maintenance to be awarded after competition within the private sector. There may be other viable approaches.

136. The objectives chosen by the authority will be affected by the authority's policy in other areas and by the DLO's internal strengths and weaknesses. Obviously if the authority plans to dispose of its housing stock en bloc to one or more housing associations then this will affect a DLO's strategy. Alternatively, a policy of housing decentralisation may affect the DLOs contract. Equally an expansionist policy is scarcely feasible if the DLO cannot attract sufficient tradespeople and technical staff. (One London borough which suffers high labour turnover has adopted a strategy of positively encouraging private contractors to supplement its DLO so as to achieve the desired volume of maintenance). The DLO may not have tradespeople who are experienced in programmed maintenance, having spent their lives on jobbing repairs. Equally the DLO may not
have access to financial systems that will support the necessary tendering, charging and financial management were a number of outside clients to be obtained. Thus the vision needs to be integrated with other elements of the business plan (Exhibit 30).

Exhibit 30
ALTERNATIVE BUSINESS PLANS
Different visions require very different approaches

<table>
<thead>
<tr>
<th>Vision</th>
<th>Public buildings plc</th>
<th>Price checkers</th>
<th>Gap fillers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A large all embracing public building company</td>
<td>In-house competitor</td>
<td>DLO below de minimis level</td>
</tr>
<tr>
<td>Strategy</td>
<td>Maximise workload</td>
<td>Discipline on private sector prices</td>
<td>Small team</td>
</tr>
<tr>
<td>Structure</td>
<td>member board</td>
<td>low overhead</td>
<td>single manager</td>
</tr>
<tr>
<td></td>
<td>management units</td>
<td>simplified and</td>
<td>in client department</td>
</tr>
<tr>
<td></td>
<td>stand alone</td>
<td>consolidated incentives</td>
<td></td>
</tr>
<tr>
<td>Systems</td>
<td>computerised</td>
<td>management accounting</td>
<td>simple manual</td>
</tr>
<tr>
<td></td>
<td>management accounting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cost centres</td>
<td>labour performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tender performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Style</td>
<td>corporate identity</td>
<td>competitive private</td>
<td>flexible</td>
</tr>
<tr>
<td></td>
<td>accountable units</td>
<td>building firm</td>
<td></td>
</tr>
<tr>
<td>Staff</td>
<td>qualified estimators</td>
<td>main trades only</td>
<td>general handymen</td>
</tr>
<tr>
<td></td>
<td>active recruiting</td>
<td>use of sub-contractors</td>
<td></td>
</tr>
<tr>
<td>Skills</td>
<td>full range</td>
<td>responsive</td>
<td>odd jobbing</td>
</tr>
<tr>
<td></td>
<td>specialist trades</td>
<td>maintenance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>in-house workshop</td>
<td>some apprentices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>apprentice training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

137. All of these issues will need to be considered before the DLO can formulate its business plan. The plan will also need to be tailor-made to suit the results of the analysis recommended in this report. It will include both internal DLO changes and recommendations for changes on the client side and on the part of central departments. It will need to reflect a continuing quest for improved efficiency and effectiveness.
Stage I  What are we good at?  The first step is to compare the DLO’s productivity with the benchmarks described in Chapter 2. How do the local productivity index and cost per comparative hour compare with best practice?  If the DLO is not efficient then what is the likely cause?  The recommendations in Chapter 3 will help identify potential improvements. This analysis should be accompanied by an examination of the latest accounts and information from the incentive scheme.  If the DLO worked on a number of separate tenders, were they all profitable?  Does the performance of some depots/work groups fall short of the standard?

Stage II  What does the customer think?  Too few DLOs have established systems which regularly provide them with the customer’s views.  Reports from councillors and meetings with tenants’ associations, although valuable, are no substitute for sample surveys of the tenants themselves and for tenant report cards (Exhibit 28).  Such market information may well reveal the need for (further) operative training and for changes in practice.  They may also show the need to persuade the client to change tender specifications.  With the approach of delegation to schools, the DLO should also seek the views of headteachers.  Similar approaches should be made to other clients.

Stage III  What are the threats and opportunities?  The first two stages will give managers a view of the DLO’s strengths and weaknesses.  The next stage is to look at the threats and opportunities.  How will the range of new legislation affect the DLO?  If a substantial part of the housing stock is to pass to another landlord then major changes will be required.  To date few councils are planning such a step.  But other changes may well be in prospect.  The new capital controls system may limit the volume of capitalised repairs.  The changes to the HRA may affect revenue budgets and changes to the competition regulations are planned for October 1989.  The small DLOs that have stayed just below the 30 employees limit or who have confined themselves to the 40 per cent ‘as of right’ will be particularly affected.  But there are also opportunities as paragraph 133 showed.  These threats and opportunities should be discussed with the client side.  The client will wish to know if any of its plans will adversely affect the value it can obtain from its contractor(s) and the DLO will want time to plan its response to any changes.  ‘Arm’s length’ does not mean the absence of proper discussion.

Stage IV  Where can we do better?  The analysis in this report has shown that many DLOs can improve their efficiency and effectiveness.  Very often, the incentive scheme is the starting point.  This report has argued for consolidated allowances, simplified schemes taking ‘the rough with the smooth’, and updating times as working methods and materials change.  A good incentive scheme not only improves productivity; it can improve effectiveness by freeing supervisors to spend more time on workload planning and by reducing abortive calls.  Working methods also need to be checked.  One of the study DLOs uses a plumber, a joiner, a plasterer and a mate all to change a sink unit.  The time taken would be reduced by 30 per cent if the plumber undertook all of the tasks himself.  Authorities in London and the South East particularly need to look at their incentive schemes and to consider the use of market related supplements.  Consolidated day wage systems are most unlikely to be successful.
The next step is to ensure that the incentive scheme and the schedule of rates are linked. This not only reduces administration costs; it also ensures that the incentive scheme is linked to the income and hence the profitability of the DLO. Sickness, further use of transport, changes to work organisation and the use of imprest stocks need to be examined as do management costs and CEC.

Stage V  *What are the views of the workforce?* Consultation is not a sign of weakness. It is an essential element of maintaining the morale of the workforce and of testing the practicability of any proposed changes. But managers must still manage and the workforce cannot have the right of veto. Many DLOs have identified potential improvements but are delayed by extended negotiations.

Stage VI  *Have we got the right information?* Few businesses with a turnover of more than £1 million would survive with the poor information that is available to many DLOs. The use of standard costing would let managers know how each work unit was performing and would improve a DLO's tendering strategy. It also enables the DLO to evaluate alternative business plans.

*Exhibit 31*  
**THE KEYS TO SUCCESS**

**COST CONTROL**
- Stores overheads less than 15 per cent
- Stores turnover more than 3.5 times per annum
- Each central storekeeper issues greater than £150,000 of materials per annum
- Cost per light van less than £2,600 (including fuel)
- Compare vehicle costs with external hire charges
- Service agreements for CEC charges
- Management costs and CEC less than 90p per attendance hour (in the provinces)
- Flexibility to meet variable workload, e.g. overtime
- Imprest stocks to reduce inspection for materials to less than 10 per cent

**PRODUCTIVITY**
- Simplified incentive scheme linked to schedule of rates
- Allowances consolidated and ‘rough with smooth’
- Target times changed in response to new methods of working
- Low performers identified
- Discretion and incentives to operatives so as to reduce abortive calls to less than 1:6
- Methods of working to reflect density and distance, e.g. vans in rural areas
- Ratio of labourers to tradespeople less than 1:5
- Sickness rate less than 10 days per operative per annum
- Main trade makes good
- Check if some supervisor time wasted on excessive paperwork and transport of operatives and materials
139. These stages are not an exhaustive list of the issues that a business plan will address. Exhibit 31 provides a summary of those included in the Commission's study. Such questions, and the diagnosis recommended in this report, will enable managers to identify a number of items or projects and to set out an improvement programme. Each project should have an identified aim to improve cost, productivity, market share and/or effectiveness. The plan should estimate the size and timing of such effects. For the larger DLOs it may be worthwhile constructing a financial model on a micro-computer spreadsheet. This would enable the effect of any proposed changes upon the holding and operating accounts described in paragraphs 112-115 to be exemplified more readily and alternate strategies could then be evaluated before the plan is finalised.

140. The example given (Exhibit 32) assumes that the DLO plans to consolidate all allowances in the bonus schemes and that this will improve productivity by 10 per cent. As a consequence bonus earnings, materials consumption, and income will rise by a similar amount. The effect can be traced through to estimate the resultant increase in profit.

---

**EFFECTIVENESS**

- Adherence to client's response times
- Dates for repair fixed with tenant
- Tenant satisfaction cards for return to DLO after repair
- Information to tenant if repair delayed
- Post-inspection by DLO management
- Customer care approach especially to vulnerable groups
- Tenant surveys
- Links with customer groups

**BUSINESS MANAGEMENT**

- Computer systems which do more than just progress orders and generate charges
- Information system based on standard costing identifying contribution to overheads from each labour group, e.g. each depot, the painters
- Information obtained on how tenders fare in market
- Know what the DLO is best at
- Consider specialist markets, e.g. asbestos removal
- Convince potential customers of benefits of schedules of rates
- Be aware of powers to undertake work for housing associations, health, and other local authorities (particularly counties that use contractors on day works)
- Check volume apprentice training against future needs
141. The better DLOs are market leaders particularly in the sphere of jobbing maintenance but the pressures to improve performance will continue particularly in the currently unstable legislative environment. The need for constant improvements to performance is ever present. The Commission’s appointed auditors will be assisting DLO managers in this task by conducting local studies using the material described in this report and the associated Audit Guide. The Commission is anxious that the many potential improvements should be realised.
APPENDIX 1:  THE WORK MODEL

1. Productivity comparisons are difficult because DLOs measure their productivity in different ways. Even where similar methods are employed different target times are set for the same job. The pattern of work also varies; some DLOs concentrate on jobbing repairs whereas others undertake a wider range of work.

2. The work model overcomes most of these difficulties. Almost all DLOs undertake jobbing repairs and there are a number of jobs which are common to most workloads. These have been identified and a set of 'benchmark' times have been calculated for each job. The model has been extended to include work on external and internal painting. The total number of jobs in the model is therefore as follows:

<table>
<thead>
<tr>
<th>Number of jobs</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpentry</td>
<td>22</td>
</tr>
<tr>
<td>Plumbing</td>
<td>24</td>
</tr>
<tr>
<td>Gas servicing</td>
<td>6</td>
</tr>
<tr>
<td>Wet trades (bricklayers etc.)</td>
<td>16</td>
</tr>
<tr>
<td>Electrical</td>
<td>15</td>
</tr>
<tr>
<td>Painting (internal)</td>
<td>3 (house types)</td>
</tr>
<tr>
<td></td>
<td>(external)</td>
</tr>
<tr>
<td></td>
<td>3 (house types)</td>
</tr>
</tbody>
</table>

3. Each item is assigned a frequency to reflect the relative occurrence of each task. For a particular DLO its local times for each of the tasks in the model is obtained and the weighted sum of these times is then compared with the weighted sum of the benchmark times. This is termed the work model factor.

4. The factor is calculated merely as a step in the process of comparing productivity. The factor itself transforms the local measures of productivity onto a comparable basis as the algebra below demonstrates:

Let A = the input costs of the DLO for a given period (as described in Appendix 2)

Let B = the total attendance hours of the DLO's productive operatives for the same given period

Let C = the local measure of target hours of productive work of the DLO in the same period. (This can be the productive standard hours from a work studied bonus scheme or the number of allowed hours in a time-saved scheme etc.)

Let D = the local target hours for the given basket of work

Let E = the 'benchmark' target hours for the same basket of work
Four calculations are then made:

\[ (i) \frac{C}{B} = \frac{\text{Productive work}}{\text{Attendance time}} \]

This ratio ought to measure productivity but it is affected by the relative 'tightness' or 'slackness' of local measures. A true comparison can be made by introducing the work model factor \((D/E)\) to derive a comparative productivity index.

\[ (ii) \frac{C}{B} \times \frac{D}{E} = \text{comparative productivity index} = CPI \]

Note that where a local authority has very generous times \(\frac{C}{B}\) will be high but so will \(\frac{D}{E}\). Thereby the effect of generous times is corrected.

\[ (iii) \frac{A}{B} = \text{input costs per attendance hour} \]

\[ (iv) \frac{A}{B} + CPI = \text{cost per comparative hour of production} \]

This calculation brings together input costs and productivity so that the cost of work may be compared.

5. A worked example will help clarify these calculations.

<table>
<thead>
<tr>
<th>Worked example</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DLO productive hours</strong></td>
</tr>
<tr>
<td><strong>Attendance hours</strong></td>
</tr>
<tr>
<td><strong>Work model factor</strong></td>
</tr>
<tr>
<td><strong>Comparative productivity index</strong></td>
</tr>
</tbody>
</table>

This means that, on average, for every operative attendance hour 0.74 comparative hours of productive work are completed by the DLO.

\[ \frac{\text{Input cost}}{\text{Attendance hours}} = \frac{A}{B} = £8.80 \]
\[ \frac{\text{Cost per comparative hour}}{\text{CPI}} = \frac{A}{B} + CPI = \frac{£8.80}{0.74} = £11.89 \]

6. The rest of this Appendix describes how the work model was compiled and how the simple application of the model has to be amended to suit local circumstances.
COMPILATION OF THE WORK MODEL

7. The work model was drawn up with the assistance of three senior work study officers. Descriptions of representative repair jobs in the main trades were established together with their relative frequencies of occurrence. The most frequently occurring repair jobs for each trade were selected from three of the study authorities building maintenance DLOs so as to cover either 30 jobs or 75 per cent of repairs within each trade - whichever limit was reached first. This resulted in an overall coverage of trades representing about 60 per cent of a combined total annual turnover of work of around £25 million.

8. Each trade was examined in detail and a single model was prepared from the data incorporating jobs common to the three authorities. A common job description was drawn up for each of the jobs selected and the target times were amended where the new job descriptions varied from those first put forward. The final target time chosen was that considered by the study team to be the most representative, rather than the lowest time or an average. The model was then tested out at the other study authorities and amended in order to make it more widely applicable. The original times were reviewed in the light of data from these tests. The resultant model provides a description of the work, the local time and the 'benchmark' time (Exhibit 33).

9. Following the comparison of each DLO's target times with the model times for each trade, an all-trade weighted factor is calculated based on the number of employees in each trade (Exhibit 34). The resulting work model factor represents the DLO target time per comparative hour of production for the model basket of work. This factor is used in conjunction with each DLO's productive work performance (target hours per attendance hour) to produce a comparative productivity index (CPI).
The work model calculates the total time spent by the DLO on a range of frequent jobs. The time for each job is multiplied by its frequency to give a total time. The sum of these times is compared to the benchmark to give a work model factor for each trade.

<table>
<thead>
<tr>
<th>Job description</th>
<th>Local target time (minutes)</th>
<th>Job frequency</th>
<th>Total target minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renew washer to domestic tap</td>
<td>10</td>
<td>145</td>
<td>1,450</td>
</tr>
<tr>
<td>Locate stop tap inside or outside premises. Isolate hot/cold water service (drain off where necessary). Strip down, rewasher and reassemble tap. Turn water on and test.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renew ball valve to wc cistern</td>
<td>17</td>
<td>52</td>
<td>884</td>
</tr>
<tr>
<td>Locate stop tap inside or outside premises. Isolate supply. Remove existing ball valve, fit new or existing ball valve arm and fit valve. Turn on supply and test.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewer ball valve to wc cistern</td>
<td>17</td>
<td>16</td>
<td>272</td>
</tr>
<tr>
<td>Locate stop tap inside or outside premises. Isolate supply. Remove ball valve, strip down, renew washer, clean or file plunger as necessary and reassemble. Refit ball valve, turn on supply and test.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renew ball valve to cold water feed/ expansion tank</td>
<td>28</td>
<td>16</td>
<td>448</td>
</tr>
<tr>
<td>Description as (2) plus gain access to roof void or remove and replace access panel to cupboard where necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renewer ball valve to cold water feed/ expansion tank</td>
<td>28</td>
<td>46</td>
<td>1,228</td>
</tr>
<tr>
<td>Description as (3) plus gain access to roof void or remove and replace access panel to cupboard where necessary.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The overall work model factor is weighted by the number of operatives in each trade.

<table>
<thead>
<tr>
<th>Trade</th>
<th>Work model factor</th>
<th>No. of direct operatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carpenter and joiner</td>
<td>1.95</td>
<td>25</td>
</tr>
<tr>
<td>Plumber</td>
<td>1.81</td>
<td>15</td>
</tr>
<tr>
<td>Gas servicer</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Bricklayer, plasterer, roofer and groundworker</td>
<td>2.11</td>
<td>19</td>
</tr>
<tr>
<td>Electrician (repairs)</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>Painter</td>
<td>1.35</td>
<td>26</td>
</tr>
</tbody>
</table>

Weighted model factor = 1.78
APPLICATION OF MODEL

10. The model has to be amended to suit local circumstances. Firstly, the relative frequencies of the jobs in the particular DLO can be used to amend the model frequencies. In the extreme a whole trade can be excluded where the DLO does not employ such people, e.g. it may not have any electricians.

11. The times used by particular DLOs may be inclusive of allowances. Provided such times are used both to calculate C and D above this will cancel out.

12. The model is mainly representative of jobbing repairs and painting. Some DLOs undertake a substantial amount of programmed work, e.g. roofing, kitchen renewals. To this extent its results are not as robust for such DLOs because their productivity on programmed work is not necessarily the same as for jobbing repairs and other work included in the model. But the model excludes allowances and deals only with the work content of jobs. These allowances are the major difference between jobbing and programmed repairs.

13. It is difficult to apply this model when a DLO undertakes a lot of unmeasured work or where operatives are paid a fixed wage or by means of a group profit sharing scheme. In these circumstances the schedule of rates has to be used in the manner described in paragraph 45 of the report.

14. Further detail on the application of the model is given in the Audit Guide.
APPENDIX 2: THE COST MODEL

1. One of the key areas of control open to the DLO manager relates to cost and an analysis of costs was an essential element in the study team’s review of DLOs. However, because of the limited quality of the financial management information generally available, the DLO’s own cost statements could not be used directly. Even where sufficient cost detail was available many DLOs had their own way of treating individual items in the accounts, and this would often be significantly different from their neighbours.

2. Therefore, in order to make valid cost comparisons a standardised cost framework for DLO accounts was developed. For the sake of brevity this standardised expenditure analysis was called the cost model. The model is linked to an attendance hours model (paragraph 38 of the report - Exhibit 9) which standardises the attendance hours of the DLO’s productive operatives. The two together are then combined to enable the cost per attendance hour to be calculated.

STRUCTURE

3. The cost model is drawn from the 1986-87 building maintenance DLO revenue accounts updated to 1987-88 prices. It represents the DLO’s cost of work done in the year plus the profit. The historic cost version of the accounts is used and current cost adjustments are not necessary. The model consists of a detailed job description on one side of the page and spaces for entering a DLO’s data on the other side. There is considerable detail in order to show where individual costs should be allocated if available separately. When first completing the model all the detail is not essential unless the sub-totals are seriously out of line with their comparators. Often estimated allocations will have to be made where details of actual expenditure are not readily available.

4. The main elements of the cost model (Exhibit 35) are described below. The total cost will correspond to the DLO’s revenue account once adjustments are made for sub-contractors and profit.

Exhibit 35

MAIN ELEMENTS OF THE COST MODEL

Cost per attendance hour, provincial DLOs

The cost model groups costs into five main categories

Source: Study DLOs
WAGES AND DIRECT WAGE RELATED OVERHEADS

5. These are the wages and overheads (e.g. national insurance and sick pay) of the productive operatives. The productive operatives are those who physically carry out repair and maintenance work on site. They exclude full-time drivers and operatives who work in depots or joinery workshops. Trade supervisors and apprentices are shown separately.

MATERIALS

6. This consists of materials issued through stores and those delivered direct to site. The cost of in-house manufactured items such as joinery are included, as are stores overheads and the cost of purchasing.

TRANSPORT

7. These are the transport costs of the DLO, including council vehicles, hired vans and travel allowances paid to productive operatives for using their own vehicles. The wages of full-time drivers and the cost of plant are also shown.

INDIRECT OVERHEADS

8. These are the residual overhead costs which have not been included elsewhere. They include the overhead costs under the control of the DLO, such as management, control, and administration staff and also those recharges not directly controlled by the DLO such as the central establishment expenses. Depot costs are shown here and, for the larger DLOs, the expenses relating to area offices.

EVALUATION OF ATTENDANCE HOURS

9. In order to compare costs on a unitary basis it is necessary to convert the cost model to cost per attendance hour. The attendance hours are those of the productive operatives. Net attendance hours are calculated from the normal gross hours of work, less holidays and sickness plus overtime (paragraph 38 of the report). Because of staff turnover an accurate weighted average of attendance hours may not be available or easily calculated. In that case a simple average based on the number of employees at the start and finish of the year may be used instead. The attendance hours for the year are then divided into the values in the cost model to give the cost per attendance hour.

COST MODEL OUTPUT

10. Having allocated the costs into the standardised format and calculated the cost per attendance hour, the DLOs costs can be compared with those of its family. Separate comparisons can be made for materials and other input costs. These are given in the main text for provincial DLOs (Exhibits 7 and 8). Those for London and the South East are significantly different (Exhibits 36 and 37). Materials costs per attendance hour are less than those of provincial authorities mainly because of lower productivity.
Exhibit 36

MATERIALS COST PER ATTENDANCE HOUR
South East DLOs cost per attendance hour, 1987-88 prices
Materials cost per attendance hour for London and the South East are lower than for provincial authorities

<table>
<thead>
<tr>
<th>Material</th>
<th>Lower quartile</th>
<th>Upper quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stores issues</td>
<td>1.96</td>
<td>1.70</td>
</tr>
<tr>
<td>Direct materials</td>
<td>1.27</td>
<td>0.53</td>
</tr>
<tr>
<td>In-house manufacture</td>
<td>0.16</td>
<td>0.00</td>
</tr>
<tr>
<td>Materials overheads</td>
<td>0.51</td>
<td>0.39</td>
</tr>
</tbody>
</table>

Source: Study DLOs

Exhibit 37

ANALYSIS OF INPUT COST VARIATIONS
South East DLOs: cost per attendance hour, 1987-88 prices
The input costs of DLOs in London and the South East are 24 per cent higher than in the provinces. The major differences are wage overheads (+29%), transport (+35%) and indirect overheads (+32%).

<table>
<thead>
<tr>
<th>Input</th>
<th>Lower quartile</th>
<th>Upper quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct wages</td>
<td>3.16</td>
<td>3.09</td>
</tr>
<tr>
<td>Wages</td>
<td>4.66</td>
<td>3.22</td>
</tr>
<tr>
<td>Overtime</td>
<td>0.27</td>
<td>0.44</td>
</tr>
<tr>
<td>Bonus</td>
<td>1.23</td>
<td>1.45</td>
</tr>
<tr>
<td>NI and superannuation</td>
<td>0.92</td>
<td>1.00</td>
</tr>
<tr>
<td>Holiday pay</td>
<td>0.72</td>
<td>0.82</td>
</tr>
<tr>
<td>Sick &amp; injury pay</td>
<td>0.21</td>
<td>0.25</td>
</tr>
<tr>
<td>Chargehands &amp; trade foremen</td>
<td>0.20</td>
<td>0.44</td>
</tr>
<tr>
<td>Apprentices</td>
<td>0.10</td>
<td>0.22</td>
</tr>
<tr>
<td>Other</td>
<td>0.14</td>
<td>0.22</td>
</tr>
<tr>
<td>Transport</td>
<td>1.36</td>
<td>1.06</td>
</tr>
<tr>
<td>Vehicles</td>
<td>0.94</td>
<td>0.85</td>
</tr>
<tr>
<td>Drivers</td>
<td>0.22</td>
<td>0.43</td>
</tr>
<tr>
<td>Other</td>
<td>0.20</td>
<td>0.33</td>
</tr>
<tr>
<td>Indirect overheads</td>
<td>2.54</td>
<td>1.06</td>
</tr>
<tr>
<td>Employees</td>
<td>0.94</td>
<td>0.47</td>
</tr>
<tr>
<td>CEC</td>
<td>0.56</td>
<td>0.71</td>
</tr>
<tr>
<td>Area staff, premises and depots</td>
<td>0.36</td>
<td>0.41</td>
</tr>
<tr>
<td>General foremen</td>
<td>0.35</td>
<td>0.20</td>
</tr>
<tr>
<td>Other</td>
<td>0.33</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Source: Study DLOs
APPENDIX 3: INCENTIVE BONUS SCHEMES

1. Perhaps the earliest incentive bonus scheme to be used widely throughout British industry is 'piecework'. In its simplest form it operates on the principle that payment is made only for productive work. There is no guaranteed wage, no holiday pay, no sick pay and no fall-back pay. Piecework is a very keen incentive system but tends to result in skimping, erratic attendance patterns, high labour turnover and unsafe working practices. It has largely died out except in the building industry where it remains as the 'lump'. Subsequent incentive schemes have been designed to combat these perceived ills and many have used work study techniques to measure production rather than piecework rates related to the market. Work study uses the British Standard Institute rating scale (Exhibit 38) to measure operative performance.

Exhibit 38
LEVELS OF PERFORMANCE ON THE BSI RATING SCALE
BSI performance scales can be illustrated by walking speed

<table>
<thead>
<tr>
<th>Scale point</th>
<th>Description</th>
<th>Comparable walking speed in m.p.h.</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Very slow, clumsy, fumbling movements, operator appears half asleep, with no interest in the job</td>
<td>2</td>
</tr>
<tr>
<td>75</td>
<td>Normal performance. Steady, deliberate, unhurried performance as of a worker not on piecework but under proper supervision; looks slow but time is not being intentionally wasted while under observation</td>
<td>3</td>
</tr>
<tr>
<td>100</td>
<td>Brisk, businesslike performance, as of an average trained worker on piecework, necessary standard of quality and accuracy achieved with confidence</td>
<td>4</td>
</tr>
<tr>
<td>125</td>
<td>Standard performance. Very fast, operator exhibits a high degree of assurance, dexterity and coordination of movement well above that of an average trained worker</td>
<td>5</td>
</tr>
<tr>
<td>150</td>
<td>Exceptionally fast; requires intense effort and concentration and is unlikely to be kept up for long periods; a 'virtuoso' performance only achieved by a few outstanding workers</td>
<td>6</td>
</tr>
</tbody>
</table>

DIRECT PROPORTIONAL SCHEME

2. The scheme that has done more, perhaps, than any other, to shape current systems is the 'direct proportional scheme' introduced into Britain between the wars and which modifies the piecework pay line to provide for a fixed basic wage rate and an upper 'cut-off' to avoid undue pressure on the workers covered by the scheme.

3. The scheme takes its name from the fact that, above the normal 75 performance level, bonus increases at exactly the same rate as performance (Exhibit 39). The cut-off in bonus earnings at the 125 performance level is to avoid undue prolonged exertion and any tendency towards unsafe working practices. It is estimated that less than five per cent of workers can sustain a genuine performance index of 125 or more indefinitely.
4. Usually both productive and non-productive work activities rank equal for bonus purposes but it is increasingly the practice to consolidate non-productive times within productive times at a fixed ratio to the latter.

**TIME-SAVED SCHEMES**

5. The usual procedure under the direct proportional scheme is to issue target times at the standard performance level described as standard hours or standard minutes. Standard performance is achieved when 60 standard minutes of work is produced in 60 elapsed minutes.

6. An alternative to this is to issue target times at the normal performance level, i.e. 75 per cent of the standard level (Exhibit 38), and to base bonus upon the 'time-saved' by working at a performance level higher than the 'normal' level. Thus, if a worker produces 80 normal minutes of work in 60 elapsed minutes they 'save' 80-60=20 normal minutes and their bonus rate is

\[
\frac{20}{60} = \frac{1}{3} \text{ of the basic wage rate}
\]

7. But 80 normal minutes of work in 60 elapsed minutes is equivalent to the standard performance level for which the operative would receive bonus at one-third the basic wage rate in the direct proportional scheme. Thus, algebraically speaking, there is no difference between the two schemes in terms of the bonus earned for a given level of output. It is sometimes argued however that workers find it easier to understand the direct proportional scheme based upon the 'time-saved' principle rather than that based upon standard performance and a number of DLOs use this approach.
GEARING OR STABILISING

8. All maintenance work is inherently variable and individual job variances of 15 per cent from the mean are fairly typical. Therefore when the direct proportional scheme is used in a maintenance department, sharp variations in bonus earnings can result - through no fault of the worker or the employer. To dampen the impact of these variances it is usual to stabilise or gear the scheme.

9. This may be achieved in two ways. Instead of calculating the operator performances, upon which bonus is based, at weekly intervals, gearing may be introduced to enable the trend or rolling average performance over the preceding 6-12 weeks to be paid instead of the current week's performance. Alternatively the direct proportional pay line may be rotated about the usual standard bonus point to provide a more gradual increase or decrease in bonus earnings (Exhibit 40). For operator performances below 100 (standard performance) the geared pay line pays bonus above the level paid on the direct proportional pay line. The converse applies to operator performances above standard.

Exhibit 40
GEARED BONUS SCHEME
Geared bonus schemes provide a higher incentive to lower performers but variations in performance have less of an effect upon bonus

SCHEME SLIPPAGE AND BONUS CALCULATORS

10. Times may be set by work study, management, or related to the tender. Whatever method is used they must be reviewed periodically to maintain their accuracy as the workload and operating practices change. Where times have become loose the scheme is said to have 'slipped'.

11. The 1980 Joint National Council (JNC) Wage Agreement for Local Authorities Building and Civil Engineering Workers and Engineering craftsmen was designed, inter alia, to encourage local authorities to review their incentive bonus schemes in order to eliminate slippage. Slippage is a natural hazard in all incentive bonus schemes, arising from changes in materials,
tools and working methods, that tend to reduce the intrinsic work content of tasks. Unless work values (target times) are adjusted to harmonise with these changes they tend to become inflated and higher operator performances result until they reach the cut-off point. Beyond that point, real operator performances tend to diminish with further inflation while apparent operator performances remain at or near the cut-off performance level (Exhibit 41).

Exhibit 41
SLIPPAGE OF BONUS SCHEMES
Slippage reduces the cut-off from 125 to 100 and real performance stays at this level

12. The principle adopted by the JNC to deal with slippage was to replace the basic wage rate as the bonus calculator with specified upper and lower bonus calculator rates. Only those authorities who had reviewed their schemes in accordance with rules established by LACSAB could use the higher bonus calculator rates. Since 1980 the bonus calculator rates have not increased at the same rate as basic wages. By 1988 the higher bonus calculator rate for building trade workers stood at no more than 73 per cent of the basic wage rate.

13. This resulted in a severe lessening in the incentive effect of local authorities’ bonus schemes and the 1987 JNC Wage Agreement removed bonus calculators altogether - leaving it to individual local authorities to make their own decisions in this regard. An arbitration award under the 1987 JNC Wage Agreement also provided, with effect from 1 September 1988, for the introduction of a minimum bonus guarantee in existing schemes of 12.5 per cent of the basic wage rate. At current wage rates (1988), this bonus level is equivalent to 88 on the BSI scale for a direct proportional scheme. This further diminishes the incentive effect of DLO bonus schemes since there is no incentive to any operative performing at or below this level (paragraph 106 of the report - Exhibit 24).
14. The restrictive effects of bonus calculators and cut-off points, coupled with a period of high demand for skilled building workers, have led to many local authorities seeking alternative incentive systems for their DLOs. The main schemes are:

— allowed time schemes;
— tender-led schemes;
— measured daywork schemes;
— profit sharing schemes.

ALLOWED TIME SCHEMES

15. These schemes often started with work study data from previous schemes but now express the target times (allowed times) at performance levels between 50 and 75 on the British Standard scale with non-productive times to cover daily allowances and travel included in the target times (Exhibit 42). Thus an 'allowed hour' of work includes productive work at a locally determined performance level plus a non-productive time allowance and there is usually a stated minimum number of allowed hours of production per week below which a worker may become subject to disciplinary action.

Exhibit 42
RELATIONSHIP OF STANDARD TIME TO ALLOWED TIME

The allowed time consolidated the standard time with the individual allowances

16. Total earnings are calculated by multiplying the allowed hours produced by an agreed rate per allowed hour and there is usually no upper limit on earnings. This makes this scheme particularly attractive when the demand for skilled labour is high. It is usual to have regard to current local wage levels when fixing the performance levels of allowed times and their cash values.

TENDER-LED SCHEMES

17. Tender-led schemes are similar to allowed hours schemes but use either the labour element of tender prices or its 'allowed time' equivalent as the target. Total earnings may result from a summation of the cash value of work done using the labour element of tender prices or by multiplying the allowed times in the tender by an agreed rate per allowed hour. In either event, because tender prices are essentially market-led, earnings from these schemes are also very sensitive to changes in market prices.
18. Because tender prices for the same type of work may vary widely from one job to another earnings opportunities also vary widely. This can cause disruption within a DLO and result in a marked reluctance of workers to move from one site to another or from one depot to another unless average or group bonus is paid. Most schemes attempt to overcome this by fixing a single market related rate for the year ahead derived from the main jobbing repairs contract.

MEASURED DAYWORK SCHEMES

19. Another well established incentive payment system is measured daywork. Single level measured daywork is essentially a group scheme in which all the workers in a particular department or group contribute their productive efforts to a common average operator performance. A fixed level of bonus for an agreed departmental performance level is established by negotiation. This performance may lie between say 85 and 100 on the British Standard scale. This fixed level of bonus is paid weekly provided that the agreed departmental performance is achieved. If not, no bonus is payable.

20. The drastic reduction in earnings that may follow from a relatively small drop in performance below the agreed level almost invariably gives rise to difficulties in labour relations. Such schemes tend to fall into disrepute after the early implementation stage when the initial enthusiasm which accompanies them has evaporated.

21. A much better scheme of this type which provides a sharp incentive as well as maintaining the stability of earnings (the main objective of single level measured daywork schemes) is the graded performance or stepped pay band scheme (Exhibit 43).

Exhibit 43
GRADED PERFORMANCE SCHEME
A graded performance scheme provides some stability of earnings while retaining an incentive

22. Each 'step' covers a range of 10 on the British Standard scale and the profile of the steps follows the line of the direct proportional scheme. This scheme is particularly appropriate for maintenance work because the steps have a natural 'gearing' influence. In this case, the top step acts in the same way as the cut-off point in the direct proportional scheme, i.e. as a disincentive to a further increase in productivity.
PROFIT SHARING SCHEMES

23. The last two years have seen the emergence of profit sharing or profit related incentive schemes which may be used to 'top up' an existing traditional bonus scheme or as the sole source of incentive pay. The essential difference between profit sharing and other incentive schemes is that the incentive pay element relates to all cost elements - not just wages only. Thus, efficiency and good housekeeping in relation to materials, transport and fixed overheads all contribute to the incentive pay element. Also, this type of incentive scheme can be used for DLO staff at all levels - albeit with different parameters.

24. It is usual to specify, in the case of top-up schemes applicable to direct productive operatives, that profit shares will be paid only for attendance hours and only to those operatives who achieve operator performances of standard or above under the normal incentive scheme.

25. Profit sharing schemes generally operate on a group rather than an individual basis. This may tend to reduce their incentive effect but computerised systems can be fairly easily adapted to enable the individual incentive to be maintained.

26. A particularly beneficial use of profit sharing is to 'buy-out' the slackness in traditional bonus schemes as well as to provide an added incentive - linked proportionately to profit. An ideal arrangement is that where an existing traditional bonus scheme has been adjusted to remove slippage then payments are topped up with profit sharing, linked to the existing bonus performance. A diagram of the scheme was shown at Exhibit 23 (paragraph 105 of the report). Perhaps one-third of estimated current profits may be shared out, weekly or monthly, with a further one-third of residual audited annual profits paid out on a lump sum basis. The DLO retains the remainder as profit. Total profit share = 1/3 + (1/3 x 2/3) = 5/9 of total profit. Non-operative staff might also participate in the profit sharing.

27. Such changes are best applied in areas of labour shortage. They enable the DLO to respond to market labour rates in a way which preserves productive performance.
APPENDIX 4: THE DLO MARKET PLACE: PUBLIC BODIES AS DEFINED BY THE LOCAL AUTHORITY (GOODS AND SERVICES) ACT 1970

The list of public bodies as defined by the Local Authority (Goods and Services) Act 1970 is a lengthy one. Those that are judged to be the more important potential sources of DLO work are listed below. The list will change as a result of the legislative programme as it affects the ILEA, the water authorities and other bodies. The Act also allows a local authority to undertake maintenance work for other local authorities.

A Regional Hospital Board, Hospital Management Committee or Board of Governors of a teaching hospital

A voluntary hospital within the meaning of the National Health Service Act 1946

A police committee or watch committee constituted in accordance with the provision of Section 2 of the Police Act 1964

A police authority for a combined area constituted in accordance with the provisions of Section 3 of the Police Act 1964

A New Town Development Corporation

A Passenger Transport Executive

The managers, governors or other body responsible for the management of:
(a) a voluntary aided or special agreement school;
(b) a special school not maintained by a local education authority;
(c) a school or other educational establishment (including a college of education).

The managers, governors, or other body responsible for the management of an independent school which operates otherwise than for profit

A college of London University

A housing association registered under Part II of the Housing Act 1974

A water authority and the National Water Council

A health authority

The Inner London Education Authority

The London Fire and Civil Defence Authority

A metropolitan county fire and civil defence authority

A metropolitan county policy authority

A metropolitan county passenger transport authority
HMSO publications are available from:

**HMSO Publications Centre**  
(Mail and telephone orders only)  
PO Box 276, London, SW8 5DT  
Telephone orders 01-873 0010  
General enquiries 01-873 0011  
(queueing system in operation for both numbers)

**HMSO Bookshops**  
49 High Holborn, London, WC1V 6HB  
258 Broad Street, Birmingham, B1 2HE  
Southey House, 33 Wine Street, Bristol, BS1 2BQ  
9–21 Princess Street, Manchester, M60 8AS  
80 Chichester Street, Belfast, BT1 4JY  
71 Lothian Road, Edinburgh, EH3 9AZ  
01-873 0011 (Counter service only)  
021-643 3740  
(0272) 264306  
(061) 834 7201  
(0232) 238451  
031-228 4181  
And through good booksellers

£8.00 net

ISBN 0 11 701409 5