The Highways Agency: Maintaining England's motorways and trunk roads

Thirty-second Report of Session 2002–03
House of Commons
Committee of Public Accounts

The Highways Agency: Maintaining England's motorways and trunk roads

Thirty-second Report of Session 2002–03

Report, together with formal minutes, oral and written evidence

Ordered by The House of Commons
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The Committee of Public Accounts

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Committee staff

The current staff of the Committee is Nick Wright (Clerk), Leslie Young (Committee Assistant), Christine Randall (Committee Assistant), and Ronnie Jefferson (Secretary).

Contacts

All correspondence should be addressed to the Clerk, Committee of Public Accounts, House of Commons, 7 Millbank, London SW1P 3JA. The telephone number for general enquiries is 020 7219 5708; the Committee’s email address is pubaccom@parliament.uk.
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Summary

Maintenance of almost all of England’s 9,500 kilometres of motorways and trunk roads is the responsibility of the Highways Agency (the Agency), an executive agency of the Department for Transport (the Department). The Agency has contracted out maintenance work to third parties. Managing agents investigate, design, manage and control repair work, and maintenance contractors carry out the work. In 2001–02 the Agency spent £502 million, approximately half its annual budget, or over £56,000 per kilometre, maintaining its part of the network.

On the basis of a Report by the Comptroller and Auditor General, we took evidence from the Department and the Agency on the condition of the road network and delivery of the maintenance programme, and the Agency’s actions to reduce disruption to the motorist caused by roadworks.

- **The condition of the motorway and trunk road network has improved.** The proportion of the network at the end of its life, and therefore requiring reconstruction, has fallen from 14% in the late 1980s to around 5% currently. The surface condition has also improved. The condition of the network does, however, vary significantly between regions with just over 5% of the network in the South West requiring maintenance at March 2002 compared with 9% of the network in the North West. The Agency should set regional road condition targets and review its funding allocations to reduce variations in road conditions across the country.

- **The Agency has made significant changes to the management and delivery of the maintenance programme but needs to consider further the risks arising from these changes.** The Agency has introduced lump sum contracts for routine maintenance, which carry a risk of disputes with contractors over whether desired outcomes have been achieved. The use of target prices for an agreed amount and complexity of work may lead contractors to overstate the work required to achieve higher target prices. The duration of contracts has been extended, and independent supervision of contractors’ work has been removed through the merger of the roles of managing agents and maintenance contractors. The Agency should assess the risks associated with its new contracting arrangements as a whole, and set out a strategy for managing these risks.

- **The Agency is not doing enough to reduce the impact of maintenance work on the motorist.** Accident rates at roadworks are much higher than elsewhere on the network, yet the Agency is only now examining whether accident rates are being reduced as a result of measures to improve safety. Although they were successful in reducing by a third the average time taken to complete maintenance work, the Agency has now largely phased out lane rentals and is replacing them with new contract arrangements in the belief that they will incentivise contractors to

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1 Some 600 kilometres are managed by contractors who have designed, built, financed and now operate, as well as maintain, eight roads on the network.

complete work on time and keep lanes open as much as possible during the course of the work. The Agency will need to demonstrate that these new arrangements are as effective as lane rentals in reducing the time taken to carry out maintenance work and in minimising disruption to the motorist.

- **The Agency needs to put in place more robust winter maintenance and emergency response procedures.** Despite only relatively light snowfalls and access to an early warning system, one of the Agency’s contractors in the East of England failed to prevent roads from icing over, causing severe disruption to the network at the end of January 2003. These problems were compounded by poor emergency response, which left many motorists stranded in their vehicles. The Agency needs to strengthen its gritting and emergency response capabilities so that motorists are never left in such a situation again.

- **The Agency’s data on asset condition and maintenance history remain incomplete despite recommendations made by this Committee in 1991 and accepted by the government.** In 1991 the Committee highlighted the need for better information about the condition of roadside assets such as lights and drains, but inventories remain incomplete and inaccurate, and information on assets’ condition is not available nationally. A new information system was to be in place by April 1992 to remedy deficiencies in data on the maintenance history of roads but data on maintenance work remains incomplete, only covering recent major maintenance schemes. The Agency should now act on these recommendations.
1. Delivery of the maintenance programme

1. The condition of the network has improved since the late 1980s, and the Agency has sustained this improvement since it was established in 1994. The proportion of the network that is at the end of its life, where the asphalt surface no longer fully protects the road base, has more than halved since the Committee last reported on the road maintenance programme in 1991 (Figure 1). This improvement partly reflects the emergence of ‘long life’ roads, due to successive surfacing of roads creating a surface layer so thick that roads’ structural bases are protected from damage indefinitely. The Agency estimates that 60% of motorways and 25% of trunk roads are now long life.3

Figure 1: The trend in the condition of the network, 1985–2001

Notes
1. The figures for 2000 and 2001 are not strictly comparable with those of earlier years because of a change in the Agency’s method of estimating residual life.

2. A lower percentage of motorways than of trunk roads have a zero residual life because the Agency gives motorway maintenance a higher priority.

Source: National Audit Office

2. The condition of the network does, however, vary significantly between regions. At March 2002, the South West for example had just over 5% of roads requiring maintenance compared to 9% of roads in the North West. The East Midlands and East of England also exceeded the Agency’s target range of seven to 8% of the network needing maintenance. The Agency acknowledged that it had only recently started to consider road condition on a regional rather than national basis. It had introduced indicative regional allocations for the part two years which had reduced the degree of variation.4

3 C&AG’s Report, para 2.4
4 ibid, para 2.10, Figure 6; Qq 9–11, 29–36, 48–54
3. The Agency does not directly assess whether the network is in a good, fair or poor condition but uses the proportion of the network requiring maintenance in the following year as a proxy. The Agency recognised that a more robust indicator of network condition was required and had planned to introduce a direct measure of condition in April 2003. However, it was not yet in a position to do so and would retain the current indicator for the current year.5

4. The Agency’s measures of network condition, and its assessment of the optimal level of maintenance on the network, do not take account of perceptions of road users. The Agency was considering whether and how far users’ perceptions should be taken into account more explicitly. Nevertheless, the Agency listened to road users, particularly their views on road surface condition, which was why maintenance was considered so important by the Agency.6

5. National data on road surface condition was called for by our predecessors in 1991 but much of the data has only been available since 1998 and data on roadside assets remain incomplete. Our predecessors were also assured by the Department that there would be centrally collected data on the maintenance history of roads from April 1992, but in practice such information has only been recorded for some recent major schemes. The Agency attributed the delays in acting upon previous recommendations to difficulties with the hardware solutions. The Ten Year Plan now included a target on data on road surface condition. The Agency also acknowledged that it had not collected information on the maintenance history of roads systematically or robustly.7

6. To assess the technical and economic merits of all major capital schemes over £100,000, agents use Value Management Workshops to score proposals against six criteria of which safety is the most important. Agents then submit their proposals to the Agency and the scores may be revised in discussion. These techniques should allow for projects to be assessed systematically and consistently, but agents’ proposals often lack supporting evidence about the benefits that schemes offer, particularly safety benefits which are not quantified. Lower priority projects might therefore go forward at the expense of higher priority work. The Agency acknowledged these weaknesses but was now addressing the problem by putting in place more rigorous systems to measure safety and other benefits.8

7. Until recently, the Agency relied on a system of Technical Audits to monitor agents’ adherence to contractual requirements and provide assurance about the standard of work undertaken. These audits had revealed deficiencies in the quality of agents’ inspections. The Agency is, however, replacing them with Performance Review Improvement Delivery (PRIDe) inspections which audit agents’ own quality control systems and their basic competencies, as well as the quality of work. The Agency had extended the length of agents’ appointments from three to four years to encourage contractors to invest more fully in the training and development of their staff.9

5 Qq 37–38
6 Q 92
7 C&AG’s Report, paras 2.5, 5.6; Qq 59–63
8 Qq 75–78; C&AG’s Report, paras 3.4–3.6
9 Qq 23–24; C&AG’s Report, para 4.17
8. The National Audit Office had found that seven out of a sample of nine of the Agency’s regional areas had overspent against projects’ lifetime budgets by 27% or £21 million in total. Additionally, all three of the projects forecast to cost more than £10 million in 2001–02 were expected to overspend against tender price by between 12 and 27%. The Agency acknowledged that it had focused too much on in-year cost control at the expense of controlling costs over the lifetime of projects. Poor lifetime cost control had resulted in delays to new projects to fund cost over runs on projects not yet finished. Overruns on resurfacing schemes, however, often arose due to unforeseen problems with the structure. The Agency had introduced a new process for managing costs from April 2003.10

9. Maintenance work undertaken often differs from that planned, frequently reflecting insufficient design work at the project proposal stage. Costs are estimated before detailed design work has taken place or before the precise nature of the problem is known. Variations after contracts are placed weaken the Agency’s ability to negotiate the price of additional work. The Agency acknowledged the deficiencies in its budgeting, and was now making resources available to carry out more detailed assessments, particularly surveys of the structure of the roads, to achieve more accurate specifications at an early stage.11

10. Materials known as ‘thin surfacings’ are now normally used on major repairs. These materials offer greater resistance to rutting, use fewer materials and result in lower noise levels for motorists and nearby residents when compared with conventional surfacings. The Agency acknowledged that it did not have data on the life expectancy of the new surfaces but, based on current evidence, considered that they were good value and wearable. The Agency had a target as part of the Ten Year Transport plan to cover all concrete parts of the network with low-noise surfacing and 60% of all the network.12

11. The Agency’s annual allocation of monies to smaller capital projects costing no more than £100,000 should be improved. The Agency tells agents what percentage of each category of work, such as drainage or barrier repairs, is ‘urgent’ on a national basis, based on historical spending patterns. The Agency then funds these sums in full with a lump sum budget. No evidence of urgency or need is sought from agents and there is no prioritisation of bids. The Agency also funds, as a matter of policy, half of the total bid received from Agents for non urgent work, again without any assessment of need. There are therefore no controls to prevent individual agents from over-bidding for this work. The Agency acknowledged that its scrutiny and management of agents’ bids for small capital works had not been as strong or as systematic as it should have been, but it had now put in place stricter control and monitoring of smaller schemes.13

12. The Agency has transferred 3,200 kilometres of roads not considered to be of strategic importance to local authorities and has also introduced new contracts with agents which are intended to improve efficiency. These changes might have been expected to reduce the Agency’s maintenance and administrative costs. The Agency could not, however, quantify the savings, and cost trends suggest that no reduction in the Agency’s administration costs has arisen as the workload has reduced (Figure 2). The Agency envisaged that its

10 Q 18; C&AG’s Report, paras 4.8, 4.10
11 Qq 79–80, 82–86
12 Qq 64 –70; C&AG’s Report, paras 5.13–5.15
13 Qq 39, 44; C&AG’s Report, para 3.12
administrative costs and staffing complement would remain broadly constant for the foreseeable future, as resources were needed to implement the Government’s Ten Year Plan for Transport. Staff were being redeployed from managing maintenance work to overseeing the construction of major new road schemes, and to making better use of the existing network. The Agency was, nevertheless, negotiating with local authorities about the transfer of resources.  

Figure 2: Highways Agency spending in real terms, 1994–95 to 2001–02

Notes:
1. All amounts are adjusted to 2001–02 prices and show spending on roads, bridges and other structures.
2. Payments to DBFO operators are payments made under contracts with consortia of private sector firms to design, build, finance and operate roads. There are currently eight DBFO roads, covering 7% of the Agency’s network.

Source: National Audit Office

13. Unit costs of maintenance work have risen in real terms over recent years, from £34 per square metre in 1997–98 to £42 per square metre in 2000–01, an increase of 24% in real terms (Figure 3). Costs look set to continue to rise in future years. The Agency noted that in recent years it had contracted for quality, rather than for lowest cost, to improve delivery and service, and to provide greater certainty of cost.  

14 Qq 26–27, 96–103
15 Qq 5, 17; C&AG’s Report, para 4.2
Figure 3: Unit costs of maintenance work, 1997–98 to 2001–02

![Chart showing unit costs of maintenance work from 1997-98 to 2001-02.]

Note:
Unit costs are the total costs of all capital maintenance, including Agents’ fees, at 2001–02 prices, divided by the number of square metres of road affected.

Source: National Audit Office

14. Motorists involved in accidents may damage crash barriers and safety fences. The Agency has a poor record of recovering the repair costs of such damage, losing over £6 million a year. The Agency noted that in many accidents the culprit could not be identified, especially if the vehicle had been removed before the Agency’s contractors became aware of the incident. In other cases, the culprit was known but the Agency had decided not to continue with a claim, often because there was insufficient proof of liability or it was not cost effective to pursue the case through the courts.16

16 Qq 13–14, 55–56
2 Reducing disruption for the motorist

15. To reduce the impact of maintenance work on the motorist, the Agency now carries out more work at night and during off-peak times of the day. But the Agency is still not doing enough. Roadworks lead to accidents. A 1994 study found that the accident rate at roadworks on motorways was 130% higher than at sites without roadworks and was on the increase, while accident risks were falling elsewhere on the network. Since then, the Agency has increased the use of speed cameras and other techniques to improve safety but is only now examining whether accident rates at roadworks are being reduced as a result.17

16. The Agency cannot undertake all major work on motorways and trunk roads without closing some lanes. To reduce disruption to the motorist, the Agency was using ‘lane rentals’ involving the payment of a bonus to contractors if they finished works early and a penalty charge if they finished late. The clear financial discipline brought by lane rentals was successful in reducing the time taken to carry out maintenance work, yet the Agency has now largely phased out lane rentals in the belief that its new contracts will incentivise contractors to complete roadworks as quickly as possible and keep lanes open as much as possible during the course of the work.18

17. The Agency said it carried out spot checks on the availability of lanes so that roads did not remain coned-off unnecessarily. Lanes are still coned off, however, with no evidence of ongoing work. Rather than discourage or prohibit coning-off where no works are ongoing, the Agency’s Road Users Charter targets allow it so long as the reasons are displayed to the motorist. They also tolerate one in ten roadworks not re-opening lanes on time. The Agency acknowledged that motorists were not given enough information about where maintenance work was being carried out and the nature of that work.19

18. Winter weather at the end of January 2003 exposed major deficiencies in the Agency’s gritting and emergency response procedures. Despite relatively light snowfalls, and advance warning that temperatures were set to drop, the Agency’s contractor still failed to prevent severe disruption to the road network in the East of England. Gritting lorries were sent out too late to stop the roads from icing over, while poor emergency response left many motorists stranded in their cars. The Agency accepted that the contractor had not handled the situation well or made the right judgements, particularly about the time when gritting lorries were sent out. The Agency agreed that there were wider lessons for its overall approach to winter maintenance, for co-ordination with the police and other bodies, and communications with motorists when responding to severe disruption of the network.20
Conclusions and recommendations

On delivery of the maintenance programme

1. The Agency does not directly assess whether the network is in a good, fair or poor condition, measuring instead how much of the network requires maintenance in the following year. The Agency did not introduce a direct measure of road condition in April 2003 as intended, but should now agree a firm deadline for doing so with the Department for Transport.

2. The Agency’s Road User Satisfaction Surveys show that a better road surface is the public’s top priority for improving the network. The Agency should consider how best to reflect motorists’ views in its road condition performance measures and in determining the optimal level of maintenance work to be carried out on the network.

3. The Agency should provide agents with practical training in the use of its scoring system for evaluating maintenance proposals and, through participation in Value Management workshops, seek better evidence to support agents’ proposals, thereby improving the quality of maintenance proposals and the basis of its decisions between projects.

4. The Agency should assess at the end of the first cycle of its Performance Review Improvement Delivery (PRIDe) inspections whether they provide adequate evidence about the quality of agents’ work.

5. The Agency should submit periodic reports to its Board on the management of individual project costs to demonstrate a stronger focus on cost control at senior management level. Such a report should consider the lifetime project costs, as well as in year spending compared to budget, and explanations for variances, wider lessons arising and actions proposed.

6. The Agency should demonstrate that the extra funding provided to agents at the project proposal stage is reducing variations between planned and actual work, and hence between planned and actual costs.

7. The Agency should require agents to identify and prioritise small capital projects, and to demonstrate to the Agency that the work is genuinely urgent. The Agency should audit a sample of agents’ submissions to check on need and urgency.

8. The Agency is reducing the size of the network it manages by transferring responsibility to local authorities. The Agency should therefore review the level of its administration costs with the aim of reducing them proportionately wherever practical.

9. The Agency should work more closely with insurers, the police and other emergency services to identify motorists who cause damage to the network, and to recover the repair costs from them.
10. The Agency should assess the costs and actual working life of the ‘thin surfacings’ now routinely used on major road repairs, and compare them with those of more conventional surfacings to assess which offer better value for money, taking account of noise reduction benefits.

On reducing disruption for the motorist

11. The Agency and the Department should revise the Road Users Charter targets to discourage or prohibit lanes from being coned-off where no works are ongoing and to aim for a higher percentage of roadworks where lanes are re-opened on time.

12. The Agency should assess whether it can provide better and more timely information to motorists about roadworks, by making greater use of radio, teletext, the Internet and mobile telephone text services, and mobile roadside and gantry messaging boards. It should find out which media, or combination of media, work best.

13. The Agency should consider with the police, local authorities, motoring associations and other emergency services how blockages on the network can be cleared more quickly to prevent motorists from being trapped in their vehicles for long periods of time.
Formal minutes

Monday 23 June 2003

Members present:

Mr Edward Leigh, in the Chair

Mr Richard Bacon
Geraint Davies
Mr Frank Field
Mr Nick Gibb
Mr George Howarth

Mr Brian Jenkins
Mr Gerry Steinberg
Jon Trickett
Mr Alan Williams

The Committee deliberated.

Draft Report (The Highways Agency: Maintaining England’s motorways and trunk roads), proposed by the Chairman, brought up and read.

Ordered, That the Chairman’s draft Report be read a second time, paragraph by paragraph.

Paragraphs 1 to 18 read and agreed to.

Conclusions and recommendations read and agreed to.

Summary read and agreed to.

Resolved, That the Report be the Thirty-second Report of the Committee to the House.

Ordered, That the Chairman do make the Report to the House.

Ordered, That the provisions of Standing Order No. 134 (Select Committees (Reports)) be applied to the Report.

Adjourned until Monday 30 June at 4.30 pm
Witnesses

Wednesday 19 March 2003

Mr Tim Matthews, Highways Agency, and Mr Dennis Roberts, Department for Transport

List of written evidence

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Session 2002–03

First Report  Collecting the television licence fee  HC 118  (Cm 5770)
Second Report  Dealing with pollution from ships  HC 119  (Cm 5770)
Third Report  Tobacco Smuggling  HC 143  (Cm 5770)
Fourth Report  Private Finance Initiative: redevelopment of MOD Main Building  HC 298  (Cm 5789)
Fifth Report  The 2001 outbreak of Foot and Mouth Disease  HC 487  (Cm 5801)
Sixth Report  Ministry of Defence: Exercise Saif Sareea II  HC 502  (Cm 5801)
Seventh Report  Excess Votes 2001–02  HC 503  (N/A)
Eighth Report  Excess Votes (Northern Ireland) 2001–02  HC 504  (N/A)
Ninth Report  The Office for National Statistics: outsourcing the 2001 Census  HC 543  (Cm 5801)
Tenth Report  Individual Learning Accounts  HC 544  (Cm 5802)
Eleventh Report  Facing the challenge: NHS emergency planning in England  HC 545  (Cm 5802)
Twelfth Report  Tackling pensioner poverty: encouraging take-up of entitlements  HC 565  (Cm 5802)
Thirteenth Report  Ministry of Defence: progress in reducing stocks  HC 566  (Cm 5849)
Fourteenth Report  Royal Mint Trading Fund 2001–02 Accounts  HC 588  (Cm 5802)
Fifteenth Report  Opra: tackling the risks to pension scheme members  HC 589  (Cm 5802)
Sixteenth Report  Improving public services through innovation: the Invest to Save Budget  HC 170
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Eighteenth Report  Reaping the rewards of agricultural research  HC 414
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Twenty-second Report  PFI refinancing update  HC 203
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Twenty-fourth Report  Community Legal Service: the introduction of contracting  HC 185
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