



NAO
NATIONAL AUDIT OFFICE

Report by the
Comptroller and
Auditor General

Department of Transport: Backlog of Maintenance of Motorways and Trunk Roads

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John Bourn
Comptroller and Auditor General

National Audit Office
2 February 1989

The Comptroller and Auditor General is the head of the National Audit Office employing some 900 staff. He, and the NAO, are totally independent of Government. He certifies the accounts of all Government departments and a wide range of other public sector bodies; and he has statutory authority to report to Parliament on the economy, efficiency and effectiveness with which departments and other bodies use their resources.

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Report

1. Regular maintenance is essential in securing maximum value for money from the resources invested in the country's road network. Properly planned and managed maintenance programmes provide better conditions for road users, minimise disruption and delay and reduce the risk of accidents. Maintenance carried out at the right time also reduces costs, for example by preventing more serious deterioration of the road structure. A stable maintenance programme and a regular flow of orders are valuable in providing continuity of work for the road construction industry; and this encourages more economic, efficient and effective operation. The end result should be lower tender prices for both construction and maintenance contracts.

2. On the other hand, the roads programme is only one of many calls on public funds; and within that programme an appropriate balance has to be achieved between fresh investment in the roads network from new construction and protecting previous investment by adequate levels of maintenance. Determining appropriate priorities requires consideration of both economic and environmental benefits to different categories of road users and the community at large; and such priorities will vary from time to time.

Previous examination by the National Audit Office and the Committee of Public Accounts

3. The National Audit Office report on expenditure on motorways and trunk roads, published in July 1985, noted that the liability for maintenance was increasing yearly as new road schemes were completed and added to the network. Older roads also needed major repair or resurfacing as heavy traffic took its toll. Although expenditure on maintenance might therefore have been expected to take a larger share of the roads programme, it had in fact remained fairly constant at around 25 per cent of total expenditure.

4. The report noted that if maintenance is not carried out at the right time, more extensive and more costly repair and reconstruction work has to be undertaken. Insufficient allocation of funds in the 1970s had however led to a backlog of some 60 miles of motorway maintenance by the end of 1984-85; and there was also a backlog of maintenance on trunk roads of at least 160 and possibly as many as 220 single carriageway equivalent miles. The report concluded that the existing problems would increase unless additional funds were made available. A continuing failure to "spend now to save later" would incur substantial additional real costs and there would be continued disruption, inconvenience and associated costs for industry and the travelling public.

5. In their Nineteenth Report, Session 1985-86, the Committee of Public Accounts expressed concern over the serious backlog of maintenance that had accumulated on both motorways and trunk roads. They noted that the backlog on motorways was expected to be cleared within six years, but that the Department of Transport were less certain about the extent of the

backlog on trunk roads and the prospects for clearing it. The Committee endorsed the Department's stated intention to clear the backlogs as quickly as practicable; and they recommended that the Department should take all steps necessary to avoid any further build up of maintenance, if necessary by diverting funds from new construction.

6. In the Treasury Minute of July 1986 responding to the Committee's recommendations, the Department of Transport pointed out that between 1980–81 and 1984–85 expenditure on capital maintenance had increased by 123 per cent, representing an increase in real terms of some 70 per cent over the period. The Department fully accepted however that the road network should be kept in good condition and that the present backlog should be eliminated as soon as practicable. Planned provision for maintenance had been increased and the increased capital provision for 1986–87 and beyond should enable the backlog of repairs on motorways to be cleared by 1992. The Department also expected to eliminate the all-purpose trunk roads backlog on a similar timescale, though this was dependent on the accuracy of predictions of future deterioration rates.

Progress made

7. In 1986–87 and 1987–88, the first two years of the revised programme, the Department of Transport achieved or exceeded the planned levels of maintenance on both motorways and trunk roads (see Table 1). This enabled them to keep up with the increasingly heavy needs of continuing maintenance as well as starting to eat into the backlog. The necessary funds had been made available and expenditure was running at higher levels than originally planned (see Table 2). In the light of the progress being made, the Secretary of State felt able to confirm to the House of Commons in January 1988 that he expected to eliminate the backlog of motorway and trunk road repair and renewal by 1992. In March 1988 he announced that 80 miles of motorway and over 200 miles of trunk roads would be renewed in 1988–89.

8. Maintenance work in 1986, in common with new construction, was carried out with the benefit of keen competition and low tender prices. But this favourable situation for the Department was coming to an end; the tender price index for trunk roads ran below the retail price index throughout 1986 but climbed substantially above the latter in 1987 (see Table 3). More recent information on the movement of prices of construction materials indicates a continuing strong upward trend in construction costs. The Department thus found themselves facing sharply increasing contract prices during 1988 which meant that the planned levels of new construction and maintenance could not be met from existing funds.

9. In June 1988 the Secretary of State announced to the House of Commons that the effect of increased construction prices and faster progress with some new road schemes on the Department's plans would have implications for the phasing of major reconstruction works, although the aim remained to start within the year all planned new construction schemes which were ready.

Table 1

Motorway and trunk road maintenance 1985-86 to 1992-93

Year	Motorways				Trunk roads			
	Mileage renewed	Backlog at year end	Mileage renewed	Backlog at year end	Mileage renewed	Backlog at year end	Mileage renewed	Backlog at year end
	equivalent route miles ⁽¹⁾	equivalent route miles ⁽¹⁾	single carriageway equivalent miles ⁽²⁾	single carriageway equivalent miles ⁽²⁾				
Actual								
1985-86	70	63	170	230				
1986-87	80	53	192	218				
1987-88 ⁽³⁾	84	39	218	173				
Planned								
	(4)	(5)	(4)	(5)	(4)	(5)	(4)	(5)
1988-89	80	52	29	57	194	106	152	240
1989-90	80	84	19	43	208	233	117	180
1990-91	80	84	9	29	211	233	79	20
1991-92	80	84	0	15	213	233	39	60
1992-93	70	85	0	0	212	233	0	0

(1) 1 equivalent route mile = 1 mile of dual 3 lane motorway.

(2) 1 single carriageway equivalent mile = 1 mile of single carriageway 2 lane trunk road.

(3) Forecast outturn.

(4) Planned renewal and backlog resulting from public expenditure survey 1988.

(5) Planned renewal and backlog revised as at December 1988.

Table 2

Capital maintenance expenditure, planned and actual:
1986-87 to 1991-92

Year	Roads			Roads and Bridges		
	Planned ⁽¹⁾		Actual ⁽²⁾	Planned ⁽¹⁾		Actual ⁽²⁾
	1987	1988		1987	1988	
	£m	£m	£m	£m	£m	£m
1986-87	153		181	196		218
1987-88	164	213	213	200	264	263
1988-89	170	199		207	260	
1989-90	174	240		227	341	
1990-91	179	249		243	352	
1991-92	183	253		248	354	

(1) Source: Department of Transport, Public Expenditure Survey 1987 and 1988.

(2) Source: Appropriation Accounts.

Table 3**Tender price and retail price indices 1985–1988**

Year	Tender price index for trunk roads ⁽¹⁾	General index of retail prices ⁽²⁾
1985	100.0	100.0
1986 1	97.0	102.0
2	93.0	103.3
3	96.0	103.5
4	99.0	104.8
1987 1	111.0	106.1
2	113.0	107.7
3	112.0(provisional)	107.9
4	—	109.1
1988 1	—	109.6
2	—	112.3

(1) **Source:** Government Statistical Service: Housing and Construction Statistics Great Britain.

(2) **Source:** Government Statistical Service: Monthly Digest of Statistics July 1988 converted to 1985 price base by the National Audit Office.

10. In July 1988 the Parliamentary Under Secretary of State confirmed to the House that:

- some capital maintenance works were being delayed to keep spending on the roads programme as a whole within financial provisions;
- the planned renewal of 80 miles of motorway and 200 miles of trunk roads in 1988–89 was no longer achievable;
- the Department were reviewing what further works could go ahead in 1988–89;
- pending completion of the review it was not possible to estimate the full implications of the delay for the backlog of motorway renewals.

11. The Department's review showed that as a result of the cutbacks in capital maintenance about 38 fewer equivalent route miles of motorway and 137 fewer single carriageway equivalent miles of all-purpose trunk road would be renewed by the end of 1988–89. They did not therefore expect to clear the accumulated backlog of maintenance by 1992 without significant increases in provision in the next three years.

12. However, the situation changed again in November 1988 following the announcement in the Chancellor of the Exchequer's Autumn Statement of additional funds for the roads programme. An extra £20 million was to be made available for the remainder of 1988–89, allowing 10 miles of motorway and 43 miles of all-purpose trunk road to be restored to the maintenance programme. (This may require special arrangements to overcome the fact that maintenance is not normally

carried out with the short lead-time now available or during the winter months). Additional funds of £206 million over the three years 1989–90 to 1991–92 were also made available, an increase of 38 per cent over previous plans. The Department expect these funds to be sufficient to clear the remainder of the backlog by 1992–93.

13. Achieving this target will depend on future movements in construction prices and the level of efficiency achieved in the management and implementation of the maintenance programme. The Department have not analysed the effect on the road construction industry of changing workloads resulting from recent fluctuations in the level of funding for the maintenance programme, or the extent to which this might in turn affect future contract prices.

Strengthening and renewal of bridges

14. The Department announced in November 1987 a 15 year comprehensive rehabilitation programme for bridges on motorways and all-purpose trunk roads which would start in 1988–89.* As the full requirements of this programme could not be established until the examination of the bridge stock had been completed the Department were able to estimate only the broad order of magnitude of the cost of the programme — which they put at £1100 million.

15. The recent difficulties and delays affecting the roads programme and backlog of maintenance on motorways and trunk roads have also impacted on the rehabilitation programme for the Department's bridges. The programme consists of:

- (a) assessment and strengthening;
- (b) upgrading sub-standard features;
- (c) steady state maintenance to prevent the accumulation of maintenance work.

Priority of funding is given to the assessment and strengthening work and this was not affected by the rescheduling of work in 1988. However, less upgrading and steady state maintenance work was carried out than would otherwise have been possible. The forecast outturn for capital expenditure on bridges (excluding the Severn Bridge) in 1988–89 is £28 million, compared with an original provision of £47 million.

* Footnote

Bridges on motorways and trunk roads are the responsibility of the Department of Transport, but the responsibility for bridges off the national road system rests with the local highway authorities or other owners such as British Rail or British Waterways. In reporting in July 1987 on the regulation of heavy lorries, the National Audit Office noted that nearly half the bridges now in use were built before national standards were introduced in 1922. Surveys carried out in 1984 and 1985 under the auspices of the Department had found that to cope with present day traffic demands 11,000 sub-standard bridges not owned by the Department needed to be strengthened or replaced at an estimated cost of £700 million. The Treasury Minute of April 1988, responding to the Eighteenth Report of the Committee of Public Accounts, Session 1987–88, confirmed that it was for the bodies owning such bridges to decide on timing and priorities for the necessary work, but the Department were holding discussions with these owners to see how a programme of assessment and strengthening for bridges on local roads could be carried out, or weight restrictions applied.

16. The 1988 Autumn Statement included a provision of £305 million for bridge maintenance, including an additional £123 million for extra work, as shown in Table 4. The additional £123 million represents an increase of 68 per cent over the original provision, and the total funds now available should be sufficient to allow the Department to complete the planned assessment and strengthening work and to restore progress on steady state maintenance and upgrading of sub-standard features.

Table 4

Provision for bridge maintenance 1989 to 1992

Year	Additional provision	Total provision
	£m	£m
1989-90	48	101
1990-91	39	103
1991-92	36	101
Total	123	305