



An agency of  SCOTTISH EXECUTIVE

Driving Improvement



September 2006

A public report on trunk road maintenance in 2005/06

**Performance
Audit Group**

Halcrow in association with
PRICEWATERHOUSECOOPERS and 

TRANSPORT SCOTLAND

Trunk Road Units Map



Figure 1 The trunk road network in Scotland - 2005/06

Foreword



The PAG team

Welcome to 'Driving Improvement', the Performance Audit Group's report on maintaining Scotland's trunk road network in 2005/06.

This report pulls together the work of our multi-disciplinary team who carried out more than 130 detailed audits of the operating companies during the year, as well as visiting more than 1,200 roadworks sites and travelling over 200,000 km, monitoring conditions on the network.

Our client, Transport Scotland, has managing and maintaining trunk roads at the heart of its agenda. Its aim is:

"to provide people and businesses using trunk roads with a safe, efficient, reliable and environmentally acceptable system of strategic routes throughout the country".

(Transport Scotland's Corporate Plan 2006-2008)

Our purpose is to:

Independently audit, monitor, evaluate and report on trunk road maintenance, helping Transport Scotland achieve its vision for sustainable and effective transport in Scotland.

Our objectives are to:

- Make the most of public resources by delivering value for money.
- Ensure the needs of road users are met.
- Enable effective management of the trunk road asset.
- Facilitate continuous improvement.
- Encourage sustainability and reduce the impact on the environment.

'Driving Improvement' is our fifth public report since the Scottish Executive's 'The Road Ahead' maintenance contracts commenced in April 2001. It has been a particularly busy year for our team, as we assisted Transport Scotland in the tendering exercise for the third generation trunk road contracts for the North West and South West Units, in addition to carrying out our mainstream role.

Our team is proud of its contribution to driving forward improvements in maintaining, managing and operating 3,261km of Scotland's trunk road network. We trust you will find our report of value.

Donald Bell, Project Director,
Performance Audit Group,
Halcrow Group Ltd,
September 2006



Frequently asked questions

What is a trunk road?

A trunk road is a road considered by the Scottish Executive, through its agency, Transport Scotland, to be strategic to the national economy. All motorways and a significant number of A-roads are trunk roads (see [Figure 1](#)).

Are trunk roads managed and maintained in a different way to other roads?

Yes, trunk roads are the responsibility of, and funded by, the Scottish Executive, through Transport Scotland. They are managed and maintained by the operating companies (OCs) and DBFO contractors. The OCs and Autolink are monitored by the Performance Audit Group (PAG). Local authorities are responsible for managing, maintaining and monitoring non-trunk roads.

What is Transport Scotland?

Transport Scotland is the Executive's national transport agency for Scotland. Its Directorates include Trunk Roads Network Management (TRNM) and Trunk Roads Infrastructure and Professional Services (TRIPS).

What are Transport Scotland's responsibilities?

Transport Scotland is responsible to the Scottish Ministers for managing and maintaining the trunk road network. To help with this, it employs OCs, DBFO contractors, works contractors and PAG.

What are operating companies (OCs)?

These companies manage and maintain the trunk road network in each Unit, working under a contract to the Scottish Ministers. In 2005/06, these companies were:

- BEAR Scotland Ltd for NE and NW.
- Amey Infrastructure Services for SE and SW.

What do the OCs do on the network?

The OCs oversee, co-ordinate and carry out all cyclic, routine, and winter maintenance, and respond to emergencies. They also maintain roads, strengthen and maintain bridges and inspect structures. Their duties further include organising road safety schemes, road marking, erecting and looking after traffic signs and repairing safety fences, where costs are less than £150,000. The OCs are required to work to quality management systems agreed by Transport Scotland.

What else do the OCs do?

The OCs also oversee and co-ordinate works to maintain trunk roads done by contractors on contracts worth more than £150,000 and works by utility companies (statutory undertakers) such as electricity and gas suppliers. The OC manages the Unit day-to-day; provides professional and design services; carries out surveys; inspects and supervises; manages its allocated budget and reports to Transport Scotland.

What work is not done by the OCs?

Some network services are not the OCs' responsibility. These include maintaining the M74 from junction 12 to the Scottish border. This is the responsibility of Autolink under the terms of the M6 DBFO project, see [Section 5](#). Maintaining the M77 DBFO project is the responsibility of Connect.

Maintaining Traffic Scotland equipment such as variable message signs, emergency telephones, permanent speed cameras and associated cabling; collecting data and maintaining traffic counting equipment; and major schemes to improve trunk roads by contractors appointed by Transport Scotland are also not done by the OCs. These are carried out under separate contracts.

Responsibility for major improvement schemes, mentioned above, is split between the contractor and the OC for a set period, up to five years, before full responsibility passes to the OCs. Apart from M6 DBFO, the scope of this report does not include these other organisations.

What is the Performance Audit Group?

Halcrow, working in association with PricewaterhouseCoopers and Scott Wilson, was re-appointed by Transport Scotland as PAG for a second seven year term from December 2002. Halcrow and PricewaterhouseCoopers monitor performance of the four OCs. Scott Wilson's role in PAG is mainly to monitor the M6 DBFO project. Sub-consultants with a small input include: TRL, Tony Ham Insurance Brokers and University of Dundee.

What is PAG's role?

PAG audits, monitors and reports on the financial, technical and performance aspects of the OCs to a plan agreed with Transport Scotland. PAG also checks payment requests from the OCs, carries out inter-Unit comparisons and investigates if they are giving value for money when asked to by Transport Scotland. PAG acts as the Scottish Ministers' Agent (SMA) for the M6 DBFO project, for which Autolink is the concession company.

Glossary of main terms

Budget

Money allocated by Transport Scotland to manage and maintain the network during a financial year.

Category 1 defects

A term in the contract for serious road faults such as potholes that should be repaired within set times.

Contract control and management system (CCMS)

A computer-based system operated by the OCs. The system gives everyone working on the contract, including Transport Scotland and PAG, access to information about how projects are being managed and where money is being spent.

Contract price fluctuation factor (CPF)

An inflation adjustment to the OCs' tendered rates and prices.

Default notice

A procedure under the contract where Transport Scotland can issue a notice when an OC fails to comply with the contract. This is part of the performance management procedures and may lead to withholding payment.

Financial year

The period between 1 April 2005 and 31 March 2006.

Key performance indicators (KPIs)

The contract states that a list of indicators must be provided by the OCs to show how they are performing and to allow comparisons between Units. These indicators have no other contractual significance.

Network

The system of motorways and trunk roads in Scotland. The network is 3,170 km long and varies from urban motorways to rural single carriageways. In addition, a total of 91 km of motorway are covered by the M6 DBFO project.

Notification of emerging issue (NEI)

A process for flagging up potential incidences of the OCs not complying with the contract. The aim is to intervene early and stop issues developing into default notices.

Operations

Work carried out by the OCs.

Orders

Instructions issued by Transport Scotland to the OCs. These give details of operations (not works contracts) to be done under the contract by the OCs. The OCs should not start operations until a corresponding order has been issued.

Quality management system (QMS)

Quality management is fundamental to the contract. A QMS is drawn up by each OC to show how it will carry out every function required of it under the contract.

Routine maintenance management system (RMMS)

A computer-based system operated by the OC, to record and report on details of the network, including where it has been inspected and routinely maintained. It also links to the CCMS, giving access to Transport Scotland and PAG.

Sector scheme

Sector scheme certification is given to suppliers and installers of materials by United Kingdom Accreditation Service (UKAS) accredited certification bodies. This certifies that the holder operates a QMS in line with the international standard, BS EN ISO 9001:2000 and the Sector Scheme document.

SERIS

Transport Scotland's road information system contains data on the physical characteristics and condition of the trunk road network.

Spend

The value of work done, OC operations and works contracts, excluding contract price fluctuation and amounts withheld from payment.

The Road Ahead (TRA)

A consultation paper on the review of how Scotland's trunk roads are managed and maintained, published by The Scottish Office in April 1999. This consultation led directly to the current second generation of contracts with four OCs, which started on 1 April 2001. Contracts for South West (SW) and North West (NW) Units ran until March 2006.

From 1 April 2006, SW and NW Units have been managed and maintained by Amey and Scotland TranServ (a joint venture between Balfour Beatty and Mouchel Parkman) respectively. The contracts for South East (SE) and North East (NE) Units are currently being tendered.

Traffic Scotland

Formerly NADICS, Traffic Scotland gives drivers up-to-the-minute information about road conditions via the web. It also manages the variable message signs on the network.

Trunk roads

The main strategic routes, including motorways (see [Figure 1](#)).

Unit

The network is divided into four separate geographic Units. These are: North East (NE), North West (NW), South East (SE) and South West (SW).

Works contracts

Schemes usually with a value of more than £150,000 put out to tender.

Contents

Overview	1
1.1 Executive summary	1
1.2 Background	2
Customer service	3
2.1 Network reliability and reducing delays	4
2.2 Managing traffic for safety at roadworks.....	5
2.2.1 Standards of operations.....	5
2.2.2 Planning and programming	5
2.2.3 Works contracts	5
2.3 Repair of the most serious road defects (category 1 defects)	6
2.4 Customer contact.....	7
Value for money	9
3.1 Cyclic maintenance	10
3.1.1 Introduction	10
3.1.2 Monitoring of results.....	10
3.1.3 Summary of findings	12
3.2 Winter maintenance	13
3.2.1 Background.....	13
3.2.2 Findings.....	13
3.2.3 Summary of findings	16
3.3 Works contracts	16
3.3.1 Background.....	16
3.3.2 Findings.....	16
3.3.3 Summary of findings.....	17
Effective management	19
4.1 Financial	20
4.1.1 Financial overview	20
4.1.2 Budgets, orders and spends.....	20
4.1.3 Contract control and management systems (CCMS)	23
4.2 Technical	24
4.2.1 Reports by the OCs.....	24
4.2.2 Capital maintenance - operations	25
4.2.3 Capital maintenance - works contracts	26
4.2.4 Investigation and prevention of accidents	28
4.2.5 Minor improvement schemes.....	29
4.2.6 Materials and workmanship testing	29
4.2.7 Winter maintenance	30
4.2.8 Cyclic maintenance.....	31
4.2.9 Recording details of routine maintenance operations.....	32
4.2.10 Dealing with emergencies	33
4.2.11 Management of bridges and other structures.....	34
4.2.12 General management tasks	35
4.3 Quality	36
4.3.1 Quality management	36
4.3.2 Environmental management.....	37
4.3.3 Resolving problems and improving performance	38
4.3.4 Key performance indicators	40
4.3.5 Project partnering.....	42
M6DBFO project – service delivery	43
5.1 Introduction	44
5.2 Operations and maintenance	44
5.3 Summary.....	46
List of acronyms	47
List of Halcrow Group Ltd accreditations and useful website addresses	49



Surfacing works on A77 at Bellfield in SW

1.1 Executive summary

This was the fifth year of ‘The Road Ahead’ contracts and was the final year of operations for Amey in South West Unit and BEAR in North West Unit under these arrangements. Amey will continue to operate South East Unit and BEAR North East Unit until the end of March 2007, when the winners of the current tendering exercise will take over.

BEAR and Amey’s commitment to improving their services across the network continued. The overall number of default notices issued reduced, reflecting a continued year on year improvement in their performance. There was also significant progress in dealing with long term issues, with all default notices from previous years now closed.

The operating companies’ quality, financial, routine maintenance and environmental management systems, which formed the backbone of their activities, continued to perform well. Work across the network was to a good standard.

This year continued to see substantial investment by Transport Scotland in managing and maintaining the network. BEAR and Amey managed their finances effectively. Overall spend was in line with the budget and the total value of work done was £142.4m.

Amey continued to work safely on the network and BEAR addressed some safety concerns raised by PAG, which resulted in default notices being issued. Overall, the operating companies continued to manage their work well to reduce delays at roadworks, with 99.3% of the network open to road users.

BEAR performed better than last year in repairing the most serious faults, category 1 defects, delivering good performance. Disappointingly, Amey’s performance was not as good as the previous year and left room for improvement. Transport Scotland and PAG will be monitoring Amey’s commitment to improve.

The relatively prolonged and cold winter resulted in all the operating companies spreading substantially more precautionary salt than in the previous two years. In total, seven roads closed because of snow, three more than last year. Amey and BEAR, in general, performed well and complied with their winter maintenance obligations.

The operating companies continued to respond quickly and professionally to emergencies. BEAR dealt with two major incidents in NW. In September, heavy rain caused flooding and the subsidence of parts of A82 at Spean Bridge. In November, various roads were closed after trees were blown down during storms. Amey also dealt well with flooding on A7 in October and other incidents during the year.

On the M6 DBFO project, Autolink continued to perform to a high standard, with a strong, demonstrable commitment to delivering services.

1.2 Background

The Scottish trunk road network

The network is divided into four geographic Units (see Figure 1), each with its own contract. Each of the four Units, NE, NW, SE and SW, is managed and maintained by an OC. Figure 2 outlines the structure of these arrangements.

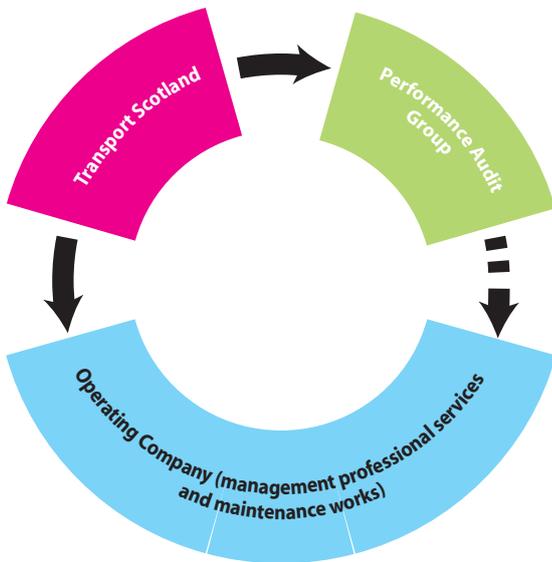


Figure 2 Structure of arrangements with the OCs

Chapters 2 to 4 of this report cover the activities of the OCs. Chapter 5 discusses the performance of Autolink, the M6 DBFO contractor. Activities on M77 DBFO are not reported, as these are outwith PAG's remit.

In 2001, contracts for NE and NW were awarded to BEAR Scotland Ltd, an independent company owned by Jacobs Babbie, Ennstone Thistle Ltd and Ringway Group Ltd.

Contracts for SE and SW were awarded to Amey Infrastructure Services in 2001. Amey is the sole party to these contracts.

The contracts were for a period of five years, with the option of extending to seven years.

SW and NW contracts were tendered in 2005. Since 1 April 2006, SW and NW have been managed and maintained by Amey and Scotland TranServ (a joint venture between Balfour Beatty and Mouchel Parkman) respectively.

Contracts for SE and NE were extended to March 2007 and are currently being tendered.

The extent of the network

The length of the network in each Unit is shown below in Figure 3 (excluding M77 DBFO).

Unit	km
NW	1,370
SW	665
NE	659
SE	476
M6 DBFO	91
Total	3,261

Figure 3 Network length of each Unit

The network contains a total of 5,825 structures including 2,065 bridges and footbridges.

The contracts

Current 'The Road Ahead' (TRA) contracts to manage and maintain the network were awarded by the Scottish Ministers. Work began on 1 April 2001.

The contracts focus on the following three objectives:

- **Customer service** – “to enable a ‘customer oriented’ approach to be further developed in the way roads are managed and maintained.”
- **Value for money** – “to achieve the maximum efficiency in the use of the substantial sums of money expended on the maintenance of the network.”
- **Effective management** – “to encourage innovation and skilful management to maximise trunk road capacity and achieve the best use of the network.”

The contracts also aim to encourage:

- **Flexibility** – to accommodate changes to the trunk road network.

Key points

Network reliability and reducing delays

A key objective of Transport Scotland is to keep traffic moving. Measures are in place therefore, to reduce delays and congestion when there are roadworks on the network.

- The OCs continued to manage their work well to reduce delays, with 99.3% of the network open to road users throughout 2005/06.
- All the OCs took measures to reduce the time road lanes were closed because of roadworks.

Managing traffic for safety at roadworks

Managing traffic at roadworks is crucial for the safety of workers and road users.

- BEAR improved traffic management in NE after a default notice was issued. In NW, BEAR’s traffic management was satisfactory at the start of the year, but deteriorated towards the end of the year and a default notice was issued.
- Amey continued to provide good traffic management.
- In general, the OCs planned major works well to avoid busy periods or specific events.

Repair of the most serious road defects (category 1 defects)

Quick repair of these faults is important for the safety of road users.

- BEAR performed strongly and better than the previous year.
- Amey’s record of dealing with category 1 defects was, disappointingly, not as good as the previous year. Amey took steps to improve the situation.
- Transport Scotland and PAG will continue to look to the OCs to make sure they deal effectively with category 1 defects in 2006/07.

Customer contact

An effective customer contact service (CCS) allows road users to report trunk road defects or concerns.

- The total number of calls increased by 2% from 2004/05.
- The marked increase in calls in SW alone was partly due to the new Incident Support Service in and around Glasgow to help police and emergency services deal with abandoned or broken down vehicles.

2.1 Network reliability and reducing delays

It is crucial to keep traffic moving. To be able to do so however, trunks roads must be maintained. A total of £142.4m was invested in maintaining Scotland's trunk roads in 2005/06. The money was spent on a wide variety of work from routine jobs such as repairing potholes, to longer term projects, including reconstructing carriageways and maintaining bridges. This was a decrease in spend from the previous year's figure of £161.9m, and reflects a reduced budget. Further details are in [Section 4.1](#).

During 2005/06, some 12,635 individual roadworks sites were managed by the OCs across the network, an equivalent to 35 sites per day.

Closing lanes for safety

Road workers are often out on busy trunk roads in all weather conditions. To protect them and keep road users safe, closing lanes to traffic is often necessary. [Figure 5](#) shows typical traffic management measures. The OCs are required to keep the number of lanes closed to a minimum by completing as many jobs as possible within each closed area. They also plan works to be done during off-peak periods to reduce delays for road users.

Before starting major roadworks this year, the OCs consulted and planned with police and other affected parties. The OCs then took steps to reduce the time lanes were closed. These included:

- Programming works to avoid busy periods or specific events that could cause traffic delays.
- Giving advance warning of works starting via measures such as media campaigns and signs.
- Carrying out some works at weekends and overnight.
- Avoiding the busy summer tourist season when possible, particularly in NW.
- Using lane rental contracts wherever possible. This means that contractors get a cash bonus for completing works ahead of schedule and a cash penalty if they are late.
- Introducing a new Incident Support Service in SW to remove abandoned or broken down vehicles and assist at accidents.

Despite the above measures, some delays could not be avoided because of the high number of vehicles on the road or the lack of alternative routes.

Scotland's new average speed camera system (SPECS) was used for the first time at a roadworks site.

The cameras were set up on M74 in SW while Raith Bridge was strengthened. This lowered average traffic speeds through the works and improved safety for both workers and road users.

Convoy systems, when traffic is led through works sites on narrow roads, continued to be effective.

Using mobile 'smart signs' on roadworks with speed restrictions in place also worked well. These signs remind road users of their speed and to slow down when necessary.

Winter conditions and flooding caused some roads to be closed. These are covered in [Sections 4.2.7 and 4.2.10](#).

KPI 8, shown in [Figure 4](#), measures lanes occupied by works sites in each of the Units over the year. The figures are calculated by multiplying the number of lanes closed by their length in kilometres. That figure is then multiplied by the number of hours the lanes were closed.

Unit	KPI 08 - road occupation (lane.km.hours over year)	% of network not available
SW	188,766	1.11
NE	154,574	0.88
SE	76,387	0.58
NW	89,177	0.35
Total	508,904	0.70

Figure 4 KPI 08 – road occupations

[Figure 4](#) shows that the OCs continued to manage their work well to reduce delays, with 99.3% of the network open to road users throughout 2005/06. This is a slight decrease from last year's figure of 99.7%.



Figure 5 Traffic management on A77 in SW

2.2 Managing traffic for safety at roadworks

2.2.1 Standards of operations

Traffic management refers to measures taken to keep road users and the workforce safe while work is done on the network. It is, therefore, an essential service provided by the OCs.

The OCs must make sure that traffic management measures, such as warning signs and temporary traffic lights, meet national standards.

The OCs generally provided a high standard of traffic management, although there is room to improve. Of the 1,257 sites visited by PAG, 91% complied with the required standards. A total of 5% of sites visited had minor traffic management problems compared with 6% last year. More significant issues occurred at 4% of sites compared with last year's figure of 2%. In NE and NW, default notices were issued for failing to meet the required standards of traffic management.

BEAR

In NE, standards of traffic management improved after a default notice was issued. As a result, the default notice was closed. A specialist sub-contractor continued to deal with traffic management. It was awarded what is called a Sector Scheme 12C by an external body, a certificate that allows BEAR to carry out mobile closures. A mobile closure is a system to manage traffic during slow moving jobs such as grass cutting.

In NW, traffic management was planned and executed to minimise delays during the busy summer period. At the start of the year, traffic management was satisfactory, however standards deteriorated towards the end of the contract and a default notice was issued in October 2005. Standards improved and the default notice closed at the end of the contract. As in NE, the specialist sub-contractor was awarded Sector Scheme 12C.

Amey

In SE, traffic management was generally good. Occasional issues such as signs and cones left for long periods and not maintained, and lack of road lamps overnight on coned off lanes, were addressed.

In SW, the standard of traffic management was high.

2.2.2 Planning and programming

BEAR

In NE, BEAR programmed works to avoid busy periods or specific events. Work was also done during the night when traffic was minimal.

Consulting with interested parties such as the emergency services improved, as did forward planning of road closures. Good use was made of closed lanes to carry out general work maintaining the network.

The OCs must report closed lanes to Traffic Scotland. In NE, BEAR often failed to give the necessary information.

In NW, BEAR programmed works to avoid the busy summer tourist season. BEAR's information for the Traffic Scotland roadworks diary was satisfactory and was very good by the end of the year.

Amey

In SE, planning of works varied from satisfactory to good. Increased use of signs giving drivers advance notice of roadworks and variable message signs (VMS) on larger schemes helped them run smoothly. Information on roadworks supplied to Traffic Scotland by the OC was not always accurate.

As in previous years, major works in SW continued to be well planned. Information on proposed roadworks was reasonably accurate, although it was not always up-to-date.

2.2.3 Works contracts

BEAR

Works in NE were handled well, although there was lack of supervision by BEAR at times. There was improved use of lateral safety zones (buffer zones between works and lanes open to traffic), working areas and mobile lane closures.

In NW, convoy systems worked well on many sites. The marking of lateral safety zones did improve, but maintaining these zones was a concern on restricted sites. Variable message signs were again effective for warning drivers of significant roadworks and winter conditions. Mobile 'smart signs' on road works helped keep the workforce safe.

Amey

In SE, traffic management on works contracts was satisfactory. On single carriageway routes, convoys were used successfully when safety zones were insufficient and in conjunction with measures to divert heavy goods vehicles around roadworks on narrower sites.

In SW, traffic management was of a good standard. Convoy working continued to be a useful safety tool.

2.3 Repair of the most serious road defects (category 1 defects)

Category 1 defects

Category 1 defects, the most serious faults, can include flooding, potholes and damage to safety fences, footpaths, cycleways, parapets (a bridge safety barrier) and signs. Defects are category 1 (see Figure 6) when safety is a concern. The contracts have varying timescales for repairing different category 1 defects from 24 hours to 28 days, depending on the road type.

Where a repair must be done within 24 to 48 hours and this is not possible, the OCs can fix the fault temporarily and go on to complete a permanent repair within 28 days of it being found.



Figure 6 A category 1 defect on A90 in NE

The OCs must inspect the network regularly to identify category 1 defects and act quickly to repair them. Inspections, defects and what action was taken must be recorded in the RMMS within four days. More details of the RMMS are in Section 4.2.9.

The system of inspecting, finding defects, their quick repair and recording what action was taken improves road safety.

As the OCs performed less well than expected last year, PAG carried out RMMS audits to highlight good and bad practice in finding and recording category 1 defects. The audits also showed how the OCs could perform better.

How the OCs perform is measured using data from the RMMS (KPI 01 - permanent repair of category 1 defects within 28 days see Figure 7).

	NE	NW	SW	SE
2005/06	90%	92%	77%	71%
2004/05	81%	71%	88%	76%

Figure 7 KPI 01 permanent repair of category 1 defects on time

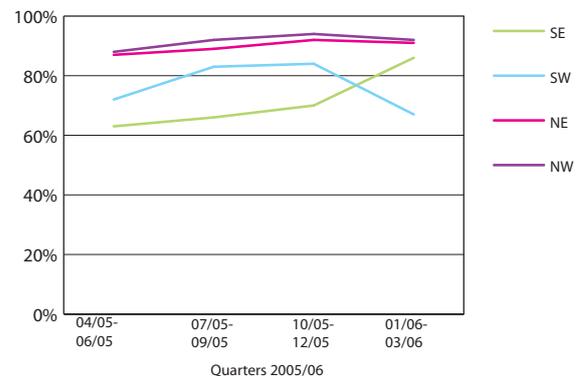


Figure 8 Quarterly repairs of category 1 defects on time

Figure 8 shows:

BEAR

- In NE and NW, BEAR's record of repairing category 1 defects within 28 days improved over the year to a good standard. There was a noticeable improvement on last year's performance.
- At the RMMS follow-up audits by PAG, BEAR had introduced more effective measures for dealing with category 1 defects. With the new regime in place, it aimed for a higher category 1 defect repair KPI target of 95%. This seems to have helped BEAR perform in NE and NW.
- BEAR reported revised category 1 KPI values late during the year. It has been asked to remedy this issue.

Amey

- In SE, Amey's record of repairing category 1 defects improved throughout the year, but it did not do as well as the previous year. There remains significant room for improvement.
- In SW, the year started well, but fell away in the last three months. Overall, it performed less well than in 2004/05.

Summary of findings

Both NW and NE performed better than the previous year. However, SE and SW performed disappointingly. Transport Scotland and PAG will be asking Amey to demonstrate how it will tackle this issue. The OCs now managing and maintaining NW and SW, Scotland TranServ and Amey respectively, will be closely monitored regarding category 1 defect repairs.

2.4 Customer contact

Customer contact service (CCS)

Members of the public are encouraged to notify the OCs of any faults on the network by calling a freephone telephone number. Figure 11 shows the number (0800 028 1414), which is displayed on signs throughout the network.

Until 30 November 2005, calls made to this number were diverted to the correct Unit using a menu selection service. Customers chose one of the first four options on the menu when they were aware of which Unit they were in. Option five was for customers who did not know the correct Unit. The call was then diverted to SW Unit's central office control room (see Figure 9).

Since 1 December 2005, all telephone calls to the national defects reporting telephone number are routed to a customer contact centre that operates 24 hours a day, seven days a week. Details of faults are taken and passed on to the correct OC. The OC then deals with the fault.

If callers report defects, which the OCs then classify as category 1, the defects must be repaired within set timescales.



Figure 9 The central office control room in SW

Unit	Calls received 2005/2006	Calls received 2004/2005	Calls received 2003/2004
NE	1,080	1,293	1,637
NW	1,026	1,446	1,568
SE	612	1,136	1,489
SW	19,848	18,178	9,593
Total	22,566	22,053	14,287

Figure 10 Number of calls received by the CCS

CCS analysis

The number of calls received by each of the OC's CCS during 2005/06 is shown in Figure 10 above.

Summary

The total number of calls across all Units has gone up by 2% from 2004/2005. The increase in calls is partly due to a new pilot service in SW. To help police and emergency services, Amey's Incident Support Service patrols in and around Glasgow to deal with broken down or abandoned vehicles and assist at accidents. Some calls to the freephone number are made by the crews of these patrol vehicles.

As has been the case since 2003, the number of calls to the three other OCs continues to go down.



Figure 11 CCS sign on A1 in SE



A85 near Lochearnhead in NW



Chapter 3 Value for money

The OC contracts seek “to achieve the maximum efficiency in the use of the substantial sums of money expended on the maintenance of the network”

Key points

Cyclic maintenance

These are regular, ongoing jobs such as grass cutting and sign cleaning that help keep the network as safe and attractive as possible.

- Grass cutting, a particularly high profile activity, has improved year on year in most Units to achieve a good standard.
- As in previous years, the OCs carried out their cyclic maintenance duties to a good standard, indicating VFM was achieved.

Winter maintenance

Measuring response times, treatment times and salt spread rates on the network gives an insight into how well the OCs maintain the network in winter and keep road users safe. This study also included M6 DBFO, as its winter activities were comparable with the OCs’.

- All the OCs, including M6 DBFO, used more precautionary salt than in the two previous years.
- The highest spread rate was in NW, with the lowest on M6 DBFO.
- All the OCs performed very strongly and were close to achieving their key performance targets.
- Overall, VFM was achieved.

Works contracts

Transport Scotland invested £51m in works contracts in 2005/06. It is therefore, important to make sure that VFM was achieved.

- The number of tenderers for each works contract was lower than previous years. This reflects the fact that contractors could be more selective in choosing to tender because of the upturn in the construction industry.
- The average difference in price between tenderers continued to reduce across all Units. This indicates tendering has become increasingly competitive.
- The works contracts process continued to deliver VFM.

3.1 Cyclic maintenance

3.1.1 Introduction

Cyclic maintenance

Cyclic maintenance includes work carried out regularly to keep the network in good order, such as landscaping, drain cleaning and litter picking.

Although sometimes seen as routine, these operations are important for safety (e.g. grass cutting for good visibility at junctions) and to prolong the network's lifespan (e.g. regular drain cleaning).

The OCs get monthly lump sums for carrying out all the required cyclic maintenance jobs. It is therefore, important to check that the work is done. To achieve value for money, the OCs' operations must also be of an acceptable standard.

PAG has previously identified between five and 12 sites in each Unit to monitor the OCs' cyclic maintenance activities. PAG continues to monitor these sites and this section reports on how the OCs performed this year.

At the sites PAG monitors:

- Grass cutting.
- Weed control.
- Road drainage.
- Road sign condition.
- Litter picking.

3.1.2 Monitoring of results

Grass cutting

Grass cutting is assessed using two criteria - grass height and number of cuts per year. The contract requires that:

- Grass height must not exceed 300mm at verge swathes and visibility areas.
- At amenity areas grass height must be maintained between 50mm and 70mm.

Other areas must be cut as follows:

- Full verge width – one annual cut between August and October.

- Central reserves on dual carriageways and motorways- two cuts per year, one in June and one in early September.

To study how the OCs performed, grass heights were measured or assessed at the sites in each Unit during the growing season. Results of this are shown at [Figure 12](#).

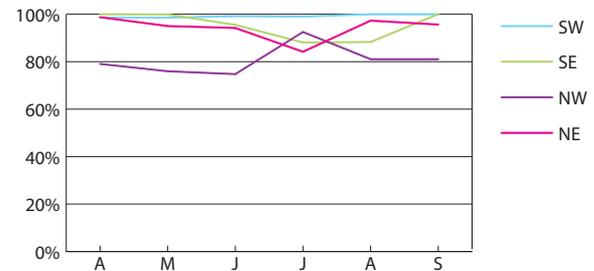


Figure 12 Overall percentage of grass within specification

Figure 12 indicates SW performed very well throughout the year, with grass heights within specification 98% of the time. SE and NE also performed well, although there was a dip during July and August. NW performed poorly for most of the year, with 25% of grass not within specification in June. PAG raised an NEI to cover this issue, resulting in some improvement by BEAR.

With the exception of NW, overall the OCs performed slightly better than last year. This sustains the trend of continually improving year on year.

Weed control

The OCs are required to treat general weed growth, and prevent injurious weeds infesting parts of the network. Injurious weeds can be harmful and include:

- Giant hogweed.
- Japanese knotweed.
- Spear and creeping thistle.
- Ragwort.
- Some types of dock.

PAG monitors weed control by inspecting sites throughout the monitoring period. The results are shown in [Figures 13 and 14](#).

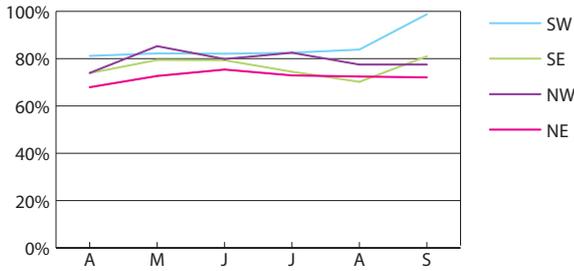


Figure 13 Average percentage of weed-free areas

Unit	2005/06	2004/05
SW	85%	85%
NW	79%	80%
SE	76%	71%
NE	72%	73%
Average	78%	77%

Figure 14 Average percentage compliance throughout the monitoring period

On average, all the OCs performed almost to the same level as last year. SW again performed well, especially towards the end of the season. SE improved compared with last year. Performance in NE and NW was similar to last year.

The control of isolated patches of injurious weeds has improved, thanks largely to a concerted effort by the OCs at the end of last year. However, more general weeds continue to be a problem across the country.

Road drainage

The routine cleaning of gullies, ditches and grips is important to prevent flooding and to protect the carriageway from water damage. Gullies must be emptied once a year and ditches must be cleaned as necessary to make sure water can flow off the carriageway.

Throughout the monitoring period, PAG examined the drainage system from the verge to see how well the OCs performed. The results are shown in Figure 15. The OCs performed to a good standard with 94% of gullies clear. The average figures for all the OCs was similar to last year.

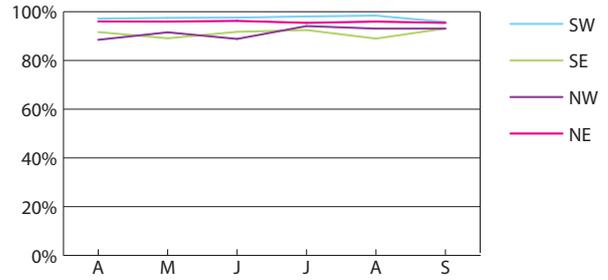


Figure 15 Percentage of gullies clear

Road sign condition

The OCs are required to clean road signs every two years and to make sure signs are kept in good condition. PAG visually inspected road signs and the results are shown in Figure 16.

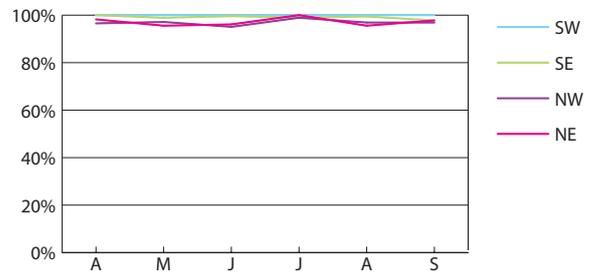


Figure 16 Percentage of signs in good condition

As in previous years, all the OCs performed very well. On average, more than 98% of signs were kept in good condition.

Litter picking

The OCs are only responsible for clearing litter from motorways and special trunk roads (certain dual carriageways, mainly in SE). On all other roads the local council is responsible for removing litter, although the OCs must inform them if litter accumulates.

The OCs are required to comply with the Environmental Protection Act (EPA), which grades litter levels into four categories, A through to D, with D being the worst. The EPA allows the OCs to clear different categories of sites within specific timescales (usually seven days).

Figures 17 and 18 show how the OCs performed overall.

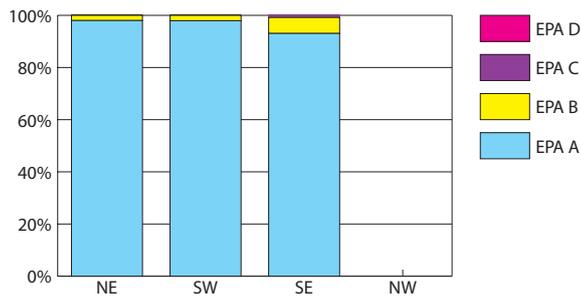


Figure 17 Overall litter performance by the OCs on motorways and special roads. There are no roads of these types in NW

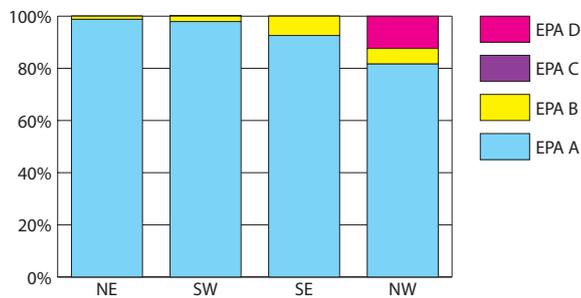


Figure 18 Overall litter performance by local councils on other trunk roads

The three OCs that have motorways or special roads (SE, SW and NE) have performed well during the year, with SW in particular improving compared with last year.

Litter blackspots continue to be a problem in densely populated urban areas in the central belt. The OCs have increased resources over the years to improve their performance. Amey continues to be a member of the Keep Scotland Beautiful campaign.

3.1.3 Summary of findings

In summary, from the data collated from the control sites during the year:

- The OCs' overall good performance has been sustained in most activities, indicating VFM was achieved.
- Grass cutting has improved noticeably year on year in most Units.
- In NW, grass cutting was somewhat disappointing this year. An NEI was raised by PAG for this issue and some improvement was noted.
- Weed control was generally the same as previous years. Control of injurious weeds has improved, but controlling general weeds remains an area for improvement.
- The OCs performed sign cleaning, drainage maintenance and litter picking very well.

3.2 Winter maintenance

3.2.1 Background

Maintaining the network in winter is a major responsibility for the OCs. How the OCs perform directly affects the safety of road users and is, therefore, of considerable public, media and political interest. Figures 19 and 20 show winter weather in NE.

Precautionary and reactive salting

During the winter period, which runs from 1 October through to 15 May, the OCs must keep the network clear of snow and ice as much as possible, thus improving safety. To do this, the OCs carry out precautionary salting and reactive salting. Precautionary salting is when salt is spread on road surfaces when low temperatures are forecast. Reactive salting happens when ice has already formed on roads or footpaths and is often done in conjunction with snow ploughing (see Figure 23).

The OCs must decide on which treatments are necessary to comply with the contract. They are also required to collect information on, and keep records of, the work they do to maintain the network in winter.



Figure 19 A90 at Stonehaven in NE in February



Figure 20 Winter conditions in November on A95 in NE

Maintaining the network in winter accounts for around 4% of the overall spend. It is important to make sure that service is delivered and VFM is achieved. To do this, PAG has studied the following over the 2005/06 winter:

- Precautionary salt used.
- Rates of precautionary salt applied per route.
- Winter maintenance KPIs.

This study included data from the OCs and Autolink on M6 DBFO, as their winter activities were to comparable standards.

3.2.2 Findings

Rate of precautionary salt applied per route

PAG studied the OCs' records to find out how much precautionary salt was spread across the network. As could be expected, rates varied between the contract required limits of 10g/m² and 40g/m², depending on the weather. A 20g/m² spread rate was the most common amount laid on the network by all four OCs and Autolink.

Because of differences in the landscape and weather, precautionary salting is unlikely to be the same across all routes in a Unit. PAG's detailed analysis of the OCs' records allows the average precautionary salt spread rates to be calculated for individual routes on the network. These results are shown in Figure 21 on the next page.

Average Precautionary Salt Spread Rate
1 Oct 2005-31 March 2006

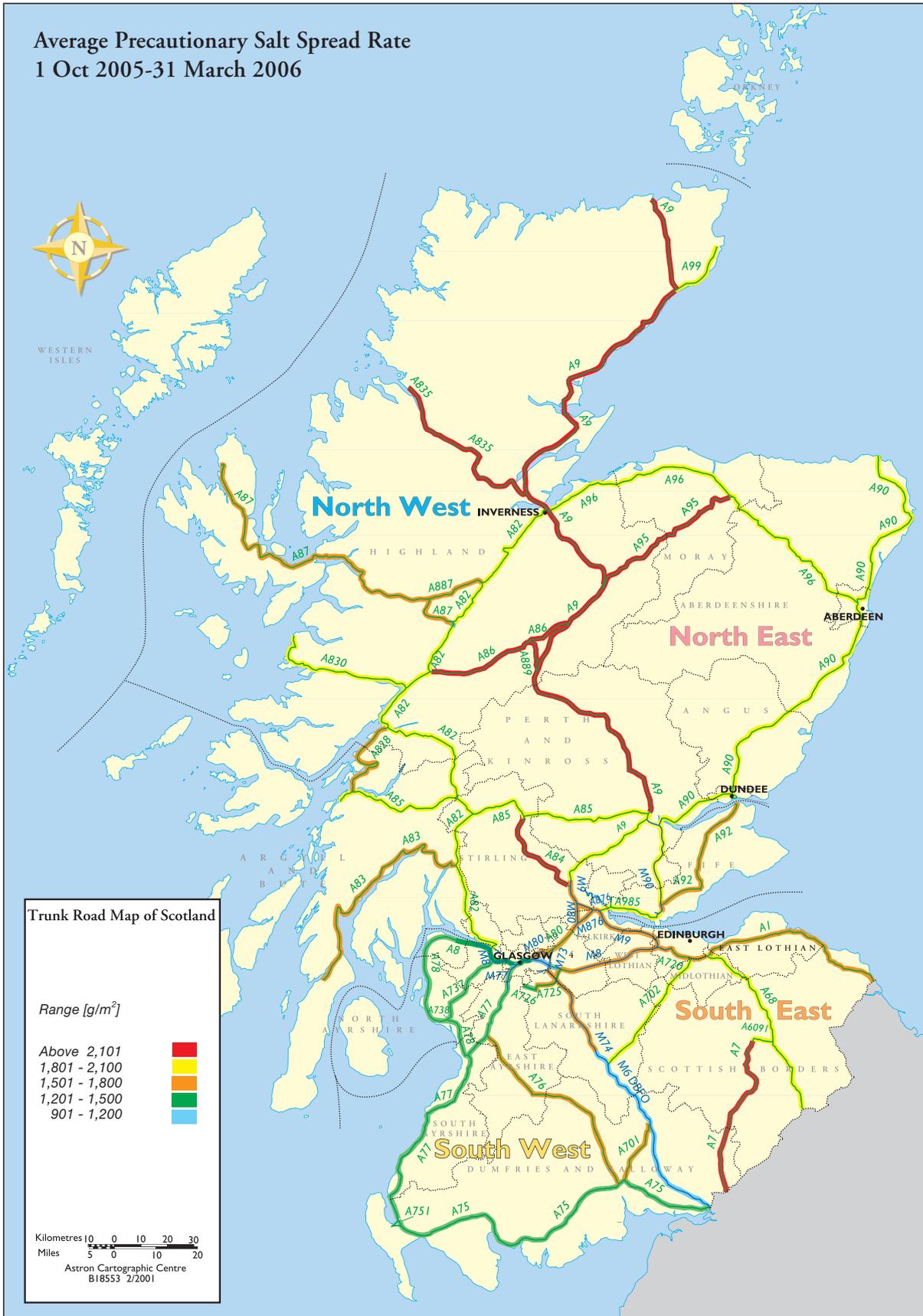


Figure 21 Average precautionary salt spread rates across the network in 2005/06

PAG's study showed:

BEAR

- The highest precautionary spread rates were in NE and NW, with almost all routes falling within the top two bands.
- All routes in NE were treated with more than 1,500g/m².
- Routes in NW varied slightly, with treatment levels in the top two bands with the exception of three coastal routes.

Amey

- All routes in SW fell into the bottom three bands.
- Routes in SE varied more, with treatment levels spread across all five bands. Most routes fell into the two middle bands, with one route in the top band and another in the bottom band.

Summary

Average precautionary salt spread across the four OCs and M6 DBFO again reflects the north/south weather divide as shown in Figure 22.

Unit	2005/06 (g/m ²)	2004/05 (g/m ²)
NW	2,064	1,580
NE	1,996	1,885
SE	1,784	1,493
SW	1,413	883
M6 DBFO	931	741

Figure 22 Average precautionary salt spread compared with the previous year



Figure 23 A snowplough on A90 in NE in February 2006

Winter maintenance key performance indicators (KPIs)

To measure how well the OCs carry out their winter duties, two KPIs are published in each of the OCs' monthly reports. These are:

■ **KPI 5 – Winter maintenance response times**

This measures OC performance in starting to spread salt on a specific route. Spreading must begin within one hour of deciding to treat (see Figure 24).

■ **KPI 6 – Winter maintenance treatment times**

This measures OC performance in completing salt treatment on a specific route. The treatment must be finished within two hours of starting (see Figure 25).

Both KPIs relate directly to contract requirements.



Figure 24 Comparison of KPI 5 - winter maintenance response times - performance in 2005/06 and 2004/05

Figure 24 shows:

BEAR

- NE, and particularly NW, did better than last year. Both OCs performed excellently this year.

Amey

- SE and SW continued to excel.



Figure 25 Comparison of KPI 6 - winter maintenance treatment times - performance in 2005/06 and 2004/05

Figure 25 shows:

BEAR

- NE performed strongly. Both the OCs did better than last year.

Amey

- Both SE and SW performed excellently, improving on last year.

3.2.3 Summary of findings

- All Units, including M6 DBFO, used more precautionary salt than last year. NE and NW recorded the highest rise. The highest spread rate was in NW, with the lowest on M6 DBFO.
- KPI results show all the OCs performed very well. They are all close to achieving their 100% targets.
- Overall, the above data indicates VFM is being achieved.

3.3 Works contracts

3.3.1 Background

Works contracts

Works contracts are schemes generally valued at more than £150,000. These are put out to tender by the OCs on behalf of Transport Scotland, with the work carried out by works contractors. PAG analysed works contracts awarded in the 2005/06 financial year, but not necessarily completed before 31 March 2006.

The purpose of this study, as in previous years, was to:

- Examine the tender process.
- Identify trends in tenders.
- Examine tender value and outturn costs (final costs).

In total, there were 42 works contracts awarded with a total tender value of £51m. Of the 42 works contracts examined, 29 were completed before the end of the financial year. Figure 26 shows the breakdown of the works contracts in the study.

Type of contract	No
Pavement structural repairs	19
Minor improvements	15
Bridges	6
Safety fences	1
Damage to Crown property	1

Figure 26 Types of works contracts

3.3.2 Findings

Tender process

- In 2005/06, the average number of tenderers per works contract ranged from 3.7 to 5.0, with three Units below 4.8. This is lower than previous years, when the range was between 4.8 and 5.5. This reflects the fact that contractors can be more selective in choosing to tender, as a result of the upturn in the construction industry.
- In 2005/06, the range between the highest and lowest average number of tenders submitted by each contractor was 1.7 to 2.7, with three Units at 2.0 or below. In the previous four years, the range was 1.9 to 4.4. This also reflects the high level of activity in the construction industry, with contractors being more selective in which jobs they tender for. The total number of works contracts awarded in the past five years range from 52 in SW to 61 in SE.

Trends in tenders

- The average percentage difference between lowest and highest tenderer has gone down as a whole (across the four Units) each consecutive year. This shows that tendering has become more competitive over the last five years (see Figure 27).

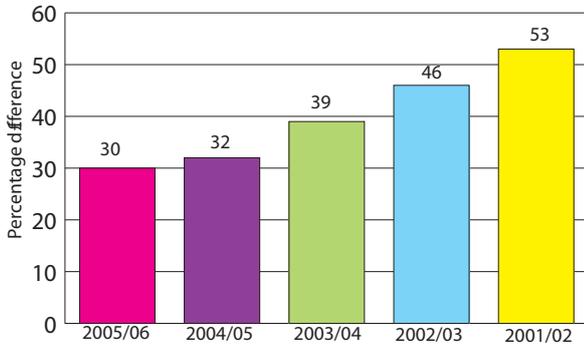


Figure 27 The average percentage difference between the lowest and highest tender

PAG's study shows:

- Pre-tender estimates varied in accuracy, but were generally conservative compared with the values in the submitted tenders. This is similar to previous years.
- NE had the most competitive tendering, with the average difference between the lowest and highest tenderer being 22%.
- The smallest average margin between the lowest and third lowest tenderer was in NW, with the difference being 10%.
- The highest average award value was £2,503k in NE and the lowest average award value was £573k in SE.

- In NW and NE, Ennstone Thistle was the most successful contractor in terms of value, winning 38% of the total award value, equating to £5.8m.
- In SW and SE, Tarmac was the most successful contractor in term of value, winning 29% of the combined value, equating to £6.9m. Figure 28 shows a works contract in SW.

Tender value and outturn costs

- The average increase between tender award and scheme outturn values ranged from 0.2% in NE to 10.7% in SW.

3.3.3. Summary of findings

The study shows that VFM was achieved and competitive tenders were received.



Figure 28 A works contract on M74 in SW



A830 near Arisaig in NW

Key points

Effective management – financial

It is essential for effective financial management in these contracts that the OCs have rigorous procedures and robust CCMS controls.

- The budget for 2005/06 was 15% less than last year, when higher than normal funding was made available.
- Total value of work done in 2005/06 was £142.4m.
- Overall, spend was in line with the budget, although there were overspends in NE and SE and underspends in NW and SW.
- Expenditure profiling continued to improve, but there was still a problem predicting final spend.
- Alignment between orders and spend improved this year. However, it would appear that all the OCs, with the exception of SW, were still having some difficulty with prompt re-bidding and re-ordering.

Effective management – technical

The OCs must manage their activities effectively to make sure road users enjoy a high level of service and work is done to specific standards.

- Structural maintenance operations were satisfactory across the network.
- Site supervision and workmanship on works contracts was generally good in all Units.
- The OCs, in general, continued to comply with their winter maintenance obligations.
- Transport Scotland is investigating some isolated failures of Stone Mastic Asphalt surfacing on the network.
- The OCs responded professionally to emergencies and PAG’s hazard notices.

Effective management – quality

The OCs must keep records to show that they are complying with the contract. All of the activities by the OCs under the contracts are covered by their QMSs.

- BEAR was awarded BS EN ISO 9001 certification for its QMS. Amey continued to operate a QMS accredited to BS EN ISO 9001.
- Amey reviewed its EMS plans and procedures, while BEAR continued to make good progress towards registration of its EMS to BS EN ISO 14001.
- The number of default notices issued reduced, except in NW, reflecting a continued year on year improvement in performance by the OCs.

4.1 Financial

4.1.1 Financial overview

The financial highlights for 2005/06 are as follows:

- The budget allocation by Transport Scotland for 2005/06 was 15% less than that for last year, when higher than normal additional funding was made available. Overall, 99% of the budget was spent.
- As shown in Figure 29, the total value of work done in 2005/06 of £142.4m was less than that for 2004/05 of £161.9m.
- A decrease of £21.7m in Amey's total value of work done is responsible for the overall reduction of £19.5m. This reflects a reduced budget allocation from Transport Scotland for both SE and SW.
- The value of the work done by BEAR for 2005/06 has been increased by including a claims settlement for both NE and NW. The settlement covers payments due for the full term of the contracts.

- A figure of £52.8m (37%) of the total value of work done for 2005/06 was attributable to works contracts. This is less than the corresponding figures for 2004/05 of £65m (40%). The reduction in value of £12.2m was almost entirely in SE and SW, again reflecting the reduced budget allocation.
- Included in the total value of work done by the OCs is contract price fluctuation (CPF). The increase in CPF from £11.8m in 2004/05 to £16.0m in 2005/06 reflects further year on year inflation adjustments on the rates and prices tendered by the OCs, prior to the start of the contract.
- Excluding the CPF adjustment of £16.0m, the value of work done (referred to as 'spend') of £126.4m for 2005/06 was in line with the budget of £127.1m.

	2005/06			2004/05		
	OC £m	Works contracts £m	Total £m	OC £m	Works contracts £m	Total £m
NE	20.9	14.8	35.7	21.4	15.8	37.2
NW	25.9	12.0	37.9	23.2	11.0	34.2
BEAR total	46.8	26.8	73.6	44.6	26.8	71.4
SE	16.1	13.6	29.7	18.1	20.7	38.8
SW	26.7	12.4	39.1	34.2	17.5	51.7
Amey total	42.8	26.0	68.8	52.3	38.2	90.5
Network total	89.6	52.8	142.4	96.9	65.0	161.9
%	63	37	100	60	40	100

Figure 29 Comparison of work done year on year

4.1.2 Budgets, orders and spends

As part of the financial management and monitoring process, Transport Scotland allocates the budgets for the year and works closely with the OCs in agreeing the one year and three year programmes.

PAG assists Transport Scotland and the OCs throughout the year, to monitor and report on the inter-relationship of budgets/orders/spends. The way in which this fits into the overall process is set out in Figure 30.

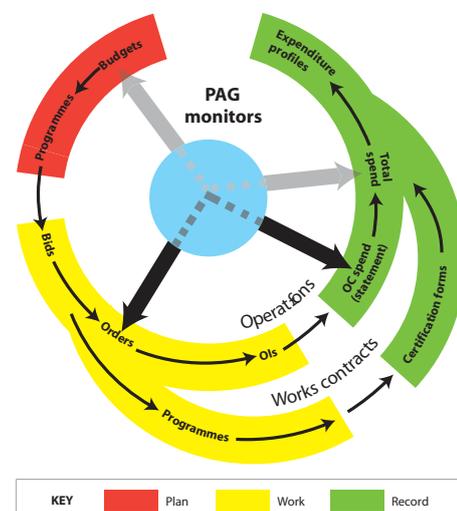


Figure 30 Financial monitoring process

Budget v spend

Spend

Budgets allocated to the OCs are net of CPF. Therefore, in order to achieve a like-for-like comparison with the total value of work done, it is necessary to exclude CPF from the value of operations carried out by the OCs. This reduced figure for operations together with works contracts is referred to as 'spend'.

A comparison of spend against budget for the years 2005/06 and 2004/05 is shown in Figure 31.

	2005/06 £m	2004/05 £m
OC Operations	89.6	96.9
Works contracts	52.8	65.0
Total value of work done	142.4	161.9
CPF on OC Operations	(16.0)	(11.8)
Spend	126.4	150.1
Budget	127.1	150.2
Variance	(0.7)	(0.1)
Spend/budget %	99.4	99.9

Figure 31 Spend v budget

Spend as a percentage of the budget, for the network as a whole, was good at 99.4% (2004/05 - 99.9%). The variance of £0.7m in 2005/06 comprised a mixture of overspends (NE and SE) and underspends (NW and SW), see Figure 32.

Additional budget allocations again took place during the year to reduce the backlog of needs-based work identified by Transport Scotland and the OCs. Much of this was in the earlier part of the year and allowed the OCs sufficient time to programme their works more effectively this year.

In making these additional allocations, Transport Scotland took into account amounts over-accrued by the OCs in 2004/05, totalling £2.3m. Of this, £1.8m was attributable to SW. Discussions have taken place between Transport Scotland, PAG and the OCs to improve the accuracy of the accruals for the 2005/06 year-end.



Figure 32 Budget v Spend in 2005/06

Specific comments on the variances are as follows:

BEAR

- As in 2004/05, there was an overspend in NE. In 2005/06, this amounted to £3.5m and related primarily to routine & cyclic operations and capital maintenance.
- In NW, there was a relatively small underspend of £0.7m. This applied across all budget headings, apart from routine & cyclic operations where there was an overspend of £1.8m.

Amey

- SE had the lowest variance of all the OCs, with an overspend of just £0.3m. While this included a number of underspends in the budget headings, they were offset by an overspend in capital maintenance.
- There was an underspend of £3.8m in SW. This was spread across all budget headings, but most noticeably in capital maintenance.

Expenditure profiles

Financial monitoring and forecasting

The OCs are required to use their CCMS for financial monitoring and forecasting. The primary reporting mechanism for the OCs assessing the likelihood of meeting their budget, is the expenditure profile. This involves a comparison of annual budget against anticipated spend, profiled by month for the year. As the year progresses, the spend is updated for actual costs and the balance is re-profiled to give the best estimate of projected spend for the year.

This year saw a further improvement by all the OCs in producing their expenditure profiles. Re-profiling for actual expenditure throughout the year on a more consistent basis suggested the OCs were using their profiles to manage their finances more effectively. Nevertheless, as can be seen from the following, the profiles did not always accurately predict the final spend.

BEAR

- As in previous years, NE included additional spend on schemes resulting in its profiles exceeding the corresponding budgets. This was in anticipation of further budget allocations later in the year. Assuming that the OC factored out some of the anticipated increased allocations as the year progressed, the profiles did have the effect of drawing attention to the likelihood of an overspend on its budget, although not to the extent of the eventual amount of £3.5m.
- In NW, the profiles exceeded the budget in the last quarter. However, as it transpired, the final spend for the year ended up less than the budget.

Amey

- SE managed its expenditure profile well during the year and, as a result, it was relatively close to the eventual spend.
- In the early part of the year, SW had some difficulty in producing expenditure profiles that resembled its budget. This was resolved as the year progressed. Although the profile predicted an overspend, the spend at the end of the year was significantly less than the budget of £37.5m.

Orders, operations instructions and spend

Bidding for work

For work to be carried out on the network, it has to be first of all bid by the OCs. Assuming the bid is approved by Transport Scotland, there are different ways in which the work is instructed:

- For operations carried out by the OCs**
Transport Scotland issues orders to the OCs for the work as necessary. The OCs then issue operations instructions (OIs) to instruct the work to proceed. On completing the work, the costs are collated by the OCs and charges are raised through their monthly statements.
- For work carried out by works contractors**
This work is instructed under another mechanism based on programmes agreed with Transport Scotland. The work is certified in stages by the OC, acting as engineer, and is invoiced directly to Transport Scotland by the works contractors.

Operations instructions

OIs are the primary communication between the OCs' management and those carrying out the work on the ground to make sure work is carried out as ordered by Transport Scotland. It is essential the procedures covering this process are effective and are adhered to.

BEAR

- In last year's report it was noted that NE had been slow to implement its revised procedures. An audit during 2005/06 revealed little progress and, as a result, a further audit was carried out during the year at the OC's expense. This audit confirmed that more robust OI procedures and additional control forms were now in place. However, it was found there was a lack of compliance with the procedures by sub-contractors. This is currently being addressed by the OC in one-to-one meetings with the sub-contractors.
- There has been a general improvement in NW, although there was still a problem in receiving adequate back-up documentation from sub-contractors.

Amey

- In SE, the implementation of the revised procedures took longer than anticipated. An audit during the year raised concerns about record keeping, particularly with reference to site records from sub-contractors. Further revisions were made to the procedures and subsequent audits showed there had been improvement.
- It had been noted last year that, despite initial success in applying their procedures, an audit in SW in early 2005 had shown that standards had dropped. SW since revised its procedures and subsequent audits showed an improvement in the processing of OIs and availability of back-up documentation.

Orders v spend (OCs' operations only)

Comparing spend against operations ordered

The comparison of spend (work done less CPF) against amounts ordered relates only to operations carried out by the OCs and their sub-contractors. The remainder of the spend is in respect of work carried out by works contractors. As this is not ordered by Transport Scotland, it is not included in the spend figure used for this exercise.

The reduced spend of £73.6m (OC-£89.6m less CPF of £16.0m), was £12.6m (15%) less than the amount ordered by Transport Scotland of £86.2m. This compares with a shortfall of £13.1m (13%) in 2004/05.

Adjusting for the over-accruals attributable to operations in 2004/05, i.e. £0.6m, has the effect of equalising the shortfalls at 14% for both years.

It should be noted that in arriving at this year's spend, SE and SW have each had amounts deducted, pending the outcome of a claims settlement. As the orders have not been reduced to take account of these deductions, an equivalent amount has been added back to the spend for the purposes of this comparison, further reducing the shortfall. No adjustment is necessary for the BEAR settlement as this was ordered.



Figure 33 Order v spend in 2005/06

Figure 33 shows that all the OCs contributed to the adjusted shortfall of £10.0m (12%) in 2005/06. The relatively good performance of SW at 6% was offset by SE, with a shortfall of 19%. The shortfall in SE was most evident in routine/capital maintenance and routine/cyclic maintenance operations.

Despite the slight improvement overall on 2004/05, it would appear that all the OCs, apart from SW, were continuing to have some difficulty in re-bidding completed schemes, where the spend was materially less than the amount ordered.

The contract requires the OCs to re-bid work as soon as they are aware of a material variation in final costs when compared against the amount ordered. Had this been adhered to more rigorously, it is likely that the orders would have been aligned more closely to the corresponding spend.

4.1.3 Contract control and management systems (CCMS)

Each of the OCs continued to operate a fully functional CCMS during 2005/06. The weaknesses in their system controls and procedures previously identified have been largely eliminated. However, some problems remained in all the OCs, where manual intervention was required in the processing of information through the CCMS. This was most noticeable in the re-bidding and completion of schemes.

CCMS

The CCMS is a computer-based system operated by the OCs. The system gives everyone working on the contract, including Transport Scotland and PAG, access to information about how projects are being managed and where money is spent.

The specific issues relating to BEAR and Amey were:

BEAR

- The minor high level differences in the CCMS for both NE and NW referred to in last year's report were eventually resolved. These differences did not affect the stability of the systems during the year.
- The inputting of scheme completion data remained a problem throughout the year for both NE and NW. The OCs latterly made an effort to catch up on the backlog.

- There were relatively few CCMS user group meetings during the year. To some extent, this was to be expected as the system became more mature and less development was required, particularly in NW where the contract ended this year.
- It was difficult to arrange CCMS training for new staff with BEAR during the year. Arrangements are in hand for this to take place in the near future.

Amey

- CCMS progress/user group meetings continued through the year. Development of the system was restricted to essential maintenance as the contracts neared their end.
- Despite agreeing a way forward on scheme completion last year, the inputting of data has remained a problem throughout 2005/06 for both SE and SW. The OCs are currently working on bringing the population of scheme completion dates in the CCMS up to date.
- There has been less need for training as staff have become more familiar with how the CCMS operates. Nevertheless, where training has been necessary, e.g. for new starts, this has been provided by Amey.

4.2 Technical

4.2.1 Reports by the OCs

Weekly and monthly reports

The OCs must produce reports on a number of their activities. These reports are submitted weekly and monthly at times specified in the contract. Reports include the OCs' weekly programmes of intent (WPIs), which detail proposed and current works on the network and any traffic restrictions. Monthly reports record the actual works that were on the network and lanes closed as a result, as well as programmes of work for the following month.

As the contents of WPIs are of interest to road users, they are widely circulated to organisations such as the emergency services, local authorities, transport operators, and media. The data is also used by Traffic Scotland to update its website.

Monthly Reports

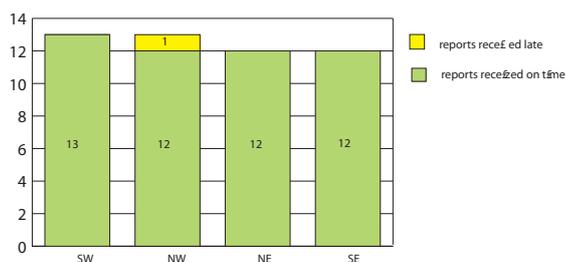


Figure 34 OCs' delivery of monthly reports

Figure 34 shows:

BEAR

- NW was required to produce 13 reports this year (March 2005 to March 2006 inclusive). This was due to the ending of the 2001 to 2006 contract. It produced all reports on time, except March 2006, which was late.
- NE produced the required number of monthly reports, covering March 2005 to February 2006, on time.

Amey

- SW produced all 13 reports on time.
- SE also produced all 13 reports on time.

Weekly Reports

Transport Scotland and PAG must receive weekly reports before noon each Thursday. All the OCs produced their weekly reports on those days. WPIs and updates were received regularly from all the OCs throughout the year. The OCs must report the actual works and traffic restrictions on the network.

BEAR

- BEAR delivered 51 out of 52 reports in NE and 50 out of 52 in NW. These results are better than in the previous year.

Amey

- Once again, Amey produced all 52 required reports for SE and SW.

Automated roadworks diary

The Traffic Scotland roadworks automated diary facility should be updated daily by the OCs. This information is then made available to the travelling public via the media and Traffic Scotland website. It is important that this information is both accurate and up-to-date. PAG monitors the accuracy of the automated diary facility and raises ORIs where there are discrepancies.

BEAR

- Over the past year, four ORIs have been issued to NE for Traffic Scotland automated diary issues and one to NW. These results show NE improved on the previous year's figure. NW performed worse than the previous year.

Amey

- Six ORIs were issued to SE and four to SW. Both the OCs performed worse than the previous year.

All except two of the ORIs raised related to operations carried out by the OCs or their sub-contractors. The other two related to utilities' works. Figure 35 shows the number of ORIs issued relating to Traffic Scotland automated diary queries over the period of the contract.

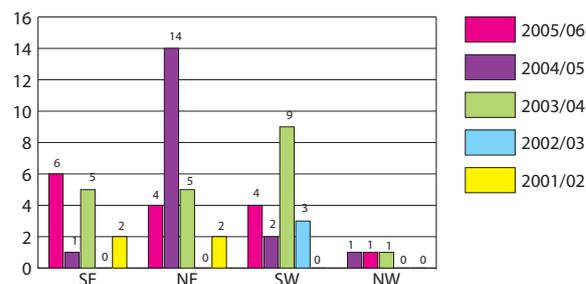


Figure 35 ORIs issued for Traffic Scotland roadworks diary queries

4.2.2 Capital maintenance - operations

Maintaining roads and bridges

Capital maintenance operations are carried out on roads and bridges. Typical work to maintain roads includes reconstructing carriageways, resurfacing, surface dressing to seal materials onto roads (see Figure 36), installing anti-skid measures and replacing road markings and studs. Maintaining bridges can involve, among other measures, replacing joints or parapets and waterproofing.

These operations are valued at less than £150,000 per scheme and carried out by the OCs. The OCs are paid on the basis of the tendered rates and prices, with adjustments for inflation (CPF).

Comments on the use of sub-contractors and maintenance operations by the OCs are given below.

Sub-contracting

BEAR

Most operations in NE were done by BEAR, with sub-contractors carrying out specific work such as road patching and replacing filter drains.

As in previous years, the work in NW was shared between BEAR and its sub-contractors.

Amey

Work in SE and SW was carried out by Amey and its sub-contractors. Typical work by Amey included traffic management and maintaining signs, safety fences and drains. Jobs involving machine laid patching, road markings, bridge waterproofing and bridge joints were generally sub-contracted.

Workmanship

BEAR

A good standard of work was achieved in NE.

In NW, work was generally done to a satisfactory standard.

Amey

In SE, the standard of work was good, although remedial works could sometimes take a considerable time to complete.

Overall, the quality of work in SW was good.

Supervision

BEAR

Although a supervisor inspected sites in NE daily, extra visits throughout the working day would have helped most operations.

Sites were supervised to a satisfactory standard in NW. However, sub-contractors were often left to supervise their own works.

Amey

Although, at times, defects were found that would have been prevented by better supervision, sites were generally supervised to a satisfactory standard in SE.

In SW, works by sub-contractors continued to be supervised to a good standard. In general, Amey representatives were on site.

Completing works and records

BEAR

In NE, there were still unacceptable delays replacing road markings and studs that led to PAG issuing ORIs. Record keeping has improved, although there are still issues to resolve such as the time it takes sub-contractors to return records to BEAR.

In NW, as in NE, PAG issued ORIs because of delays replacing road markings and studs. Record keeping improved.

Amey

Works were completed satisfactorily in SE, although they often took longer than originally programmed.

Amey completed works satisfactorily in SW. New procedures meant all overnight surfacing works finished on time, preventing traffic congestion. Record keeping has been good, with information available on larger sites for PAG's review.



Figure 36 Surface dressing on A96 in NE

4.2.3 Capital maintenance - works contracts

Works contracts

Works contracts are usually valued at more than £150,000. They are put out to tender by the OCs on behalf of Transport Scotland. The OC is the engineer, designing and project managing as well as supervising the work. VFM of works contracts is discussed in Section 3.3.

As can be seen from Figure 37, most works contracts are to maintain the structure of roads and for minor improvement schemes, such as building new footpaths. Other contracts can also cover work, for example, to repair safety fences, maintain bridges, investigate sites or repair damage to Crown property. Minor improvement schemes are discussed in Section 4.2.5.

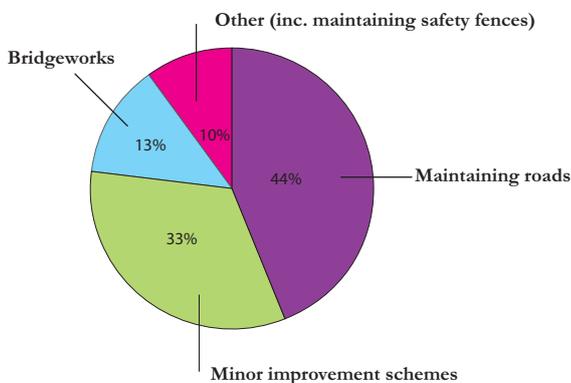


Figure 37 Proportion of tender documents received in 2005/06 for different types of works contract

Tender documents

Part of PAG's role is to review and comment on a percentage of the tender documents for works contracts produced by the OCs. PAG has a KPI to review at least 25% of all tender documents received during the year. The OCs produced 46 sets of tender documents in 2005/06, of which 17 (37%) were reviewed. The details on the number of documents received and reviewed for each Unit are given in Figure 38.

UNIT	Number received	Number reviewed	% reviewed
NE	7	4	57%
NW	13	5	38%
SE	15	5	33%
SW	11	3	27%
Total	46	17	37%

Figure 38 Draft tender documents reviewed by PAG in 2005/06 (target 25%)

Road maintenance

Concerns were raised across all Units about some cases of Stone Mastic Asphalt, a material used to resurface roads, not working properly or lasting as long as it should. This is addressed in more detail in Section 4.2.6.

BEAR

In NE, six contracts for reconstruction works were awarded during the year. Despite a number of schemes carried out late in the year, there were few delays because of bad weather. With lane rental incentives for finishing early and penalties for being late, contracts on M90 and A90 were completed ahead of time.

Six contracts were awarded in NW, three to overlay parts of the network, two for resurfacing work and one reconstruction contract. These schemes went well.

Amey

Four reconstruction schemes, split between M8 and M9 routes, were awarded in SE in 2005/06. Works at all sites were completed on time or ahead of schedule, including major repairs to A7 at Unthank Farm (See Figure 39). The A7 work was awarded in 2004/05.

There were three reconstruction schemes and one resurfacing scheme in SW. On A76, the ongoing work to reconstruct the Sanquhar carriageway caused local delays due to additional geotechnical work. Two schemes on M74 were completed to a satisfactory standard.



Figure 39 Major repairs on A7 in SE

Bridges and other structures

BEAR

- In NE, a complex contract to refurbish A985 Bluther Burn Bridge shown in [Figure 40](#), awarded in 2004/05, was completed successfully. The scheme was well resourced and was well supervised.
- In NW, a major contract was awarded to renew the southbound bridge edge and parapet on A9 River Tay Bridge at Dunkeld. The work began in March 2006 and was due to finish in August 2006. Weather seriously delayed work on A82 Lairig Eilde Bridge. The works contract was awarded in late 2003/04.

Amey

- In SE, works contracts were awarded to refurbish bridges on M9 and M80. Both contracts went well. Damage to A6091 Broomilees Bridge was also repaired to a good standard.



Figure 40 Bluther Burn Bridge on A985 in NE

- In SW, there were four major contracts for bridge works. Two of these contracts were to replace the curtain wall and joints on M74 Raith Bridge and on M8 White Cart Viaduct to install a new high containment parapet and replace lighting columns. The others were to replace A78 Inverkip Street Railway Bridge and for work on A898 Erskine Bridge. The Raith Bridge contract was delayed due to unforeseen circumstances. The other contracts progressed satisfactorily.

Supervision and workmanship

BEAR

- In NE, works were well supervised, with additional supervisors and inspectors on site when required. The general standard of work on these contracts was good.
- In NW, BEAR's site supervision and quality of work by contractors continued to be satisfactory.

Amey

- In SE, all works were supervised by Amey, but not always full-time. The quality of work by contractors was high, with defects reported and action taken promptly.
- In SW, the standard of supervision has improved on last year's good performance, with further emphasis on health and safety issues on site. Workmanship, like last year, has remained good.

4.2.4 Investigation and prevention of accidents

Accident investigation and prevention schemes (AIP)

Preventing accidents

AIP schemes are measures to cut down the number of accidents on the network and hence save lives.

The OCs help Transport Scotland by identifying trunk road sites and routes that would benefit from AIP schemes.

Accident data is analysed using a moving cursor programme (MCP) provided by Transport Scotland. The MCP pinpoints accident cluster sites, which the OCs then investigate for possible common causes. For example, drivers may have been travelling at high speeds. The information is then used by the OCs to identify treatments suitable for AIP schemes.

AIP schemes can include:

- Anti-skid treatments.
- New signs and road markings.
- Traffic signals including pedestrian crossings.
- Traffic calming measures.
- Reducing speed limits.
- Route accident reduction plans.



Figure 41 New safety sign on A68 in SE

BEAR

BEAR implemented innovative measures to improve road safety. These included solar and wind powered vehicle activated warning signs and new unobtrusive speed detection radar equipment.

- In NE, 10 road safety studies were identified from the MCP. After investigating further, BEAR proposed a number of mainly low cost measures, such as installing high friction surfacing to improve skid resistance. A further nine studies were carried out on specific routes or locations. A total of 10 AIP measures were implemented. These included coloured surfacing and road markings at junctions to improve visibility and markings at climbing lanes as part of the A96 route accident reduction plan. Other measures introduced included 20mph speed limits at schools on A96 at Fochabers and Nairn.
- In NW, BEAR's programme included measures similar to those in NE. A major project throughout NW was to introduce 12 part-time speed limits as part of the safer routes to schools programme. Other schemes by the AIP team included installing additional signs on A9 between Dalguise and Bruar, and reducing speed limits at A85 Lochawe and Taynult.

Amey

Amey developed further the Scottish trunk road remedial treatment monitoring database (STRUM). STRUM is a system of monitoring whether AIP schemes are effective. Amey improved the computer software and provided a new working manual. Other developments included studies to assess visibility on routes and enhanced methods of identifying the annual AIP programme.

- In SE, 22 road safety studies were identified and completed from the MCP and 12 additional AIP studies were carried out by Amey. A total of 23 schemes were constructed during 2005/06. These were mainly low cost measures such as anti-skid surfacing, carriageway markings, safety barriers, hazard marker posts and signs (see Figure 41). Construction work began at a further five sites and is programmed to finish in early 2006/07.
- In SW, nine sites were identified from the MCP, three of which were route accident reduction plans. A total of 22 AIP schemes, mainly completing designs or site works, continued over from the previous year. A further 21 schemes were investigated, of which 18 were recommended for AIP measures. Other AIP schemes included improving the A82 junction at Strowan's Lane and the A77/A751 junction at Innermessan.

4.2.5 Minor improvement schemes

Minor improvement schemes

Minor improvement schemes improve trunk roads, rather than simply maintaining them.

The schemes can come from a commitment from a Minister or be identified by the OCs or Transport Scotland. Schemes can include realigning roads to make them straighter for safety purposes, improving junctions, providing more places where drivers can overtake safely, building new footpaths, and installing new lighting and safety barriers.

The OCs investigate, design and supervise minor improvement schemes, which are then constructed by works contractors. Buying land, consulting with the public, local authorities, community councils and interested parties, and other statutory procedures are outwith the control of the OCs. They can, therefore, affect the delivery of minor improvement schemes.

BEAR

- In NE, work started on the A90 Hatton Bends scheme, a major realignment to improve safety, following delays outwith BEAR's control. Other works included altering the junction at M90/A90 Barnhill Interchange and phase 1 of a scheme to replace signs on A92. Five other schemes were constructed throughout the year.
- In NW, five out of six construction schemes were completed. Several feasibility studies progressed. Some designs were not able to be constructed because of continuing land negotiations outwith BEAR's control.

Amey

- Eight schemes, including ones to improve safety barriers, made up the SE's minor improvements programme. Other schemes, largely completed, involved realigning the carriageway at A702 between Dolphinton and the Melbourne crossroads (see Figure 42). Detailed designs for two realignment schemes on A702 at Candymill Bend and Edmonston Brae continued.
- In SW, 12 designs and six studies were completed, with a further two designs and four studies begun. The design of a scheme to stabilise a rock slope adjacent to A76 has been completed. This will be carried out by a specialist sub-contractor in 2006/07. A total of eight schemes were constructed in 2005/06, with a concerted effort made to replace a type of safety fencing, called blocked out beam fencing, with an upgraded version across the network.



Figure 42 A702 being realigned in SE

4.2.6 Materials and workmanship testing

The contract states that materials used and work done on the network must be tested to make sure they meet the correct standards.

As with previous years, PAG carried out audits to check the OCs were complying with the contracts. PAG found the amount of testing varied across the network. Similarly, standards of work differed, with some concerns raised about testing on schemes not being fully completed on some routes.

There have been some isolated failures of Stone Mastic Asphalt (SMA) surfacing on the network. Transport Scotland has commissioned an investigation into why this is happening.

BEAR

- In NE, testing was generally carried out in line with the contract. Site inspections recorded an increase in the number of tests, mainly on road surfacing schemes. However, PAG audits and OI reviews showed that some testing records were not available to be inspected. This is being monitored.
- The testing on larger works put out to tender continued to be of better quality than routine works in NW. Testing on smaller jobs, such as patching and overlaying areas of roads, improved.

Amey

In SE, the number and standard of records on testing materials improved. As noted in all Units, failures in SMA are a concern and Amey has begun using Hot Rolled Asphalt (HRA) on roundabouts, junctions, bridge decks and other locations.

- PAG raised concerns about the standard of tidying up, including removing surplus materials, when contracts were completed. This was addressed by the OC.
- In SW, on-site testing by specialist companies was observed regularly on works contracts. After a PAG audit, more comprehensive records were produced on testing of routine works.

4.2.7 Winter maintenance

Winter treatment

The winter maintenance period runs from 1 October to 15 May. The main winter maintenance activities carried out by the OCs are precautionary and reactive salting and snow ploughing.

Weather conditions

Until the start of 2006, this winter was generally mild. However, January and February were noticeably colder and drier months, with more extreme conditions in the north.

March and the first week of April 2006 saw longer periods of severe weather, with the second weekend in March particularly bad. Heavy snow fell across all four Units and the M6DBFO during 11 and 12 March. Six roads closed as a result (see Figure 45). Apart from these two days, there was only one other road closed because of winter conditions from 1 October 2005 until 15 May 2006. Figure 43 compares the 2005/06 winter with previous years.

Winter period	Number of road closures
2005/06	7
2004/05	4
2003/04	11
2002/03	4
2001/02	4

Figure 43 Number of winter-related major incident road closures over the last five years

The 2005/06 winter was prolonged compared with recent winters. As predicted by the Met Office, it was also colder than usual with relatively frequent periods of snow, especially towards the end of the season. As a result, more salt was spread across the country compared with recent years. This is shown in Figure 44. Salt spread is examined in more detail in Section 3.2.

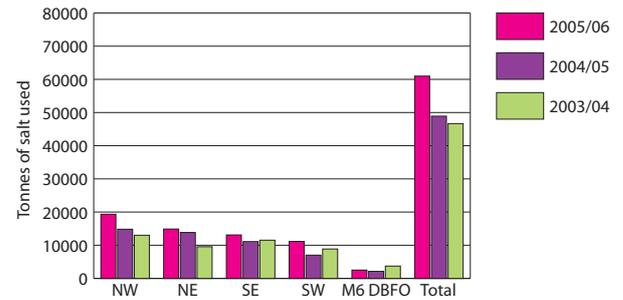


Figure 44 Precautionary salt tonnages over the last three winters

Figure 44 shows:

- There was a 25% increase in the total precautionary salt spread on the network in the 2005/06 winter season, compared with 2004/05, and a 31% increase compared with the 2003/04 winter season.
- The amount of precautionary salt spread reflects the fact that colder weather tends to affect the north of the country more than the south.
- The overall tonnage used in each Unit broadly corresponds with its size. NW, the longest Unit, used the most precautionary salt, while M6 DBFO, the shortest, used the least.



Figure 45 White-out conditions on A9 at Slochd in NW on 12 March 2006

Handover to new contracts

The relatively cold winter weather coincided with the transition period in NW, when BEAR's contract was coming to an end and the new OC, Scotland TranServ, took over on 1 April 2006. A new contract with Amey also began on the same date in SW. Both handovers went smoothly. A contributing factor to this in NW was the transfer of many winter personnel. BEAR plant, including large pieces of machinery such as salt spreaders, was also transferred temporarily to the new OC.



Figure 46 A spreader on A82 at Glencoe in NW in November

Winter maintenance audits

PAG carried out in-depth activity audits of winter operations in each of the four Units. There were a further two compliance audits in NW and SE. The M6 DBFO winter operations were also audited.

The audits looked at records of how each OC performed on chosen dates when bad weather was known to have affected the Unit. PAG field engineers also travelled in salting vehicles to monitor activities as they happened. Vehicle and sensor calibrations (to make sure the correct amounts of salt are spread), salt certifications (to verify salt quality), winter KPI calculations and winter personnel training records were also covered by these audits.

PAG found that, in general, the OCs complied with their winter obligations. There was, however, concern that extreme weather on 18 December 2005 might have been better handled by Amey in SW. Amey revised its procedures as a result of this isolated incident.

Summary

The OCs continued, in general, to comply with the contract. The relatively prolonged and latterly cold 2005/06 winter (see Figures 45 and 46) led to substantially more precautionary salt spread on the network than in recent winters. Both BEAR and Amey handled the transition period, during the handover of the contracts, well.

4.2.8 Cyclic maintenance

Road sweeping, grass cutting, controlling weeds, picking up litter, and cleaning signs, gullies and drains (see Figure 47) are done on a regular, ongoing basis.

These types of jobs are called cyclic maintenance. PAG considers that cyclic maintenance was carried out to a good standard across the network.

As cyclic maintenance is paid for on a monthly lump sum basis, it is important that value for money is achieved and that the standard of work is acceptable.

A more detailed study of the OCs' cyclic maintenance work is reported in Section 3.1 of this report.



Figure 47 Drain cleaning on A7 in SE

4.2.9 Recording details of routine maintenance operations

RMMS

The RMMS is a computer-based system operated by the OC. The contract states that the OC must provide, operate and maintain an RMMS to record details of routine maintenance work on the network.

The OCs' RMMSs are assessed on the following three criteria:

- RMMS hardware and communications links.
- How the system operated and if it complied with the contract.
- How well the OCs performed.

RMMS hardware and communications links

Amey's hardware and communications links operated successfully throughout the year. PAG could access Amey's RMMS remotely when required. There were some minor problems accessing BEAR's RMMS. These were later resolved.

System compliance and operation

BEAR

- BEAR continued to use separate RMMS and street lighting software, both of which linked to the CCMS. An upgrade to the RMMS led to temporary difficulties in extracting information. Standard reports were available once the upgrade process was completed.

Amey

- Amey's RMMS complied with the contract throughout the year.

OC performance

Safety inspections

The contract requires safety inspections to be carried out every seven days on motorways, dual carriageways and other specified routes. The remaining mainly rural single carriageway routes are inspected every 28 days.

The OCs provide KPI 02 showing the percentage of safety inspections carried out on time. (See Figure 48).

Unit	2005/06	2004/05
NE	100%	100%
NW	100%	100%
SE	99%	94%
SW	98%	96%

Figure 48 KPI 02 safety inspections

Figure 48 indicates:

BEAR

- BEAR continued to perform excellently.

Amey

- Amey also performed excellently and better than last year.

Detailed inspections

Detailed inspections are carried out at set intervals of between three months and five years. The purpose is to check the condition of infrastructure, such as the road surface or lighting columns, so that long term programmes to maintain them can be drawn up.

KPI 03, provided by the OCs, shows the percentage of detailed inspections completed within the year (see Figure 49).

Unit	2005/06	2004/05
NE	100%	100%
NW	100%	100%
SE	100%	*
SW	100%	*

Figure 49 KPI 03 detailed inspections

* information not supplied

Figure 49 indicates the OCs performed excellently, although audits across all Units identified a need for more thorough inspections of electrical equipment, as some of the apparatus was in poor condition.

BEAR

- Audits by PAG identified issues regarding safety barrier and electrical inspection records. These are being addressed by BEAR and PAG continues to monitor this situation. It was also found that, occasionally, there was a conflict between carrying out programmed detailed inspections, which must be done once a year, no later than 14 days after the anniversary of the last inspection, and minimising disruptions to road users. BEAR reorganised its system and completed all detailed inspections.

Amey

- PAG audits found that, as with BEAR, there was a conflict between completing detailed inspections within the due date and minimising disruption to road users. The OC chose to minimise disruption by carrying out inspections as soon as possible after the due date. All detailed inspections were completed. The RMMS experienced software problems uploading information on detailed inspections from handheld personal computers. These were resolved. The required frequency of annual electrical inspections was clarified.

Cyclic maintenance

Cyclic maintenance was recorded in the RMMS by the OCs in line with the contract requirements.

4.2.10 Dealing with emergencies

Emergency response

The OCs must act immediately to deal with emergencies or help the emergency services on the network.

Typical emergencies handled by the OCs in 2005/06 included:

- Flooding.
- Overturned lorries.
- Serious carriageway faults.
- Road traffic accidents.
- Damage to bridges.

Emergencies can also include landslips and rockfalls, incidents due to bad weather, debris on the network, and chemical spills.

The OCs continue to respond quickly and professionally to emergencies. In NW, BEAR fitted an emergency vehicle with a variable message sign. Mounted on the roof, the sign informed road users of diversions, closed lanes and traffic delays.

Major Emergencies in NW

BEAR dealt with two major emergencies in NW:

- In September, heavy rain caused an underground culvert, which channels water, to collapse in a contractor's yard. This, in turn, led to flooding and the sinking of parts of the nearby A82 at Spean Bridge. The road was closed for several days.
- During November 2005, various roads were closed after trees were blown down during storms.

BEAR responded very quickly to both emergencies, mobilising resources along with other contractors to make the roads safe and minimise traffic delays.

There were no major emergencies in NE.

Major emergencies in SE and SW

In October, long periods of rain caused the River Teviot to burst its banks. As a result, several private properties were flooded and the boundary wall on A7 in Hawick collapsed (see [Figure 50](#)).

Further south, flooding caused extensive landslips along A7. Amey acted immediately to deal with the problem and has since carried out permanent repairs.

Also in SE, an embankment of M9 Fouldubs Rail Bridge was reconstructed after the fill was washed out. And on M8, the eastbound carriageway was closed to remove a dangerous sign damaged by wind.

In October, parts of M74 in SW closed after a lorry leaked lard on the carriageway. Gritters and sweepers operated from 3am until noon to clean up the mess. Other emergencies in SW included closing the Erskine Bridge on A898 because of high winds in November.



Figure 50 Collapsed wall in SE at A7 Commercial Street, Hawick

BEAR

- In NE, BEAR responded well to emergencies and hazard notices, dealing with issues immediately by mobilising the relevant resources.
- Good use was made of Traffic Scotland in NW to inform road users about lanes or roads closed because of emergencies and roadworks, as well as poor driving conditions due to snow and ice.

Amey

- Amey responded to emergencies professionally (see [Figure 53](#)). Incidents reported to the OC via hazard notices or ORIs were dealt with quickly.
- Amey fulfilled its contract obligations with regard to emergencies and hazard notices.

Emergency response performance

KPI 07 is used to monitor the OCs' response times (see [Figure 51](#) for annual comparisons).

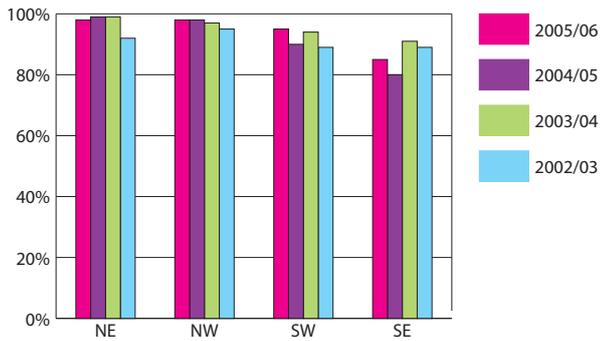


Figure 51 KPI for emergency response times

Amey's emergency response times improved by 5% from last year in SE and SW. However, there is room for improvement in SE. BEAR continued to perform strongly in NE and NW.

Hazard notices

When PAG's field engineers find hazards on the network, they inform the OCs by mobile phone from the site. They then send out a hazard notice by mobile e-mail, giving details and a photograph of the problem. This is sent to the OC and copied to Transport Scotland. The OCs must act immediately to deal with the hazard and respond formally within 24 hours.

Hazards can include, for example, potholes, unsafe working conditions, faulty traffic signals, debris on the carriageway, flooding, and damaged lighting.

Hazards can be due to factors outwith the OCs' immediate control and do not necessarily result from poor standards of work or management.

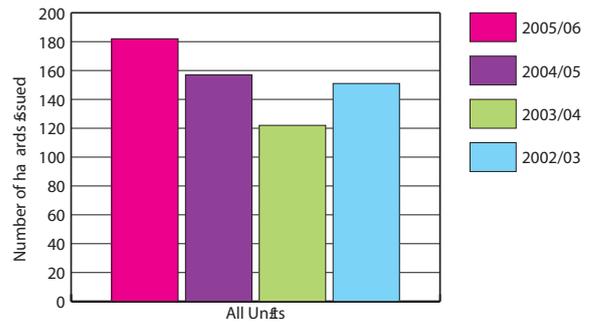


Figure 52 Number of hazard notices issued by PAG

PAG issued 182 hazard notices during 2005/2006, which is a 17% increase from the previous year (see Figure 52 for details).

BEAR

There was a 39% increase in hazard notices in NE and NW. A default notice was issued in NE for unsafe working, BEAR addressed this. Unsafe working was mainly due to poor traffic management measures by public utilities, external contractors, and sub-contractors working on behalf of BEAR.

Amey

A significant drop in the number of hazard notices issued in SW was mainly because there were fewer dangerous potholes.



Figure 53 Fallen trees on A7 in SE

4.2.11 Management of bridges and other structures

Maintaining structures

Under the contract, the OCs must inspect bridges and other structures at two and six yearly intervals and prepare programmes to manage and maintain them. The OCs must also monitor sub-standard structures and maintain Transport Scotland's bridge maintenance database.

Transport Scotland is responsible for managing a total of 5,825 structures including 2,065 bridges (see Figure 54) and footbridges on the trunk road network. The amount of money spent on bridges in 2005/06 was £15.5m, the equivalent of 12% of the total budget.



Figure 54 Friarton Bridge on A90 in NE

The OCs are responsible for carrying out detailed inspections of all bridges once every six years (known as principal inspections). They also carry out general inspections every two years. Figure 55 shows the percentage of principal inspections carried out on time by the OCs during 2005/06. Figure 56 shows the same KPI trends for the first five years of the contracts.

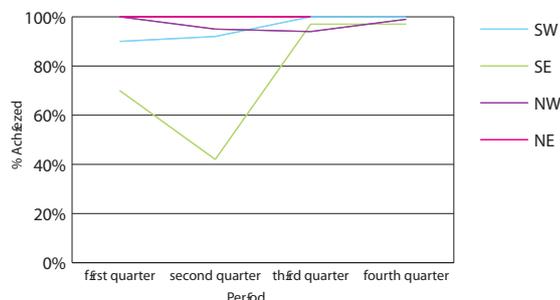


Figure 55 KPI 11a - percentage of principal inspections carried out within the required timescale in 2005/06

In summary:

- SE was late in meeting the inspection programme during the course of 2005/06.
- The remaining OCs kept to their inspection programmes during 2005/06.
- NE's performance was excellent.

- All the OCs, including SE, carried out all required inspections by the end of the year.

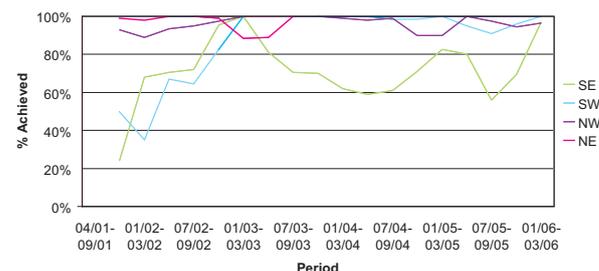


Figure 56 KPI 11a - trends of principal inspections carried out within the required timescale from 2001 to 2006

- Over the five years of the contracts, the OCs' performance in completing structures inspections and delivering inspection reports has improved.
- The OCs have maintained Transport Scotland's bridges database.
- The OCs' performance in dealing with land acquisition for bridge schemes could be improved, particularly in NW. PAG will investigate these issues in 2006/07 to deliver improvement.

4.2.12 General management tasks

As well as designing and managing operations, the OCs have various management tasks delegated to them by Transport Scotland. These include:

- Development control, including responding to planning applications and carrying out technical studies.
- Co-ordinating undertakers works done by utility companies under the New Roads and Street Works Act.
- Co-ordinating the routing of abnormal loads.
- Authorising tourist and other signing.

PAG has not specifically looked at these management tasks in any technical detail. These have, however, been examined as part of PAG's audits of the OCs' quality systems and is reported in [Section 4.3.1](#)

Inventory collection

Both BEAR and Amey completed an exercise to collect details of all trunk road infrastructure. This inventory is vital for Transport Scotland's effective management of the network. PAG is in the process of making sure the OCs successfully transfer this inventory to Transport Scotland's RMMS.

4.3 Quality

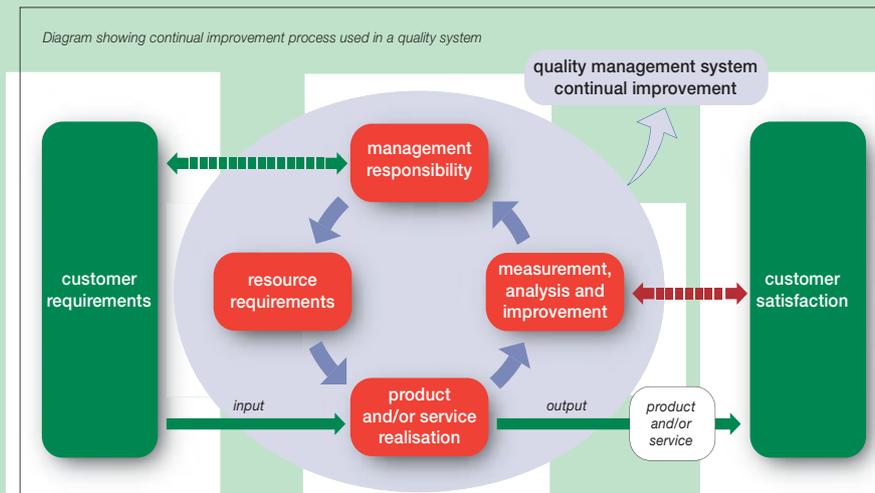
4.3.1 Quality management

OC quality systems

The contracts state that the OCs must have quality systems that comply with the internationally recognised standard, BS EN ISO 9001. A quality system refers to processes, mainly administrative, that each OC must have in place to meet its own standards and comply

with the contract. BS EN ISO 9001 also states that organisations must look at ways of developing and improving their QMSs regularly for the benefit of customers.

Diagram showing continual improvement process used in a quality system



As well as meeting internal auditing standards, the contract states that the OCs must also appoint independent Contract Quality Managers (CQMs) to audit at specific intervals and report to Transport Scotland.

PAG agreed an audit strategy with Transport Scotland in March 2005 and audited each of the OCs throughout the year in line with this. As in previous years, the OCs co-operated well with PAG when audits were arranged and carried out.

All the OCs have continued to develop their quality systems to make them more effective. Generally, they comply with the requirements of the contract to a good level. On most occasions, the OCs agreed to take the appropriate action to resolve issues raised, although disputes were sometimes referred to Transport Scotland to settle.

Issues were followed up to assess the progress of any action plans agreed at the original audits. A Findings follow-up audit was also carried out on each OC to review the closure (a formal record of how and when issues are resolved) of Non-Conformance Reports (NCRs) and Corrective Action Requests (CARs). NCRs and CARs deal with instances when the OCs are not complying with the contract. They can be raised through PAG audits and internally by the OCs.

Progress made over the year

BEAR

- BEAR made good progress with its Integrated Management System (IMS), an umbrella system covering its QMS, EMS and health and safety procedures. Following visits throughout the year by Lloyds Register Quality Assurance, it was awarded BS EN ISO 9001:2000 and sector scheme 2B certification at the start of 2006.
- As part of the BEAR team's efforts to continually review and improve its IMS, many procedures and manuals were updated and published on Q-pulse, a computerised data management system, for PAG to review.
- Late closure of NCRs was recorded throughout most of the year and this was addressed at the management review held in December 2005. A system was introduced at the beginning of 2006 to improve the situation.

- The previous management review of its QMS was held in May 2003. As the next review was overdue, two NCRs had been raised by BEAR's CQM. The review eventually took place in December 2005. PAG assessed the management review during a joint NE/NW QMS audit and found it to be satisfactory.
- A follow-up to the handover records audit was carried out in NE in October 2005. It had been delayed when the NE contract was extended. Good progress had been made by the OC to make sure it could comply with the contract, which states that records must be handed over within 28 days.
- BEAR was awarded the Royal Society for the Prevention of Accidents' gold award for health and safety in 2005.

Amey

- Amey continues to operate a QMS which is accredited to BS EN ISO 9001:2000.
- Towards the end of 2005, PAG noted an increase in the number of late corrections and the number of corrections awaiting a timescale to be set. Corrections are immediate actions that should be taken to resolve a problem. By January 2006, there was a marked drop in these numbers, mainly because Amey acted to close out outstanding internal audit NCRs.
- A PAG joint SE/SW QMS audit found that Amey was not closing out NCRs strictly in accordance with the requirements of BS EN ISO 9001:2000. While there was some evidence that follow-up actions were being verified, this was not always recorded to show that Amey complied with the contract. Amey has since amended its procedure.

- From April to July 2005, CQM audits were not being carried at 12 week intervals, as required by the contract. Transport Scotland expressed some concern over the time taken to issue reports. This has since been resolved.
- PAG and Amey had ongoing discussions during the year about two of Amey's procedures, Control of Operations Instructions and Scheme Completion and Closure. PAG considers these do not fully address the contract requirements. The issue has yet to be resolved and talks are continuing.
- Amey revised its Service Delivery Plan (SDP), a document detailing how the OC will implement its QMS. PAG expected it by May 2005 but it was not received until the end of July 2005. Amey is making further revisions to the SDP before it is re-issued to PAG for review.
- PAG's audits of patching operations carried out in September 2005 highlighted a lack of records available at the central office, particularly sub-contractors' records. Amey is now implementing a new procedure for producing and maintaining records of operations.
- A follow-up to the handover records process audit in 2004 was carried out in SE in October 2005. This had been delayed because the SE contract was extended. Good progress had been made by the OC to make sure it could comply with the contract, which states that records must be handed over within 28 days.

4.3.2 Environmental management

The OCs are required to have an Environmental Management System (EMS). The EMS details how the OC will protect the environment while fulfilling its contract obligations.

An EMS must comply with the international standard, BS EN ISO14001. This standard helps the OCs to manage the impact their activities have on the environment; meet their environmental objectives; continue to comply with legislation; and achieve sustainable development.

Each OC has a well established, documented EMS that is generally effective in controlling pollution and encouraging waste to be recycled, reused and reduced.

BEAR

- BEAR's EMS makes good use of a computer based system called Q-Pulse, to store records, reports and registers. These documents are available to staff and can be accessed remotely by Transport Scotland and PAG.
- BEAR has made good progress implementing recent changes to the standard. This should allow it to gain the revised BS EN ISO14001:2004 certificate in 2006.
- The management team shows commitment to complying with environmental legislation and the standard.

- Further work is needed by BEAR to review how it is performing, if objectives need to be amended or more action needs to be taken. BEAR has carried out a detailed management review of its management systems. However, these reviews need to be more frequent in future.
- An audit found that employees and, in particular sub-contractors, were not being routinely inducted into BEAR's EMS. BEAR, therefore, was not making sure it got the message across to its employees and sub-contractors that their actions could affect the environment. BEAR has subsequently made progress in this area.
- The audit also showed that tighter controls are needed to deal with storing materials in depots and waste disposal from operations, in particular by sub-contractors. There were a number of spillages and examples of poor waste control that could, if action had not been taken, have polluted land and watercourses.

Amey

- Amey makes good use of its intranet to give all employees access to its high level documented management systems.
- Amey is also making progress towards certification to the new ISO standard, but this had yet to be extended to operational level. Certification is expected to be achieved in 2006.

- During the year, Amey acted to improve its below standard performance of the previous year by completely reviewing its plans and procedures. This was more apparent in SW than SE. Amey's management does, however, seem determined to get the message of good practice across to all personnel, whose actions could have an impact on the environment.
- An audit covering office based activities, depot maintenance and site operations found only minimal environmental training had been given since the initial training early in the contract. However, a review of training had already been carried out and a new training package is due to be rolled out to all UK offices in 2006.
- The depots visited, on the whole, were well run with the greatest improvement seen at Amey's sub-contractor's depot in Newton St Boswell. Scottish Borders Council installed rainwater collection tanks. The water will be used to wash vehicles, cutting down the need for mains water. The council was also, when possible, selling and recycling road planings (waste from roadworks) in strict compliance with regulations. Better controls are needed on storing oil based products and chemicals at all depots visited.
- There was evidence of potential pollution incidents caused by smaller sub-contractors. This indicates a need for Amey to review the environmental awareness training it gives to sub-contractors.

4.3.3 Resolving problems and improving performance

Process for resolving problems

```

graph LR
    ISSUES[ISSUES] --> QS[Quality systems]
    QS --> NEI[Notification of emerging issue]
    NEI --> DN[Default notice]
    DN --> SOLUTIONS[SOLUTIONS]
    QS --> SOLUTIONS
    NEI --> SOLUTIONS
    DN --> SOLUTIONS
  
```

When a problem is found, the OCs must use their quality systems to correct it and stop it happening again. If the OCs fail to do this, or the action taken does not work, a notification of emerging issue (NEI) may be given to the OC by PAG.

If the problem continues, or if it is considered serious enough, Transport Scotland can issue default notices. These require the OC to resolve the problem within a set time and can result in withholding payment.

NEIs

Where the OCs do not meet contractual requirements, it is important that action is taken to improve performance.

The NEI process is an agreed extension of PAG's role. It formalises initial discussions with the OCs and enables PAG, in the spirit of partnering, to take a more pro-active role in resolving problems and improving performance.

In effect, the NEI process sits between ORIs/audit findings and default notices. It raises the profile of an issue to focus attention on its resolution. If PAG's involvement with the OC does not achieve a satisfactory outcome, a recommendation for further action is made to Transport Scotland. The NEI process also assists Transport Scotland to formally raise issues of concern at an early stage, before a default notice is required.

Figure 57 shows the number of NEIs issued and closed during the year 2005/06.

Unit	NEIs open at start of 2005/06	New NEIs issued during 2005/06	NEIs closed during the year	NEIs open at end of 2005/06
NE	6	7	10	3
NW	3	9	9	3
SE	1	5	4	2
SW	1	2	2	1
Total	11	23	25	9

Figure 57 NEIs issued in 2005/06

Topics covered by NEIs in 2005/06 included:

- Overdue closure of ORIs
- Winter gritter data logger records
- Issues arising from Electrical Installations and Communications Activity audit.
- Updating of automated roadworks diary facility
- Litter on routes
- Late implementation of works instructed by FDDs
- Problems with CCMS/scheme closures

In some instances, NEIs picked up issues that had been discussed for some time, without being satisfactorily resolved.

Progress on resolving NEIs was good, with many closed in the early months. It is important this momentum is maintained by all parties.

In NW, three issues, two relating to the budgetary control and design for bridgeworks, were still open at the end of March. These NEIs expired with the completion of the contract. In SW, the NEI issued for the late completion of works instructed by FDD was closed in mid April, following completion of these works by Amey.

The NEI process was designed to deal with issues at an early stage, to prevent them becoming serious problems. Its success is shown by the low number of default notices issued by Transport Scotland during the year.

Default notices

Transport Scotland issues default notices when the OCs fail to meet particular contract requirements. The default notice gives details of what the OC should do and by when. Transport Scotland can also withhold payment from the OC for failures resulting in default notices.

Transport Scotland and PAG closely monitor the OCs to make sure they comply with default notices. PAG produces regular reports on default notices and these are circulated to high levels in Transport Scotland.

There have been eight default notices issued in the past year, down from 11 the previous year. This indicates the overall performance of the OCs has continued to improve. The NEI procedure, introduced in December 2003, has also influenced results by resolving issues without the need for default notices. It is encouraging to note that the number of default notices has reduced over the duration of the contracts (see Figure 58).

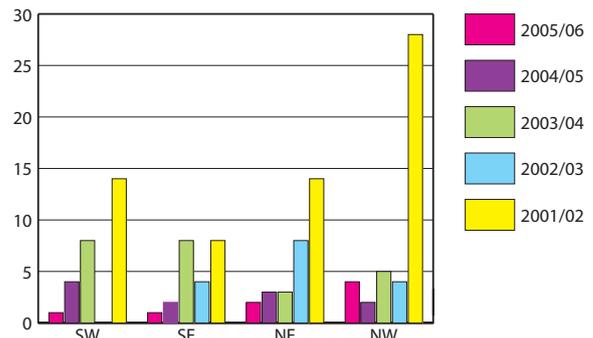


Figure 58 Default notices issued each year

Figure 58 shows:

- NE had two default notices, one less than last year.
- In NW, the number of default notices issues rose from two in 2004/05 to four in 2005/06.
- SE continued its trend downwards, with only one default notice issued in 2005/06 compared with two the previous year.
- One default notice was issued in SW, a drop of three from the previous year.

BEAR

BEAR received one more default notice this year compared with 2004/05 (see Figure 59).

NE
Traffic management issues
Failures in the OI process
NW
Not completing 2004/05 bridgeworks programme
Failures in responding to hazard notices
Incomplete detailed inspections of safety fences
Traffic management issues

Figure 59 Default notices issued to BEAR in 2005/06

All six notices issued to BEAR this year have been resolved and are now closed.

Amey

One default notice each was issued to SE and SW, the same number as last year (see Figure 60).

SE
Data entry for scheme completion and closure
SW
Failure to control sub-contractor

Figure 60 Default notices issued to Amey in 2005/06

Amey’s default notices are all now closed.

The number of default notices remaining open at the start of each year indicates how effectively the OCs are dealing with them. However, the fact that some default notices involve complex issues or may have been issued towards the end of the year must also be taken into

account when analysing how well the OCs perform.

Summary

Over the last five years, 123 default notices were issued.

There has been significant progress in dealing with long term issues, with all default notices from previous years now closed (see Figure 61).

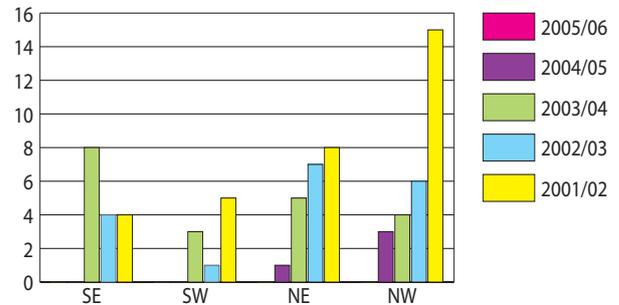


Figure 61 Default notices open at the end of the year

4.3.4 Key performance indicators

Introduction

The contracts state that the OCs must provide KPI information. However, KPIs are used solely as indicators of how well the OCs are meeting specific contract requirements and have no other contractual significance.

PAG assessment for reasonableness

The OCs’ systems for collecting the KPI data have improved as the contracts progressed and they provide substantially complete data sets. Data is available for all five years of the contracts.

OCs performance

Much of the commentary in this report has been supplemented with KPI information provided by the OCs. Therefore, only KPIs with performance issues not discussed elsewhere are noted in this section. Figures in this section are presented using moving average values to highlight underlying trends in performance.

KPI 18 - operations completed on time.



Figure 62 KPI 18 - trends in operations completed on time

This KPI covers all operations carried out by the OCs.

Figure 62 shows:

- NE improved steadily.
- NW had a poor start, but improved to the extent that it performed better overall than last year.
- SE and SW performed to a similar standard to last year.

KPI 25 - planning applications.

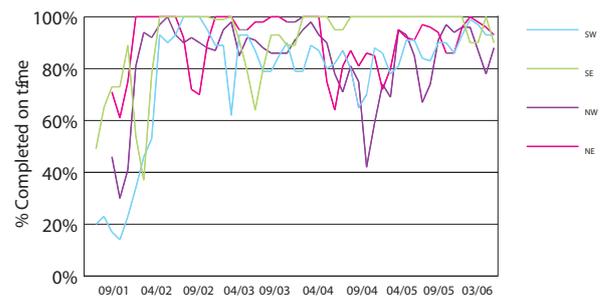


Figure 63 KPI 25 – trends in planning applications

This KPI relates to the percentage of comments on planning applications submitted on time to Transport Scotland by the OCs. Figure 63 shows:

- NE and NW improved significantly.
- SE maintained a very good performance.
- SW improved significantly.

KPI 26 - submitting reports, programmes and minutes.

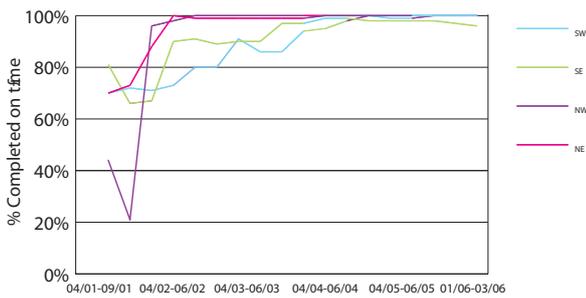


Figure 64 KPI 26 – trends in submission of reports, programmes and minutes

KPI 26 relates to the percentage of the OCs’ reports and other documents submitted to Transport Scotland on time. Figure 64 shows:

- BEAR performed well.
- Amey also performed to a very good standard.

KPI 27 - responding to public correspondence, enquiries and complaints.

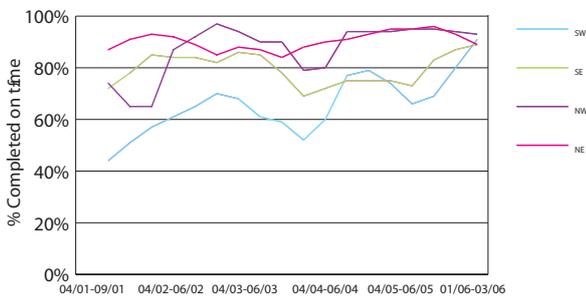


Figure 65 KPI 27 - trends in responding to public correspondence, enquiries and complaints

KPI 27 relates to the time taken for the OCs to reply to public correspondence. Figure 65 shows:

- NE and NW maintained their good performance.
- SE and SW improved consistently during the year.

KPI 28 - draft responses for Transport Scotland.

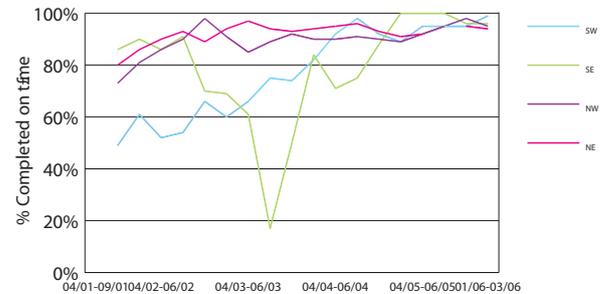


Figure 66 KPI 28 – trends in draft responses for Transport Scotland

KPI 28 relates to the time taken for the OCs to submit briefings to Transport Scotland on ministerial and general correspondence. Figure 66 shows:

- BEAR maintained a good performance.
- Amey also performed to a good standard.

Summary

Over the last five years, the KPIs show a general trend of significant improvement, reflecting the OCs’ performance.

4.3.5 Project partnering

Project partnering refers to a culture of positive communication that exists within Transport Scotland, PAG and the OCs to foster good working relations between them.

The aim of partnering is to:

- Recognise common goals.
- Recognise individual goals of each of the three parties.
- Achieve mutual success.

Both formal initiatives and an informal attitude have helped to make sure the three parties work as a team, in contrast with the more adversarial approach that prevails in the construction industry.

Partnering and BEAR

A board of senior managers from Transport Scotland, BEAR and PAG, set up previously to discuss partnering and innovations, met in 2005/06.

Partnering and Amey

A board of senior managers from Transport Scotland, Amey and PAG met to look at issues that could affect the running of the contract.

Managers from all three organisations also continued to meet quarterly to improve partnering.

Joint route visits between the three parties were undertaken regularly.

Amey staff demonstrated a partnering approach to the contract by their willingness to discuss issues.

The forum also continued to produce the partnering newsletter, 'Roundabout', four times a year. The aim of the newsletter is to promote the positive work of the 'virtual team'. It includes news of work being done on the network as well as staff features from all organisations.



Key points

Operations and maintenance

Autolink continued to deliver a strong service across its range of activities.

- All the programmed detailed inspections required during the year were carried out.
- Autolink maintained its previous high standards of routine and cyclic operations.
- Autolink met its winter maintenance obligations.
- The strong record of keeping the network open to road users was maintained.
- Autolink responded well to emergencies.
- As in previous years, customer calls were dealt with promptly.
- Autolink and its contractors demonstrated a strong commitment to its QMS.

5.1 Introduction

M6 DBFO project

The 91 km section of M74/A74(M) between junction 12 (Millbank) and the Scottish border is a vital transport link between central Scotland and the south. This section of motorway is operated under a DBFO contract and for historical reasons is known as the M6 DBFO (design, build, finance and operate) project.

The 30 year contract was awarded to Autolink Concessionaires (M6) plc in July 1997. This included designing and constructing some 28 km, to bring the remaining sections up to motorway standard, as well as maintaining the whole 91 km length. This work includes routine, cyclic, structural and winter maintenance operations.

The agreement between the Scottish Ministers and Autolink differs significantly from the contracts awarded to the OCs for the rest of the Scottish trunk road network. These differences relate mainly to the remit, which included elements of design-build-finance, as well as ongoing operations and maintenance, and how this work is paid for. However, the physical operations are specified and carried out to similar standards.

PAG acts as Scottish Ministers' Agent for the project.

To be consistent with the rest of the report, this section comments on how Autolink performed during the period April 2005 to March 2006. However, Autolink's formal reporting year runs from the anniversary of the project agreement, i.e. 29 July to 28 July annually.

5.2 Operations and maintenance

The M74/A74(M) is a relatively new part of the network. The first section of the upgraded route opened in 1992 and the final sections were completed in spring 1999. As a result, there is relatively little structural maintenance work necessary at present. However, programmed structural maintenance of the carriageway is starting to take place and will inevitably increase over the years.

During 2005/06 limited work to resurface and reconstruct parts of the road were carried out at several locations. Routine, cyclic and winter maintenance make up the majority of the operations and maintenance work.

Inspections

Autolink carries out a full range of inspections under the agreement. Information gathered during these is recorded electronically in the RMMS database. Inspections include:

- Carriageway and hard shoulders.
- Road markings and studs.
- Signs.
- Drainage systems.
- Cuttings and embankments.
- Culverts and short span bridges.
- General and principal inspections of larger structures.

All of the programmed detailed inspections required during the year were successfully completed on time. Fifty general and 12 principal structures inspections were also carried out as planned. These regular inspections contribute to the annual maintenance plan and are essential to keep the route safe and maintain its useful life.

Routine and cyclic maintenance

The following works are part of Autolink's routine and cyclic maintenance obligations. They are planned and carried out throughout the year. They include:

- Repairs to safety fences.
- Repairs to boundary fences.
- Grass cutting.
- Landscape maintenance.
- Litter picking.
- Gully cleaning and sweeping.

During 2005/06 Autolink maintained its previous high standards for these operations. This contributed to the good overall appearance of the route as a gateway to the Scottish network.

Winter maintenance

Winter maintenance is a high profile activity on this vital and, in parts, high-level and exposed route. How Autolink performs has a direct impact on the safety of road users.

During the winter period, Autolink monitored forecast and actual road conditions. It also carried out treatments and patrols, as required, from two depots, at Crawford and Eaglesfield, as set out in its agreed winter maintenance plan. This plan, which is reviewed annually, was lodged with, and consented to, by Transport Scotland, prior to the winter season.

As expected, in 2005/06 there were many times when precautionary salting was required because of low temperatures. Due to the nature of the winter, over 20% more salt was spread than in the previous year. Autolink fully met its obligations for response and spreading times, achieving KPIs of 100%. Further details can be found in [Section 3.2](#).

There were few prolonged periods of heavy snow that called for more intensive treatment and there was only one weather related closure of the motorway. This was instructed by the police in early March. This showed that Autolink maintained its high standards from previous years keeping this important corridor open to traffic.



Figure 67 *Carriageway repairs on M6 DBFO*

Traffic management

The safety of road users and the Autolink workforce is paramount while work is carried out on this stretch of the network. Given the nature of the motorway with high traffic volumes, high speeds and a high percentage of heavy goods vehicles, only certain limited maintenance operations can be done without closing lanes. To minimise traffic delays, many of these are done overnight and at weekends. [Figure 67](#) shows carriageway patching on M6 DBFO protected with Varioguard, a type of barrier, while maintaining single line traffic.

Autolink has established a strong record of keeping the motorway open to road users and this record was maintained during the year. The agreement requires Autolink to consult on proposed lane closures and to seek approval of the Scottish Ministers' Agent (PAG) when less than two lanes will be running because of roadworks. Other than in emergencies, closing lanes usually only happened during off-peak periods. With careful and detailed advanced planning, traffic delays because of maintenance works were kept to an absolute minimum.

Traffic counting

An important requirement under the agreement is measuring traffic volumes along the length of the route. This is mainly achieved by loops placed in the road surface and is verified by video record (see [Figure 68](#)) at specified intervals.

These measurements are part of a complex system for calculating payments to Autolink. A significant part of its ongoing work is repairing, maintaining and replacing, as required, the automatic monitoring equipment. These repairs were carried out within reasonable timescales.



Figure 68 *Traffic counting equipment*

Emergencies

Autolink must deal with the various types of emergencies that happen on the motorway. A high proportion of these are road traffic accidents, when Autolink work under the overall control of the police.

During 2005/06, the carriageways were fully closed on seven occasions. Except for one due to snow, all were because of major traffic accidents. Autolink's emergency response times for both major and minor accidents were all well within the timescales required under the agreement.

CCS

In common with the other parts of the network, Autolink operates a contact service for enquiries and complaints. Calls are routed to Autolink's main office at Lockerbie. During the period 300 calls were received, many of which were about debris or animals on the road. All calls were dealt with promptly and well within the prescribed timescales.

QMS

Autolink and its contractors, principally M6JV and Golden River Traffic, must maintain a QMS in line with the BS EN ISO 9001, and make sure it is regularly reviewed. The agreement requires any significant changes to be submitted for assessment by PAG, who must respond within a set timescale. During the year, Autolink submitted 40 separate procedures and method statements for review under this process. PAG's responses were all within the set timescales.

To maintain a high standard of compliance with the QMS, audits were performed by PAG, Autolink and M6JV. To avoid duplication, but to make sure audits are as searching and wide-ranging as possible, a joint Autolink/PAG audit schedule was agreed every six months and consented to by Transport Scotland.

During 2005/06, PAG carried out eight audits of Autolink and its principal contractors. Regular meetings were also held with Autolink's project quality director.

Autolink and its contractors continue to show a strong commitment to the QMS.



Figure 69 Traffic management for maintenance work on M6 DBFO

Performance

Autolink has agreed 18 KPIs, which are reported to Transport Scotland quarterly.

These cover the main operating areas, such as repairs, inspections, routine maintenance (see Figure 69), winter maintenance, the quality system and customer care. Most relate to requirements within the agreement, but there are others which are used as management information. During this period, all KPI data was accurate and on time.

- During the past year, Autolink achieved the 100% target performance on 11 of the 13 indicators linked to the agreement.
- More than 98.4% of 310 category 1 defects were repaired with the 28 day period.
- The few defect repairs not on time were due to the difficulty sourcing spares of a piece of specialist motorway communications equipment first installed around 10 years ago. Autolink now keeps spares of them in stock, so future repairs may be done within the prescribed time period. This is an excellent pro-active response, aimed at improving customer service.
- Two reports, out of the 34 required during the year, were received late.
- Among the other five indicators, Autolink fully achieved its self-imposed targets for four indicators. The main problem was due to the slow closeout of issues following one particular audit.
- It was encouraging to note that again, no default notices were issued during 2005/06.

Overall, this is very similar to how Autolink performed in the two previous years. While quarterly results varied, when taken over the full annual period, they show that Autolink performed to a consistently high standard.

5.3 Summary

During 2005/06 Autolink maintained its consistently high standards set in previous years. In particular, Autolink:

- Fully achieved the target for 11 of the 13 indicators, including: inspections, winter service and incident response, which are linked to the agreement.
- Achieved its annual maintenance plan, its plan of works for the year.
- Continued effective use of its QMS.

List of acronyms

Acronym	Title	Acronym	Title
AIP	Accident investigation and prevention	NE	North East Unit
BS	British Standard	NEI	Notification of emerging issue
CCMS	Contract control and management system	NW	North West Unit
CCS	Customer contact service	OC	Operating company
CPF	Contract price fluctuation	OI	Operations instructions
CQM	Contract quality manager	ORI	Observation resulting from inspection
DBFO	Design, build, finance and operate contract	PAG	Performance Audit Group
EMS	Environmental management system	QMS	Quality management system
EN	European standard of the CEN	RMMS	Routine maintenance management system
EPA	Environmental Protection Act 1990	SE	South East Unit
FDD	Further detailed directions	SERIS	Scottish Executive road information system
IMS	Integrated management system	SPECS	Average speed camera system
ISO	International Standards Organisation	STRUM	Scottish trunk road remedial treatment monitoring database
KPI	Key performance indicators	SW	South West Unit
MCP	Moving cursor programme	TRA	The Road Ahead
NADICS	National drivers information and control system	TRBD	Trunk road bridges database
		VFM	Value for money
		WPI	Weekly programme of intent



A82 near Luss in NW

Halcrow Group Ltd accreditations

BS EN ISO 9001:2000

BS EN ISO 14001:2004

Investor in People

PAG is a member of Quality Scotland

Useful website addresses

List of organisations

PAG

Halcrow

PricewaterhouseCoopers

Scott Wilson

Tony Ham Insurance Brokers

TRL

University of Dundee

Transport Scotland

Traffic Scotland

Scottish Executive

Scottish Parliament

BEAR

Amey

Website addresses:

www.performanceauditgroup.co.uk

www.halcrow.com

www.pricewaterhousecoopers.co.uk

www.scottwilson.com

www.thibl.co.uk

www.trl.co.uk

www.dundee.ac.uk

www.transportscotland.gov.uk

www.trafficscotland.org

www.scotland.gov.uk

www.scottish.parliament.uk

www.bearscot.com

www.amey.co.uk



Grass cutting on M73 in SW



A82 at Rannoch Moor in NW

PERFORMANCE AUDIT GROUP

Halcrow Group Ltd

16 Abercromby Place, Edinburgh EH3 6LB

Tel +44(0)131 272 3300 Fax +44(0)131 272 3301

www.performanceauditgroup.co.uk

www.halcrow.com

The PERFORMANCE AUDIT GROUP has prepared this report in accordance with the instructions of its client for public distribution.

Any other persons who use any information contained herein do so at their own risk.