

The Performance Audit Group's Annual Report

2006/07

An independent public report on Scotland's trunk road maintenance



September 2007



An agency of  SCOTTISH EXECUTIVE

Performance
Audit Group

Halcrow

in association with

PRICEWATERHOUSECOOPERS  and



The trunk road network
in Scotland 2006/07

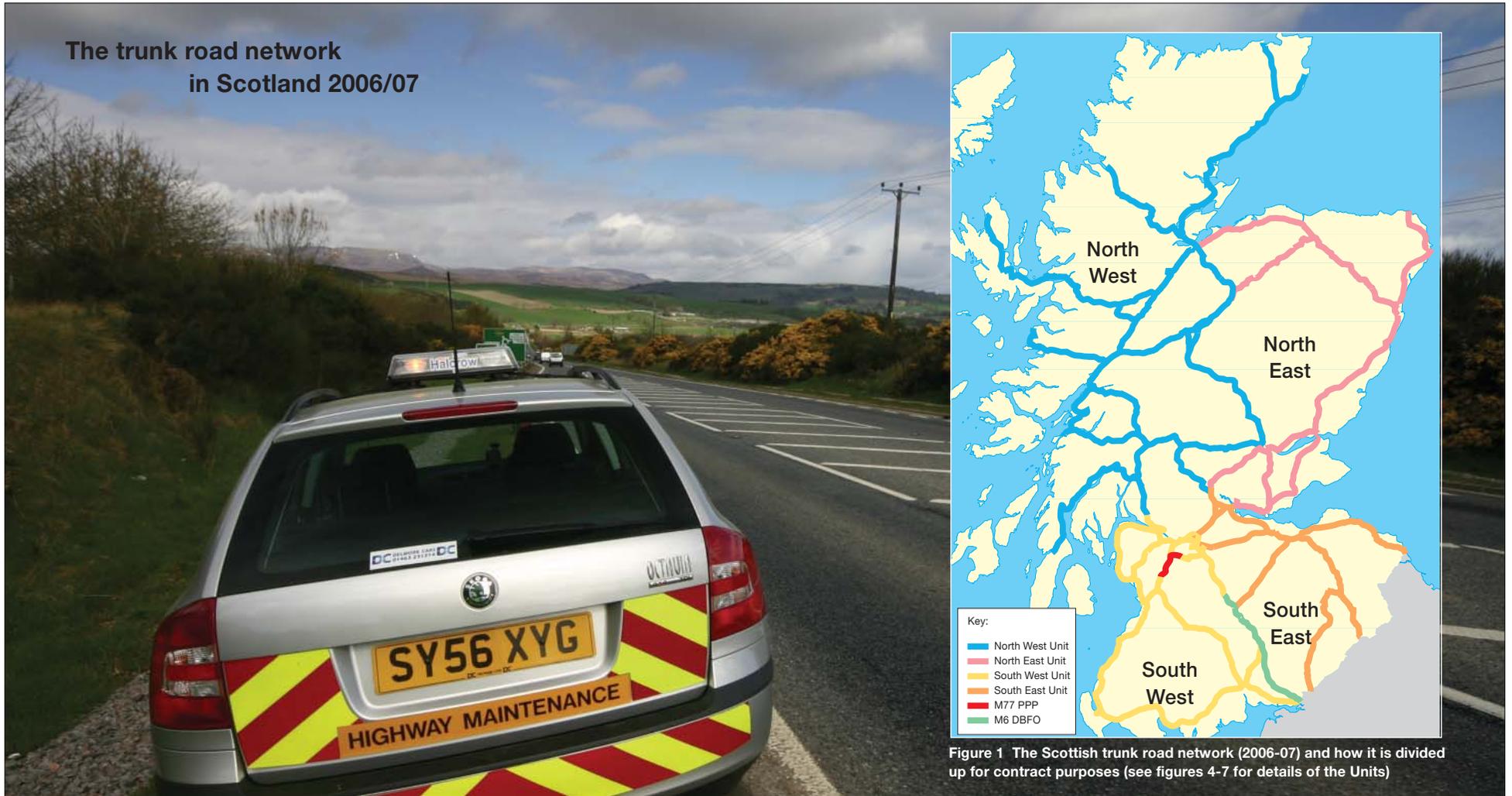


Figure 1 The Scottish trunk road network (2006-07) and how it is divided up for contract purposes (see figures 4-7 for details of the Units)



Foreword

Welcome to the Performance Audit Group's report on maintaining Scotland's trunk roads in 2006/07.

The report summarises the work of our independent multi-disciplinary team. Our role involves auditing the operating companies, visiting roadworks sites and travelling the network to monitor conditions. We carry out this work on behalf of our client Transport Scotland, who is committed to managing and maintaining the Scottish trunk road network:

"...supporting delivery of the Scottish Executive's vision for sustainable transport in Scotland, making a real difference for people and businesses using the national rail and road systems."

Transport Scotland's Corporate Plan 2006-2008

Our objectives are to:

- Ensure the needs of road users are met.
- Enable effective management of the trunk road asset.
- Facilitate continuous improvement.
- Make the most of public resources by delivering value for money.

- Encourage sustainability and reduce the impact on the environment.

This reporting year has brought some changes. We assisted Transport Scotland with tendering of the third generation (3G) trunk road contracts. New 3G contracts were awarded for the NW and SW Units in late 2005 and these have been in operation since April 2006. This publication will therefore be the first to report on work carried out under these contracts.

As the tendering process was staggered, the NE and SE Units continued to operate under the second generation (2G) contracts until April 2007. As a result, this report also covers work carried out under the 2G contracts in these Units.

The changes in contracts and operating companies have required greater team working and efficiency from all involved. New working relationships have been forged and staff have been trained on key aspects of the new 3G contracts.

Our team is proud of its contribution towards improving the management and

maintenance of Scotland's trunk road network, making it a better place for road users.

We hope you find our report informative.



Donald Bell, Project Director
Performance Audit Group
Halcrow Group Ltd

September 2007



Frequently asked questions

What is the Performance Audit Group (PAG)?

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

What is PAG's role?

PAG audits, monitors and reports on the financial, technical and performance aspects of the operating companies (OCs) to a plan agreed with Transport Scotland. PAG also reviews payment requests from the OCs and carries out inter-Unit comparisons and value for money investigations at the request of Transport Scotland.

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 some A-roads are designated as 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 Ministers. As such they are managed by Transport Scotland, maintained by the OCs and monitored by PAG. Local authorities are responsible for managing, maintaining and monitoring non-trunk roads.

What is Transport Scotland?

Transport Scotland is the Scottish Executive's national transport agency for Scotland. Directorates include, the Trunk Roads-Network Management, and Trunk Roads- Infrastructure and Professional Services.

What are Transport Scotland's responsibilities for trunk roads?

Transport Scotland is responsible to the Scottish Ministers for overseeing the management and maintenance of the trunk road network. To assist with this, it employs OCs, works contractors, concession companies and PAG.

What are OCs?

The operating companies are responsible for delivering the management and maintenance of the trunk road network in each Unit, working under contract to Transport Scotland. During the reporting year 2006/07, the OCs for each Unit were: BEAR for north east (NE), Amey for south east (SE), Scotland TranServ for north west (NW), and Amey for south west (SW).

What do the OCs do on the network?

The OCs oversee, co-ordinate and undertake all cyclic and routine maintenance, winter service and emergency response. In addition, they undertake discrete structural road maintenance, bridge strengthening and maintenance, road structures inspection and road safety schemes.

What else do the OCs do?

The OCs also oversee and co-ordinate maintenance works carried out by contractors on discrete contracts, and works by utility companies (statutory undertakers). The OCs undertake day-to-day management of the Unit; provide professional and design services; carry out surveys, inspections and supervision;

Frequently asked questions

manage their allocated budgets and report to Transport Scotland.

What are the 2G and 3G contracts?

In February 2001, OCs were awarded contracts to manage and maintain each of the four geographical Units for a period of five years, with the option of extending to seven years. These contracts are known as the 2G contracts.

Before the recent tendering of contracts, PAG worked with Transport Scotland to review the existing 2G contracts and make changes for the new contracts (known as 3G contracts). The NW and SW contracts were then tendered, and these Units have been using the new 3G contracts since April 2006.

Following tendering in 2006, NE and SE have been using the 3G contracts since April 2007.

What work is not done by the OCs?

Some maintenance and information management services carried out on the network are not the OCs' responsibility.

These include:

- Maintenance of M74 from junction 12 to the Scottish border, this is the responsibility of Autolink under the terms of the M6 DBFO project.
- Maintenance of M77 PPP project, this is the responsibility of Connect.
- Maintenance of Traffic Scotland equipment such as variable message signs, emergency telephones, permanent speed cameras and associated cabling.
- Collection of traffic data and maintenance of counting equipment.
- Major trunk road improvements built by contractors appointed by Transport Scotland. Maintenance responsibility for these improvements is split between the contractor and the OC for a set period, up to five years, prior to full responsibility passing to the OCs.

This report does not include these other maintenance organisations.

Where can I find out more about the management and maintenance of the M6 DBFO and M77 PPP projects?

For M6, contact:
Autolink Concessionaires (M6) plc
M6 DBFO Project Office
Nethercleugh
Lockerbie
Dumfriesshire
DG11 2SQ

For M77, contact:
Connect M77/GSO plc
Connect Roads' Operations Centre
Maidenhill Interchange
Ayr Road
Glasgow
G77 6RT

Glossary of main terms

2G contracts

Second generation contracts which started on 1 April 2001 in all Units. These contracts continued in NE and SE until 31 March 2007. These contracts were also used in NW and SW until 31 March 2006.

3G contracts

Third generation contracts which were tendered in two phases. NW and SW were tendered first. They have used these contracts since 1 April 2006. NE and SE started to use these contracts on 1 April 2007.

Accruals

The allocation of costs to the financial year in which they were incurred, rather than when the cash was paid.

Budget

Money allocated by Transport Scotland to manage and maintain the network during a financial year. This includes operations and works contracts.

Category 1 defects

Serious road faults, such as potholes, that should be repaired within set timescales.

Contract control and management system (CCMS)

A computer-based financial management system supplied and operated by the OCs to a specification provided by Transport Scotland. The system gives everyone working on the contract, including Transport Scotland and PAG, access to information about how operations and works contracts are being managed and where money is being spent.

Contract price fluctuation factor (CPF)

Inflation adjustments to the OCs' tendered rates and prices.

Default notice

A procedure under the 2G contracts where Transport Scotland can issue a notice when an OC is in default of its contractual obligations. This is part of the performance management procedures and may lead to withholding amounts from payment.

Financial year

The period between 1 April 2006 and 31 March 2007.

Key performance indicators (KPIs)

The contracts state that a list of indicators must be provided by the OCs to show how they are performing and to allow comparisons between Units.

Network

The system of motorways and trunk roads in Scotland. The network is 3,123 km long and varies from urban motorways to rural single carriageways (see [figure 1](#)). In addition, a total of 107 km of motorway is covered by the M6 DBFO and M77 PPP projects.

Notice of non-conformance (NNC)

The process used in the 3G contracts to flag up where the OCs are not complying with the contract. This is issued by PAG.

Notification of emerging issues (NEI)

A 2G process for flagging up incidences of the OCs not complying with the contract. The aim is to intervene early and stop issues developing into default notices. This is issued by PAG.

Operations

Work carried out by the OCs.

Glossary of main terms

Orders

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

Quality management system (QMS)

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

Remedial notice

A procedure used under the 3G contracts where Transport Scotland can issue a notice when an OC commits a default. This is part of the performance management procedures and may lead to withholding amounts from payment.

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. RMMS also links to the CCMS and is accessible by Transport Scotland and PAG. In 2G, RMMS was supplied by the

OCs, whereas in 3G it is supplied by Transport Scotland.

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 containing data on the physical characteristics, condition of the trunk road network and accidents.

Spend

The amount paid for work done, including OC operations and works contracts, excluding CPF.

Traffic Scotland

Traffic Scotland, formerly NADICS, manages Scotland's intelligent transport system, which provides a continuous service to the public. Its key functional areas are monitoring, controlling and informing road users.

TRBDb

The trunk road bridges database. A computer based bridge management system containing an inventory of information on all trunk road structures.

Unit

The network is divided into four separate geographic Units. These are: NE, SE, NW and SW.

Works contracts

Schemes usually with a value of more than £150,000 (in 2G) and £250,000 (in 3G), which are put out to competitive tender.

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Chapter 1 Overview

1.1 Executive summary

This was the final year of the second generation contracts for BEAR in North East Unit (NE) and Amey in South East Unit (SE). In addition, the first tranche of the new third generation contracts went live, with Scotland TranServ in North West Unit (NW) and Amey in South West Unit (SW). Handover from the second to the third generation contracts in SW, and particularly NW, went well.

Transport Scotland's continued commitment to maintaining the trunk road and bridge asset was shown by a 33% increase in budget to £169m. Overall spend by the operating companies (OCs) was 96.2% of the budget, only slightly down from last year's figure.

Overall, maintenance of the network was carried out well.

The strong, mature performances of BEAR and Amey in the second generation contracts were demonstrated by no default notices being issued. Scotland TranServ's performance in its first year was good and compared favourably with those of previous new operators. Amey's performance in SW was below expectations.

There were some settling-in issues in the new contracts in SW and NW, reflected in the issue of remedial notices to Amey and Scotland TranServ. In addition, Amey's performance during the year on some issues resulted in further remedial notices. Both organisations are taking steps to deal with these issues and progress is being closely monitored by Transport Scotland and PAG.

Standards of health and safety management were high across the network. The OCs made considerable effort to manage the roadworks programme to reduce delays. 99.4% of the network was open to road users, a slight improvement on the previous year, despite the increase in maintenance activity. Standards of traffic management were generally good at roadworks sites across the network and there was a notable improvement by BEAR in NE.

Winter was relatively mild and there were less road closures due to snow than in the previous year. The OCs delivered their winter service broadly in line with the contract requirements, although there were delays in using new equipment in NW and SW. There was good performance in dealing with emergencies.

Repair of category one defects, the most serious faults on the network, improved in NE and SE, with BEAR delivering a very good performance. In SW, Amey's results indicated reasonable performance. Scotland TranServ's performance in this area was poor and substantial improvement is required. These issues will be closely monitored by Transport Scotland and PAG in the coming year.

PAG's detailed studies showed the OCs delivered value for money in cyclic maintenance, winter service and management of works contracts. Across the network, workmanship, supervision and construction of operations and works contracts were also generally good.

The existing quality management systems in NE and SE continued to work well, as did new systems in NW and SW. The financial systems of Scotland TranServ in NW and Amey in SW took longer than expected to bed in.

All the OCs have working environmental systems and are showing evidence of developing increasingly sustainable working practices.



1.2 Background

The Scottish trunk road network

The network is 3,123km long, excluding M6 DBFO and M77 PPP. It contains a total of 5,563 structures, including 1,956 bridges and footbridges.

It is divided into four geographic Units (see **figure 1**), each with its own contract. Each of the four Units (see **figures 4-7**), NE, SE, NW and SW, is managed and maintained by an OC. **Figure 2** outlines the structure of the arrangements.

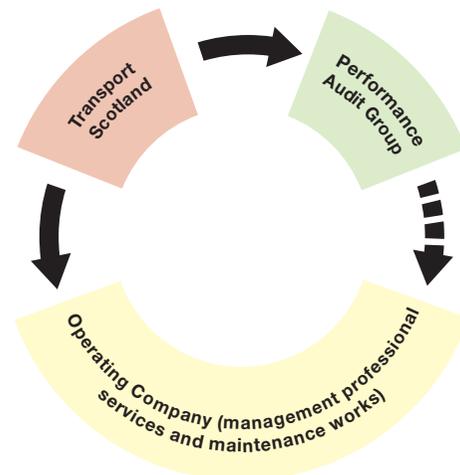


Figure 2 Structure of arrangements with the OCs

The OC contracts

Start of 2G contracts in 2001: Contracts for NE and NW were awarded to BEAR Scotland, an independent company owned by Jacobs, Ennstone Thistle and Ringway Group. Contracts for SE and SW were awarded to Amey Infrastructure Services. These 2G contracts were for a period of five years, with the option of extending to seven years.

Start of 3G contracts in 2006

in NW and SW: These contracts were tendered in 2005. Since 1 April 2006, following the closure of the 2G contracts, NW and SW have been managed and maintained by Scotland TranServ (a joint venture between Balfour Beatty and Mouchel Parkman) and Amey, respectively, under the new 3G contracts. These contracts will be in place until at least 2011.

The development of the 3G contracts gave an opportunity to improve on the already high standards achieved under the 2G arrangements. Overall, the 3G contracts take a similar form to the 2G contracts, but the opportunity was taken to clarify some requirements and to give an improved level of service for activities

such as winter service; defect inspections and recording; OC reporting; and cyclic maintenance.

Unit	2G	2G/3G	3G
	From Apr 2001	From Apr 2006	From Apr 2007
NE	BEAR	BEAR	BEAR
SE	Amey	Amey	BEAR
NW	BEAR	Scotland TranServ	
SW	Amey	Amey	

Figure 3 OCs and their Units since April 2001

Start of 3G contracts in 2007

in NE and SE: The 2G contracts for NE and SE were extended to March 2007. Following tendering, the 3G contracts for both Units were awarded to BEAR Scotland Ltd. These new contracts started on 1 April 2007 (see **figure 3**) and will be covered by next year's annual report. The contracts will be in place until at least 2012.

Chapters 2 to 5 of this report cover the activities of the OCs from April 2006 to the end of March 2007. During this period, NE and SE continued to operate under the 2G contracts, while NW and SW operated under the new 3G contracts. This report will therefore separate out the 2G and

3G contracts, where appropriate, to aid clarity.

The contracts' objectives

The contracts to manage and maintain the network were awarded by the Scottish Ministers (see **figure 3** which shows contract start dates for each Unit).

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.”



North East fact file



Figure 4 NE Unit

Contract operating in 2006/07: 2G.

Managed and maintained by: BEAR Scotland.

BEAR's central office:
BEAR House
Inveralmond Road
Inveralmond Industrial Estate
Perth
PH1 3TW

Total route length of NE: 642km.

Budget for maintaining trunk roads in NE this period: £35.2m.

Number of structures: 642.

Amount of salt used: 13,605 tonnes.

Winter patrol length: 756km.



South East fact file



Figure 5 SE Unit

Contract operating in 2006/07: 2G.

Managed and maintained by: Amey Infrastructure Services (until 31 March 2007).

Amey's central office:
600 Gilmerton Road
Gilmerton
Edinburgh
EH17 8RY

Total route length of the network in SE: 469km.

Budget for maintaining trunk roads in SE this period: £36.1m.

Number of structures: 706.

Amount of salt used: 9,111 tonnes.

Winter patrol length: 564km.



North West fact file



Figure 6 NW Unit

Contract operating in 2006/07: 3G.

Managed and maintained by: Scotland TranServ.

Scotland TranServ's central office:
Broxden House
Broxden Business Park
Lamberkine Drive
Perth
PH1 1RA

Total route length of the network in NW:
1,367km.

Budget for maintaining trunk roads in NW
this period: £41.5m.

Number of structures: 2,343.

Amount of salt used: 21,372 tonnes.

Winter patrol length: 696km.



South West fact file



Figure 7 SW Unit

Contract operating in 2006/07: 3G.

Managed and maintained by: Amey Infrastructure Services.

Amey's central office:
Langmuir Way
Bargeddie
Glasgow
G69 7RU

Total route length of the network in SW: 645km.

Budget for maintaining trunk roads in SW this period: £56.2m.

Number of structures: 1,872.

Amount of salt used: 4,768 tonnes.

Winter patrol length: 572km.

The OC contracts seek as a key objective
*“to enable a ‘customer-oriented’ approach
to be further developed in the way roads are
managed and maintained.”*

Chapter 2

Customer service

Key points

Network reliability and reducing delays

One of Transport Scotland’s main aims is to ensure delays and congestion at roadworks sites are kept to a minimum.

- The OCs made considerable efforts to manage the roadworks programme to reduce delays.
- 99.4% of the network was available to road users in 2006/07, a slight improvement on the previous year, despite a 33% increase in budget allocated for maintenance by Transport Scotland.

Managing traffic for safety

It is important that traffic management at roadworks provides a safe environment for road workers and road users.

- A good standard of traffic management was generally achieved at roadworks sites across the network.

- There was significant improvement in BEAR’s performance in NE and Amey continued to perform well in SE.
- The performance of Scotland TranServ in NW and Amey in SW was good.

Repair of the most serious defects (category 1 defects)

The prompt repair of serious defects within specified timescales is a key requirement of the contracts.

- BEAR’s performance in NE was very good, improving on last year. Amey in SE improved, but could have improved much further.
- Scotland TranServ’s performance in NW was poor in this issue. There are signs of improvement and the issue is being closely monitored by Transport Scotland and PAG. Amey’s data in SW showed reasonable performance, but at present the data cannot be independently verified due to the system the OC has used.

Customer contact

It is important an effective customer contact system is in place to enable road users to report defects or other issues.

- The systems in NE and SE worked well and there was a decline in the number of calls to those OCs.
- In NW and SW, the system appeared to work well.



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. The OCs are required to keep the number of lanes closed to a minimum by completing as many tasks as possible within each closed area. They also plan works to be carried out during off-peak periods to reduce delays for road users.

2.1 Network reliability and reducing delays

In 2006/07, Transport Scotland's budget for the trunk road network for maintenance and improvement work was £169m. This investment through the OC contracts was crucial to provide a network that was highly efficient and safe for the road user. It was an increase from the previous year's figure of £127.1m.

The four OCs managed a total of 11,307 individual roadworks sites across the network during 2006/07. This equates to an average of 31 roadworks sites per day. A breakdown on the number of sites managed by each OC is given in **figure 8**.

Unit	Number of roadworks sites
NE	2,797
SE	3,739
NW	2,288
SW	2,483

Figure 8 Number of roadworks sites managed by OCs

Good forward planning and well designed traffic management by the OCs is one of the keys to a reduction in the number of incidents at roadworks sites. Road users are also urged to help protect road

workers by obeying speed limits and being aware of the dangers. However, lane closures are often required as this is the most appropriate method to minimise the risk for both road users and road workers.

2G contracts

NE – BEAR

BEAR continued to plan works to suit traffic flows and take into account traffic sensitive routes and potential impact on road users. An example was red chip replacement on central reserves on M90, A9 and A92, which was carried out as night works. This allowed operations to be carried out with minimal delays to road users.

SE – Amey

Much of the routine maintenance of the motorway routes was undertaken by Amey during the night and at weekends. Major schemes were well planned with advance notice given to road users. Minor issues regarding the notification of works on the hard shoulder were addressed by Amey.

3G contracts

NW – Scotland TranServ

Generally, traffic management was planned and executed to minimise delays to the public during the busy summer period. For example, critical patching works on the difficult A82 Tarbet to Crianlarich section were carried out overnight to keep traffic disruption to a minimum.

SW – Amey

Major works were again well planned. This was demonstrated by the major carriageway reconstruction works on M8 at Helen Street, Glasgow. This was carried out successfully in the summer of 2006 when traffic levels were lowest due to school holidays.

The OCs measure and report lane occupations for roadworks sites via a KPI (see **figure 9**). These are calculated by multiplying the number of lanes closed by their length in kilometres. This figure is then multiplied by the number of hours the lanes were closed. This can then be used to calculate the overall percentage of the network available.



Managing traffic

Traffic management measures are implemented at roadworks to provide safe working conditions for road workers and a safe route for road users (see figure 10).

Temporary crash barrier systems are now frequently used on works contracts to protect road workers and guide traffic in contraflow situations. Temporary speed cameras and active speed indicating signs have also been used to improve safety.

The OCs provide this essential service and must ensure traffic management measures are safe and meet required national standards.

Unit	KPI value	% available
NE	119,267	98.88
SE	85,360	99.37
NW	55,002	99.78
SW	108,777	99.39
Total	368,406	99.40

Figure 9 KPI reporting road occupations and % of network available to road users

Figure 9 shows the OCs continued to keep a large proportion of the network open throughout 2006/07, with an average of 99.40% of the network accessible to road users. This is an improvement on last year's figure of 99.3%. This increase in accessibility was achieved despite a 33% increase in the budget allocated for network maintenance and improvement. This shows the OCs' commitment to maintaining reliability and reducing delays.

2.2 Managing traffic for safety

2.2.1 Standards of operations

National standards are predominantly governed by Chapter 8 of the traffic signs manual. The revised *Chapter 8 manual* was introduced in July 2006, providing



Figure 10 Traffic management on southbound carriageway of A9 Tore phase 2 in NW

a standard of good practice for traffic control at obstructions on roads. This enabled OCs and other parties carrying out works on trunk roads to take a fresh look at all aspects of their traffic management.

A good standard of traffic management was generally achieved by OCs and third parties.

There were, however, still occasions where traffic management and safety

Customer service



needed to be addressed. Of the 1,047 sites visited by PAG, 91% complied with the required standards. Five per cent of sites visited had minor traffic management problems and 4% had significant traffic management issues. This was similar to last year.

2G contracts

NE – BEAR

Traffic management continued to improve from last year. The initial issue of lack of lateral safety zones adjacent to work areas was taken very seriously by BEAR. This resulted in a significant improvement in the latter part of the year. An increased number of road workers were trained and qualified to install, maintain and remove temporary traffic management on rural and urban roads.

SE – Amey

Amey generally achieved a high standard of traffic management. There were, however, some occasions when there was lack of provision of the correct safety zone at some of the works. These instances were usually quickly corrected when brought to the attention of Amey.

3G contracts

NW – Scotland TranServ

The quality of Scotland TranServ's traffic management was good, with accurate sign placement. Lateral marking of safety zones was generally satisfactory, although the maintenance of the required separation of barriers remained a concern on width restricted routes.

SW – Amey

Traffic management was generally good. Convoy systems were used to good effect at appropriate sites. However, there were issues for a lack of/inadequate lateral safety zones at some sites maintained by the OCs or third parties such as utility companies.

2.2.2 Standards of works contracts

2G contracts

NE – BEAR

Improved supervision on works contracts ensured good traffic management. However, there were a few instances where supervision required improvement

and PAG brought these to the OC's attention.

SE – Amey

Continued good performance on works contracts was evident with supervision from the OC being consistently satisfactory.

3G contracts

NW – Scotland TranServ

Fewer major schemes were constructed due in part to the change from BEAR to Scotland TranServ at the beginning of the year.

The quality of traffic management showed steady improvement throughout the year, especially where specialist traffic management contractors were used. However, there were still some examples of poor practice. PAG brought these to the OC's attention.

SW – Amey

Traffic management on sites was generally good. SPECS average speed cameras were used on major works contracts and proved effective. There was a strong emphasis on health and safety issues on sites.



Category 1 defects

Category 1 defects, the most serious faults, can include flooding, potholes and damage to safety fences, footpaths, cycleways, parapets (bridge safety barriers) and signs. Defects are category 1 when safety is a concern.

OCs must make safe all category 1 defects within 48 hours. They must also complete a permanent repair within 28 days of the defect being found.

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

The OCs' success in meeting the 28 day deadline for the permanent repair of category 1 defects is recorded quarterly as a KPI.

Figure 11 gives an annual summary of this information. The data for this KPI should be provided from the routine maintenance management system (RMMS), which is the system used to record information on inspections, finding defects, speed of repair and any further action.

	2006/07	2005/06
2G contracts		
NE	96%	90%
SE	79%	71%
3G contracts		
NW	58%	n/a
SW	88%*	n/a
* unverified data		

Figure 11 KPI for permanent repair of category 1 defects on time

For 2G contracts, the RMMS was provided by the OCs, but for 3G contracts it was supplied by Transport Scotland.

2G contracts

NE – BEAR

BEAR's performance in repairing category 1 defects within 28 days continued to improve from the previous year, resulting in very good performance.

SE – Amey

Amey's performance showed a similar trend throughout the year. It was better than the previous year, but could have improved much further.

3G contracts

NW – Scotland TranServ

The performance of Scotland TranServ on this key issue was poor. Its performance did improve marginally during the year, but remained unacceptable, resulting in NNCs being issued. Subsequently, a remedial notice was issued by Transport Scotland in 2007/08. Scotland TranServ is taking appropriate action to remedy the situation. Progress in the coming year will be closely monitored by Transport Scotland and PAG.

SW – Amey

The performance indicated by Amey's KPI cannot be independently verified by PAG. The contract requires the source of the KPI data to be the RMMS database populated by Amey. The system actually used by Amey could not provide a full audit trail.

An NNC followed by a remedial notice were issued to Amey to update the RMMS with the correct repair dates for category 1 defects. Transport Scotland and PAG will continue to monitor progress in resolving this issue.

Customer service



2.4 Customer contact

Introduction

An all-Scotland freephone telephone number (0800 028 1414) is available to allow members of the public to report any defects they identify on the network. Calls are directed to the trunk roads customer contact service (TRCCS), operated on behalf of Transport Scotland by Glasgow City Council. This notes the nature and location of defects and forwards details to the relevant OC by email. The TRCCS operates 24 hours a day seven days a week.

In addition, each OC provides a Unit-specific customer contact telephone service (CCS), again utilising an 0800 number, which is manned from 08.00 hours to 17.00 hours daily except Saturdays, Sundays, Christmas Day, Boxing Day and New Year's Day. Outwith these hours, all telephone calls to the OCs' CCSs are automatically transferred to the TRCCS .

If any of the out of hours telephone calls are identified as having safety implications, the TRCCS has contact details for each OC's emergency liaison

officer, who will make arrangements to provide all necessary assistance in emergency situations.

The introduction of the TRCCS has resulted in a reduction in the number of direct calls to individual OCs.

CCS analysis

2G contracts

The OCs are required to log all communications in registers which can be audited and inspected. They must also produce a monthly summary of the number of calls received by their CCS.

Calls received by NE and SE for 2006/07 are shown in **figure 12**.

Unit	Calls received 2006/07	Calls received 2005/06	Calls received 2004/05
NE	962	1,080	1,293
SE	531	612	1,136
Total	1,493	1,692	2,429

Figure 12 Number of calls received by the CCS

Figure 12 shows the number of calls in NE and SE has reduced. This may be a result of calls being directed to the TRCCS.

3G contracts

In addition to the Unit-specific 0800 number, the OCs were required to introduce a website, which provides contact information and a facility for the public to report defects online.

The OCs are required to report on the percentage of calls to their Unit-specific CCS number answered in person within two minutes of first receipt. This is reported as a KPI.

NW – Scotland TranServ

In NW, this information has not been supplied, as the OC has set up the Unit-specific number to automatically divert all calls to the TRCCS. This arrangement was agreed with Transport Scotland and was operational from early in the year.

SW – Amey

In SW, the KPI figure was reported as 95%. However, Amey has raised a corrective action request in its QMS due to non-verification of the measurement of this KPI.

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

Chapter 3

Value for money

Key points

Roads cyclic maintenance

These regular, ongoing activities such as grass cutting, litter clearance, gully emptying and sign cleaning ensure the network is kept in a safe and attractive condition.

- The overall performance by the OCs was good, indicating value for money (VFM) was achieved.
- Grass cutting in NE and SE was good. There was a slow start in NW and some cuts were missed in SW.
- Weed control was generally good, although there is still room for improvement.
- Maintenance of gullies and grips, removal of litter and cleaning of road signs were carried out to a high standard.

Winter service

Delivery of an effective winter service, including salt usage, response times, treatment times and record keeping is essential if the network is to remain safe during the winter period.

- Salt usage varied widely across the network, with the highest spread rates in NW and the lowest in SW, reflecting the north/south weather divide.
- Response times in NE and SE were excellent, but not quite as strong in NW and SW.
- Treatment time performance was very strong in SE, with good performance in NE, NW and SW.
- Data logging, a requirement in 3G only, was good in NW, but not quite so strong in SW.
- Overall, VFM was achieved.

Works contracts

These comprise substantial schemes carried out by third party contractors.

- Despite the high workload across the wider industry, the average number of tenderers for each works contract remained similar to 2005/06.
- Across all Units except SW, the average difference between the lowest and highest tender prices remained at a very competitive 30%, similar to last year.
- Scheme outturn costs were generally well controlled.
- Overall, the process for works contracts continues to deliver VFM.



Roads cyclic maintenance

Work carried out regularly to keep the network in good and safe working order, while protecting the environment, is known as cyclic maintenance. Such work includes: grass cutting, weed control, drain cleaning, road sign cleaning and litter picking.

Some cyclic operations are important for safety, such as grass cutting for good visibility at junctions and approaches to signs and signals. Other cyclic maintenance activities prolong the network’s lifespan, e.g. regular drain cleaning, which may prevent flooding and water damage to the road structure.

The OCs are paid fixed monthly sums for doing all the required cyclic maintenance operations. To ensure VFM, it is therefore important to check the work is not only carried out, but is also to an acceptable standard.

3.1 Roads cyclic maintenance

3.1.1 Introduction

Some requirements for cyclic maintenance vary between the 2G and 3G contracts. An example is grass cutting, where 2G uses a performance requirement to keep grass below certain heights, while 3G specifies a number of cuts. To assess VFM across all Units, PAG monitored performance by observing between five and 12 control sites in each Unit. Performance against number of grass cuts in NW and SW was made by assessing the OCs’ RMMSs or other records.

The following activities were monitored:

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

3.1.2 Monitoring of results

Grass cutting

2G contracts

Contract requirements for NE and SE were:

- Grass height must not exceed 300mm at verge swathes and visibility areas.
- At amenity areas grass height must be maintained between 50 and 70mm.
- Full width verge must have an annual cut between September and early October.
- Central reservations must be cut twice during the season, in June and early September.

To study how the OCs performed, grass heights were measured or assessed at the sites in NE and SE during the growing season (see **figure 13**).

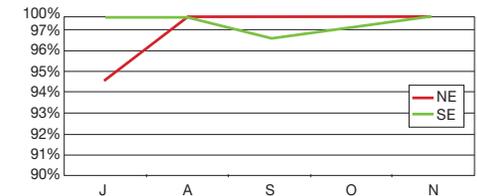


Figure 13 Overall percentage of grass within specification - 2G contracts

NE – BEAR

After a slow start BEAR performed very well throughout the rest of the season, with grass cutting being within the specified limits.

SE – Amey

Amey performed very well, with a good standard of cutting through most of the year.

Both NE and SE performed similarly to last year.

3G contracts

The contract requirements for NW and SW are more prescriptive than under 2G arrangements:

Value for money



- High frequency areas (towns, villages, etc): 15 cuts are required per year during the growing season.
- Medium frequency areas: eight cuts are required per year during the growing season.
- Low frequency cutting (the majority of the routes): four cuts are required per year during the growing season. The height of the grass must at no time exceed 300mm.
- Minimal frequency cutting (to cover all areas): cut to be undertaken in late autumn. Cuts are required during the second and fifth year of the contracts.

Areas where high, medium, low or minimal frequency cutting is required are indicated on landscape inventory drawings, which form part of the 3G contracts.

NW – Scotland TranServ

Scotland TranServ did not record grass cutting within Transport Scotland’s RMMS during 2006/07. This was partly due to problems with RMMS. The OC was expected to keep accurate and easily accessible records instead. The manual

records supplied, were not as detailed as expected and improvement will be sought from Scotland TranServ.

In general, most roads had three low frequency swathe cuts during the year, instead of the required four. A number of locations, e.g. A82 Alexandria to Tarbet, did have four low frequency swathe cuts as required. On A828 only two low frequency cuts were carried out during the season, which resulted in an NNC being issued for grass cutting.

The number of additional medium frequency cuts varied from two to six. Only a very small number of high frequency cuts were indicated on the grass cutting records.

PAG’s assessment is that a large number of cuts early in the growing season were missed, although Scotland TranServ did meet its programme later in the season. Amounts were omitted from payment where appropriate.

SW – Amey

Amey did not record grass cutting done within Transport Scotland’s RMMS during 2006/07. This was partly due to problems with RMMS. The alternative records that

were eventually supplied were reasonable, although better location descriptions are required.

All roads had three low frequency cuts, instead of the required four, with some minor exceptions due to ongoing roadworks.

Seven medium and 14 high frequency cuts were carried out between April and November on selected lengths of road, indicating the majority of amenity cutting was carried out. Although Amey missed one cut, the remainder of cutting was carried out as required.

Weed control

OCs are required to carry out weed control measures and prevent injurious weeds from becoming a nuisance. Control of injurious weeds is specified under the *Weeds Act 1959* and the *Wildlife and Countryside Act 1981*. Injurious weeds include:

- Spear thistle and creeping thistle.
- Japanese knotweed.
- Giant hogweed.
- Common ragwort.
- Curled and broad leafed dock.

Additionally, under the 3G contract, oil seed rape and rosebay willowherb need to be controlled to restrict their growth. The contract also requires the removal of any unsightly remnants of dead or dying weeds. However, the general requirements are the same for both contracts.

The results of PAG’s monitoring of selected sites for both sets of contracts is shown in **figure 14**.

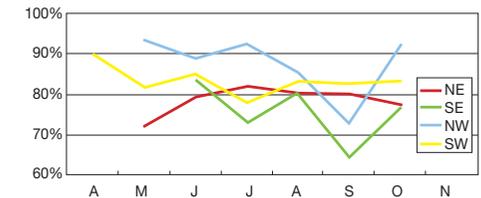


Figure 14 Average percentage of weed-free areas

2G contracts

NE – BEAR

Performance by BEAR improved compared with the previous year and was reasonable.

SE – Amey

Amey’s performance was similar to previous years, with a below average

Value for money



performance for most of the growing season.

3G contracts

NW – Scotland TranServ

Weed control was successfully carried out by Scotland TranServ for most of the season.

SW – Amey

Amey achieved good and consistent performance.

Road drainage

The OCs are required to clean gullies, ditches and grips to ensure the road structure is well drained. Gullies are required to be emptied at least once a year. The OCs need to take measures to prevent ditches from silting up, becoming overgrown with vegetation, or blocked with debris as a result of bank erosion. The requirements are generally the same for both contracts.

PAG carried out an inspection of gullies. **Figure 15** shows the results of this study.

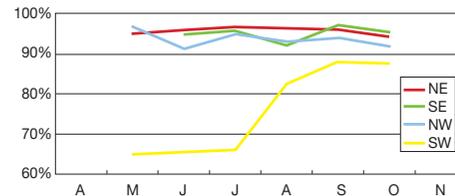


Figure 15 Percentage of gullies clear

2G contracts

NE – BEAR

BEAR's performance remained good.

SE – Amey

There was a significant improvement in Amey's performance from 2005/06. Overall, Amey's performance was good.

3G contracts

NW – Scotland TranServ

Scotland TranServ's performance was also good.

SW – Amey

Amey's performance could be improved, with an average of only 76% of gullies being cleared.

Road sign condition

All signs are required to be cleaned every two years. All low level roadside signs, which are more exposed to the effects of dirt, may need further cleaning as and when required. The requirements are the same for both contracts. PAG carries out a visual inspection of road signs throughout the monitoring period. The results are shown in **figure 16**.

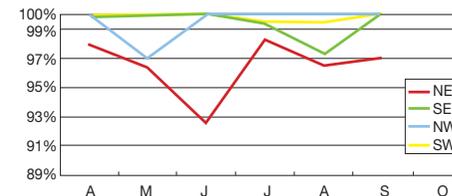


Figure 16 Percentage of signs in good condition

2G and 3G contracts

All OCs performed very well and managed to maintain nearly all of the signs in good condition.

Litter picking

The OCs are responsible for clearing litter from motorways and special trunk roads (certain dual carriageways). While local

authorities are responsible for removing litter on all the other trunk roads, OCs must advise local authorities of litter accumulations on these roads.

In October 2006, a new code of practice on litter and refuse was issued under section 89 of the Environmental Protection Act 1990 (EPA) by the Scottish Executive. This replaces previous guidelines and the OCs are required to comply with this code of practice.

There are four grades of litter:

- Grade A - no litter or refuse.
- Grade B – mainly free of litter and refuse.
- Grade C – consistent distribution of litter and refuse with minor accumulations.
- Grade D – heavily littered with significant accumulations.

The EPA allows the OCs to clear these different grades of litter within specific timescales (usually seven days). These requirements are the same irrespective of the contracts.

Value for money



Figures 17 and 18 show the OCs' performance in litter collection.

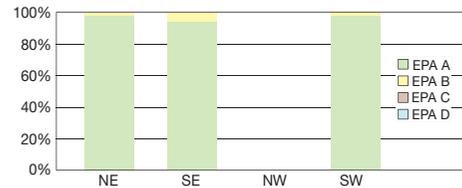


Figure 17 Overall litter performance by the OCs on motorways and special roads. There is only one very small section of these types of road in NW.



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

2G contracts

NE – BEAR

BEAR's performance was very good.

SE – Amey

Performance on litter collection was good, similar to last year, although some specific locations exceeded the timescales.

3G contracts

SW – Amey

Amey's performance was good, although some specific locations in the central belt were poor (see section 4.2.8 of this report).

NW – Scotland TransServ

As all routes in NW are non-motorway, with the exception of Skye Bridge, which is a special road, the responsibility for litter removal rests with local authorities. Generally their standard of litter picking was good.

3.1.3 Summary of findings

From the data collected and observations made PAG highlights the following:

- The overall performance of the OCs was generally good, indicating VFM was achieved.
- In NW, an NNC was issued early in the year, highlighting that general grass cutting operations required improvement. Some cutting was also not carried out in SW.

- The maintenance of gullies and grips, removal of litter and the cleaning of road signs were carried out to a reasonably high standard in all Units, although some localised improvements could be achieved.
- Treatment of weeds in SE could have been better. The control of weeds improved in other Units, although there is still some room for further improvement.



Precautionary and reactive treatment

During the winter period, which runs from 1 October through to 15 May, the OCs must allow the safe movement of road users and minimise delays and disruptions caused by snow and ice. To do this, the OCs carry out precautionary and reactive treatments.

Precautionary treatment is when salt is spread on road surfaces when low temperatures are forecast. Reactive treatment happens when ice has already formed on roads or footpaths and is often done in conjunction with snow ploughing.

The OCs decide 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.

3.2 Winter service

3.2.1 Background

During the winter period, the OCs are required to implement a winter service operation. This is an integral part of the OCs' overall contract responsibility. The outcome of their performance has a direct impact on the safety of all road users. Because of the potential impact of winter weather on road conditions, the OCs' winter service performance has a high public profile and can generate significant political and media interest.



Figure 19 A spreader applying pre-wetted salt at Laggan village on A86 in NW

Transport Scotland's aim is for the OCs to provide a 24 hour dedicated and efficient service during the winter period that is proactive, as well as reactive.

The OCs' main winter service activities are precautionary treatment, reactive treatment and snow ploughing. Route patrols are also carried out on risk assessed routes and salt is then spread where necessary. Figure 19 shows a spreader fitted with equipment for placing pre-wetted salt.

Significant changes in winter service from 2G to 3G contracts

A major change from the 2G to 3G contracts is the requirement for pre-wetted carriageway treatment instead of dry salt treatment. This system involves pre-wetting the salt before it is spread on the road surface.

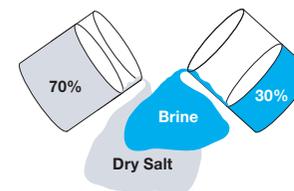


Figure 20 Make up of pre-wetted salt

Figure 20 shows pre-wetted salt is made up of 70% fine graded salt and 30% saturated salt brine made from high purity salt. Pre-wetting uses salt more efficiently and effectively.

In addition, there have been other detailed technical improvements to the winter maintenance requirements for 2G to 3G. These include:

- Winter patrols, carried out on routes assessed to be at most risk.
- Enhanced provision of back-up plant.
- Improved record keeping using global positioning system (GPS) technology.
- Provision of alternative access to treatment routes.
- Improvements to the temperature threshold for starting precautionary treatment.

3.2.2 Findings – precautionary treatment

PAG reviewed the OCs' treatment records to identify how much precautionary treatment was applied to the network. As expected, precautionary treatment varied between the contract requirement limits of 10g/m² and 40g/m² depending on the predicted weather. As in 2005/06, a 20g/m² spread rate was the most common coverage applied by the OCs.

Value for money



Due to the variation in landscape and altitude throughout Scotland, precautionary treatment is unlikely to be the same across all routes. Winter weather conditions are discussed in section 4.2.7.

PAG's detailed analysis of the OCs' records allows the average precautionary treatment rates to be calculated for individual routes on the network. These results are shown in figures 21 and 22.

PAG's study showed:

- The highest precautionary spread rates were in NW, with all routes being treated with more than 1,200g/m². Over 5,000g/m² was spread on A9 by Scotland TranServ.
- All routes in NE were treated with more than 1,200g/m², with the highest spread rate on A95.
- Nearly all the routes in SE and SW were the middle and bottom bands, reflecting the north/south weather divide.
- In SW, Amey used significantly less salt than the other three Units, reflecting its milder, wetter climate.

The results in all Units are broadly in line with expectations based on historic trends.

Unit	2006/07 - g/m ²	2005/06 - g/m ²
NE	1,824	1,996
SE	1,168	1,784
NW	2,047	2,064
SW	747	1,413

Figure 21 Average precautionary spreading rates

In figure 21, the results for 2005/06 for NW and SW were for the 2G winter service requirements, by the previous OCs.

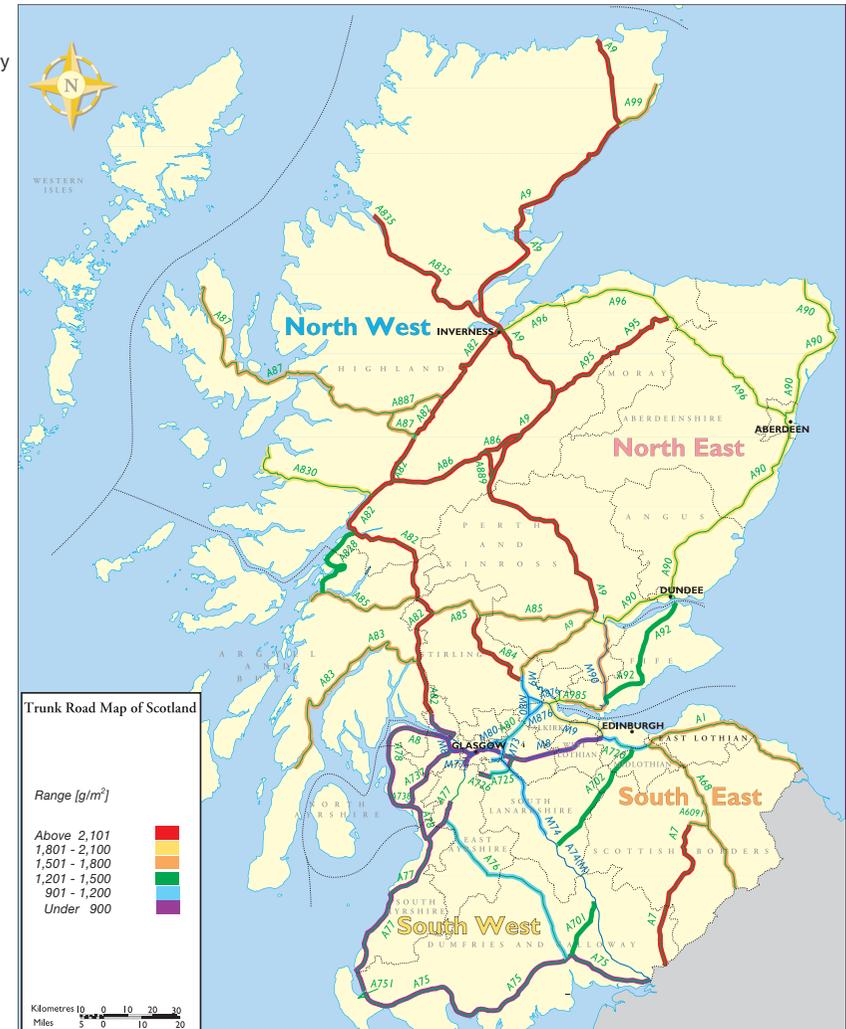
Winter service KPIs

To measure how well the OCs carry out their winter duties, two KPIs were published in each of the 2G OCs' monthly reports and three in each of the 3G OCs' monthly reports.

KPI for winter service response times

This measures the OCs' performance in starting treatment within the required timescale. Spreading must commence within one hour of deciding to treat (see figure 23).

Figure 22 Average precautionary spreading rates across the network in 2006/07



Value for money

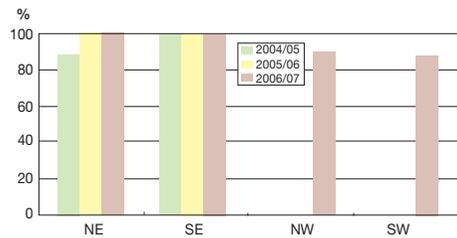


Figure 23 Comparison of KPI for winter response times

Figure 23 shows:

2G contracts

NE – BEAR / SE – Amey

BEAR and Amey provided an excellent service, fully meeting the contract requirements.

3G contracts

NW – Scotland TranServ / SW – Amey

Improvement is required by Scotland TranServ and Amey. This is being addressed by the respective OCs.

KPI for winter service treatment times

This measures the OC performance in completing precautionary treatment on a specific route. The treatment must be

completed within two hours of starting (see figure 24).

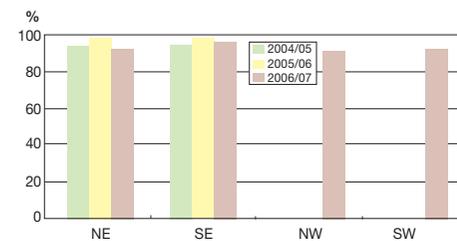


Figure 24 Comparison of KPI for winter treatment times

Figure 24 shows:

2G contracts

NE – BEAR / SE – Amey

Performance in NE was good, but has reduced slightly compared with the previous year. SE continued to perform very well.

3G contracts

NW – Scotland TranServ / SW – Amey

Performance was good in NW and SW.

KPI for electronic datalogger downloads

Electronic dataloggers are attached to front line and reserve salt spreaders as

well as patrol vehicles. They record, in electronic format, the treatment rate, location, date and time. This is a new KPI introduced for 3G and measures the OCs' performance in successfully downloading this information.

All the KPIs relate to contract requirements.

Unit	KPI value
NW	95%
SW	91%

Figure 25 Comparison of KPI for successful datalogger download

Figure 25 shows:

3G contracts

NW – Scotland TranServ / SW – Amey

There was good performance in NW and fair performance in SW. Amey is taking steps to improve.

3.2.3 Summary of findings

The treatment results were broadly in line with expectations based on previous years.

The KPI for winter response performance in NE and SE was excellent, but improvement is required in NW and SW.

Winter treatment time results indicate strong performance in SE. Overall performance was good in NE, NW, SW.

KPI results for datalogger downloads indicate good performance in NW with some potential for improvement in SW.

Overall the above data indicates while VFM was broadly achieved, improvement is still required in some areas.



Works contracts

Under 2G, works contracts were schemes valued at more than £150,000. For 3G, these are schemes valued at more than £250,000. The OCs invite tenders on behalf of Transport Scotland for schemes to be constructed by works contractors.

The works contracts analysed by PAG include those which were awarded during the year, but not necessarily completed by the end of 2006/07.

3.3 Works contracts

3.3.1 Background

PAG's VFM study aimed to:

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

As the process for tendering works contracts is broadly similar in 2G and 3G, a common assessment has been carried out, covering all Units.

2G and 3G contracts

A total of 33 works contracts were awarded in 2006/07, with a total tender value of £44m. The types of contract in the study are indicated in **figure 26**. Although the principal type of works contract falls into three categories, some contracts combined roads and bridges/bridges structures works.

Figure 28 shows a works contract in NW.

Type of contract	No
Pavement structural repairs	22
Bridges	6
Minor improvements	5

Figure 26 Types of contract

21 of these works contracts were completed in the year.

3.3.2 Findings

2G and 3G contracts

The average number of tenderers per works contract in each Unit in 2006/07 ranged from 3.7 to 5.0, which is the same as last year. This continues to reflect that contractors are being more selective in choosing to tender, as a result of the upturn in opportunities in the wider industry.

Across the Units, the range between the highest and lowest average number of tenders submitted by each contractor in 2006/07 was 1.6 to 2.8, with two Units below 2.0. In the previous five years, the range was 1.7 to 4.4. This also reflects the high level of activity in the construction industry, with contractors being more selective in which schemes they tender for.

Trends in tenders

The average percentage difference between the lowest and highest tenderer has reduced as a whole across the four Units each year from 2001/02 to 2005/06. However, in 2006/07 the difference between the lowest and highest tender has risen to 44% (see **figure 27**). This is due, in the main, to significant differences in two works contracts in SW. These were: M8 high mast lighting replacement phase 4 (difference 304%) and M8 White Cart viaduct refurbishment phase 2 (difference 150%). The average difference for the other three Units was 30% compared with 87% in SW.

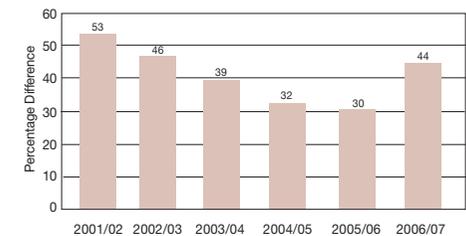


Figure 27 The average percentage difference between the lowest and highest tender



Figure 28 A9 Scrabster Harbour works contract

The results of PAG's study show:

- Pre-tender estimates were on average lower than the winning tenders in NW, SW and SE, while in NE they were higher. There was a significant improvement in the accuracy of estimated values compared with the award tender values than the previous year.
- NE again had the most competitive tendering, with the average difference between the lowest and highest tenderer being 17%, a reduction from the previous year's 22%.
- The smallest average margin between the lowest and third lowest tenderer was in NE, with the difference being 10%.
- The highest average award value was £1,986k in SW and the lowest average value was £787k in NW.

Details of the most successful contractors by number and value of schemes won are shown in [figure 29](#).

Successful contractors

OC	NE	SE	NW	SW
Most successful contractor by number schemes won	Ennstone Thistle 33%	Tarmac 50%	Ennstone Thistle 29%	Tarmac 25%
Most successful contractor by value of schemes won	Tarmac 33%	Aggregate Industries 47%	Ennstone Thistle 38%	Tarmac 49%

Figure 29 The most successful contractors by number and value of schemes won

Tender value and outturn costs

The average differences between tender award and scheme outturn values ranged from - 0.6% in NW to 15.8% in SE. Costs in SE rose due to an increase in the amount of capping layer and the late addition of a safety barrier on M80 M876 to C67 overbridge reconstruction scheme.

The average difference for the other three Units was 4.4%.

3.3.3 Summary of findings

The study shows VFM was achieved with competitive tenders received.

Chapter 4

Effective management

Key points

Effective management – financial

Trunk road maintenance represents a significant proportion of Transport Scotland’s expenditure. It is therefore important the OCs have robust financial systems and processes in place that meet the requirements of the contracts.

- At £169.0m, the budget allocation from Transport Scotland was 33% higher than last year.
- Spend was 96.2% of the budget, only slightly down from last year’s figure.
- Spend was broadly in line with budget in all Units except NW, where there was an underspend.
- Expenditure profiles improved in NE and SE, although taking time to develop successfully in NW. No expenditure profiles were produced in SW.
- The overall alignment between orders and spend improved this year by comparison with 2005/06.
- The existing CCMSs in NE and SE continued to be robust. Although

operational from the start of the 3G contracts, issues arose in NW, and particularly SW, around functionality of the CCMS.

Effective management – technical

Delivery of technical services on the network is at the heart of the OCs’ obligations under the contracts.

- Handover from 2G to 3G contracts in SW and particularly NW went well.
- Workmanship and supervision of capital maintenance operations were generally good across the network.
- Works contracts were generally planned, supervised and constructed well.
- The performance of thin surfacing is being investigated by Transport Scotland.
- Minor improvement and accident prevention schemes were successfully completed.
- Winter service on the network was delivered broadly in line with the contract requirements, although there were delays in using new equipment in NW and SW.

- The RMMS’s in NE and SE were used well and the OCs’ inspection performance was excellent in these Units. There were technical difficulties with the CCMS to RMMS link in NW and SW.
- The OCs responded well to emergencies.
- The bridge inspection programme was delivered successfully.

Effective management – quality

Management systems are required under the contracts to ensure the OCs carry out their work to required standards.

- The existing quality management systems in NE and SE continued to operate satisfactorily. New systems in NW and SW also worked well.
- All OCs operated environmental management systems and generally met the requirements of the standard.
- Standards of health and safety management were generally high.
- No default notices were issued to NE and SE, reflecting the OCs’ capability in delivering the contract requirements. More remedial notices were issued in SW than NW, reflecting the relative performance of the new OCs.



4.1 Financial

4.1.1 Financial overview

Overall position – all Units

	2006/07 £m	2005/06 £m	% +/-
Budget allocation	169.0	127.1	+33.0
Budget spent (excl. CPF)	162.5	126.4	+28.6
Total value of work done (incl. CPF)	174.3	142.4	+22.4
Split:			
- Operations by OC	115.9	89.6	+29.4
- Works contracts	58.4	52.8	+10.6

A full profile of Unit financial performance is given in **figure 30**.

When reviewing figures for NW and SW, it should be noted for 2006/07 they relate to the 3G contracts, whereas for 2005/06, it is the 2G contracts.

At £169.0m, the budget allocation from Transport Scotland was 33% higher than last year. Spend was broadly in line with budget in NE, SE and SW. The overall underspend against budget of £6.5m was primarily attributable to the delay in starting major contracts in NW. All Units, apart from NW, contributed to the increase in the total value of work done on the network.

There was an overall increase of £5.6m in the value of works contracts undertaken. As a percentage of total work done, this was a decrease of 3% from 2005/06 levels. However, within this figure it should be noted that SW produced a £10.0m increase in the use of works contracts during 2006/07.

CPF, applied to OC rates, reduced from £16.0m in 2005/06 to £11.8m in 2006/07. This reflects the expected lower inflation adjustments for the first year of operations under the 3G contracts for NW and SW. CPF was higher in 2005/06 due to the use of a base figure established in 2000 for 2G. By comparison, the base for 3G was established in 2005.

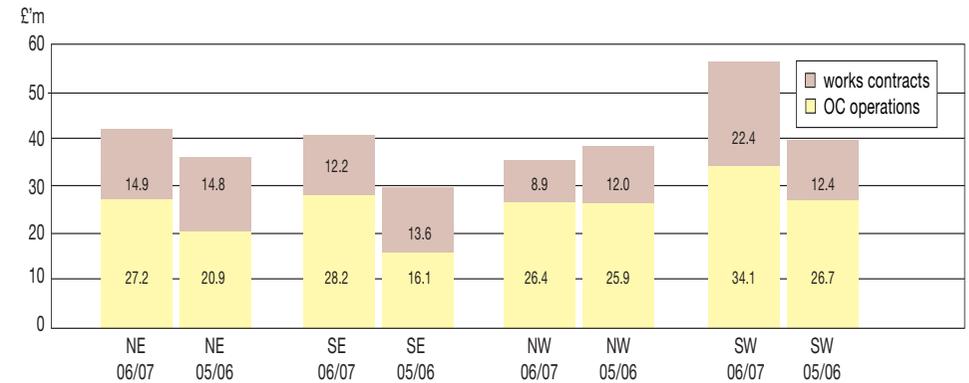


Figure 30 Comparison of work done (including CPF) year on year by Unit

The value of operations carried out by Amey for 2006/07 included a claims settlement for both SE and SW. The settlement covered payments due for the full term of the 2G contracts. A similar type of adjustment was made for BEAR in NE and NW in 2005/06.



Programmes

Transport Scotland works closely with the OCs to agree one-year and three-year programmes, before work starts. The one-year programmes are monitored and updated as the year progresses.

Budgets

Subject to availability of central funding, budgets are allocated to the OCs, net of CPF (the % change in inflation on tendered rates).

Spend

The amount paid for work done, in respect of OC operations and works contracts, excluding CPF.

Accruals

The allocation of costs to the time period in which they were incurred, rather than when the cash was paid.

4.1.2 Programmes, budgets, orders and spend

PAG assists Transport Scotland and the OCs, throughout the year, to monitor and report on the inter-relationship of budgets/orders/spend. How this fits into the overall process is shown in figure 31.

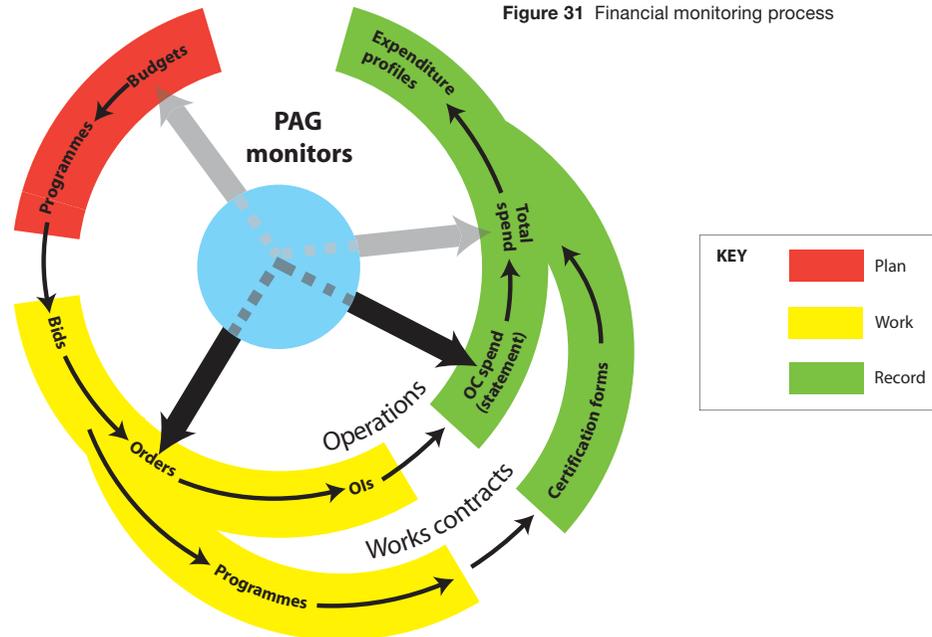


Figure 31 Financial monitoring process

Programmes/budgets/spend

A comparison of spend against budgets for the years 2006/07 and 2005/06 is shown in figure 32.

	2006/07 £m	2005/06 £m
OC operations	115.9	89.6
Works contracts	58.4	52.8
Total value of work done	174.3	142.4
CPF on OC operations	(11.8)	(16.0)
Spend	162.5	126.4
Budgets	169.0	127.1
Variance	(6.5)	(0.7)
Spend/budgets %	96.2	99.4

Figure 32 Spend v budgets

Spend was 96.2% of the budget, only slightly lower than last year. The OCs did well to deliver a significantly increased budget. Further details are given in figure 33. The main reason for the overall underspend of £6.5m was an underspend of £6.9m in NW. This was due to a delay in commencing major contracts. Spend in the other Units was broadly in line with budget.



Financial monitoring and forecasting

The OCs are required to use CCMS for financial monitoring and forecasting. The primary reporting mechanism for the OCs assessing the likelihood of meeting their budgets 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.

Comparing OC spend against operations ordered

The comparison of spend (work done less CPF) against amounts ordered by Transport Scotland relates only to operations carried out by the OCs and their sub-contractors. No operations should be carried out without an order. The remainder of the spend is in respect of work carried out by works contractors and is therefore excluded from this comparison.

The OCs responded well to the additional budget allocations made during the year to reduce the backlog of needs-based work identified by Transport Scotland and the OCs.

Accruals

Reference was made in last year's report to amounts being over-accrued in 2004/05. Despite Transport Scotland issuing more detailed instructions to the OCs for processing accruals, the problem was repeated in 2005/06.

The total amount over-accrued was £1.7m. This was largely due to SE and SW, where the total over-accrual was £1.4m. These over-accruals were taken into account by Transport Scotland when making its additional budget allocations during 2006/07.

It is hoped that the further discussions with the OCs and specific audits carried out by PAG will have improved the accuracy of the accruals for 2006/07. Initial indications are that these audits have assisted in improving OCs' performance in this area.

Budget variances

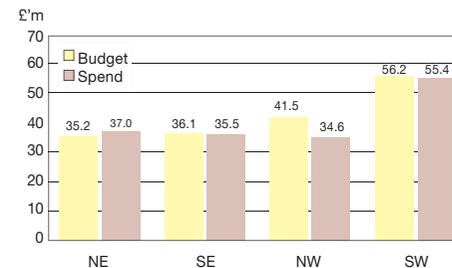


Figure 33 Budget v spend in 2006/07 (excluding CPF)

NE, SE and SW

The three OCs performed very well, delivering closely to budget.

NW – Scotland TranServ

The main sources of the net underspend in Scotland TranServ of £6.9m were roads-capital maintenance and minor improvements.

Expenditure profiles

Expenditure profiles are an important tool for managing finances. PAG's reviews of the OCs' CCMSs during the year have shown this to be an area where their performance could improve. Problems varied from omitting expenditure profiles to inaccurately predicting the final spend.

This area requires further PAG monitoring and OC improvement during 2007/08.

2G contracts

NE – BEAR

In the early part of the year there were variances between the profiles and the corresponding budgets. This improved as the year progressed, however the profiles failed to predict the eventual overspend of £1.8m.

SE – Amey

Throughout the year profiles predicted underspends on budget ranging from £1.1m to £1.8m. However, the eventual underspend was £0.6m.

3G contracts

NW – Scotland TranServ

While the OC made progress with providing functionality on its CCMS early in the first year of its contract, it was not able to provide profiles until late July 2006. As the year progressed, the profiles failed to alert Transport Scotland to the potential underspend in roads-capital maintenance. This was rectified towards the end of the



Operations carried out by the OCs

Transport Scotland issues orders to the OCs for work it wishes them to carry out. The OCs then issue operations instructions (OIs) to instruct the work to proceed. Once the work is complete, the OCs raise charges for it through their monthly statements, using the CCMS.

Operations instructions

OIs are the primary communication between the OCs' management and those carrying out the work to ensure the work done is as ordered. Procedures covering this process must be effective and adhered to. PAG routinely monitors the process.

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.

year, but the final profiles still predicted a figure £1.9m short of actual spend.

SW – Amey

The OC failed to produce expenditure profiles on its CCMS and, as a result, a remedial notice was issued by Transport Scotland in October 2006. The problem continued for the rest of the year and this led to monies being deducted from the OC. The OC has an action plan in place to resolve this during 2007, which will be monitored by PAG.

Bids, orders, OIs and spend

Figure 34 shows the bidding for work process.

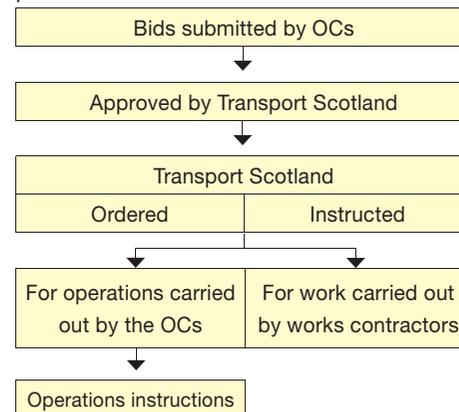


Figure 34 The bidding for work process

2G contracts

NE – BEAR

The OC had robust OI procedures in place during the year and these were generally used well. However, there were some instances of major sub-contractors having difficulty in adhering to them.

SE – Amey

There was good performance by the OC. Measurement audits confirmed the improvement noted last year had been maintained.

3G contracts

NW – Scotland TranServ

As expected, there was a slow start to work being undertaken at the beginning of the contract. It therefore took time for PAG to form a meaningful view on the effectiveness of the OC's financial procedures until the middle of 2006/07.

Subsequent auditing highlighted weaknesses in the OC's OI procedure, particularly in relation to back-up documentation for measurements. This resulted in the issue of an NNC, which is being addressed by the OC and will be monitored by PAG.

SW – Amey

There was a slow start to work at the beginning of the year. When measurement audits were carried out, PAG found some significant deficiencies in the back-up documentation. As a result, a remedial notice was issued to the OC in March 2007.

At the time of issuing this report, the remedial notice remains open. This and other financial and operational issues are the subject of an action plan agreed between Amey and Transport Scotland for completion during 2007. PAG will monitor the results of these actions.

Orders v spend

There has been an overall improvement in OC spend v amount ordered. The spend on the network for 2006/07 of £104.1m (£115.9m less CPF of £11.8m) was £14.4m (12%) less than the amount ordered by Transport Scotland. Details are given in figure 35. This compares with a shortfall of £12.6m in 2005/06 (15%).

While it is acceptable for operational reasons to order operations slightly in excess of anticipated spend, it is



CCMS

The CCMS is a computer-based cost management system, and its functionality is specified in the contract. The system, provided and operated by the OCs, is designed to enable them to manage their operations effectively. It also gives all parties working on the contract, including Transport Scotland and PAG, access to information about how projects are being managed and where the money is being spent.

During 2006/07 both 2G and 3G versions of CCMS were in operation. The 3G version is an incremental development of the 2G model to reflect contract changes and requirements.

necessary in exercising good budget management for the OCs to re-bid work as soon as they are aware of any likely variation in final costs.

2G contracts

NE – BEAR

As a percentage of amounts ordered, the shortfall in spend of £3.1m was exactly the same as last year at 12.3%. It would be expected that the OC's performance after six years would have been better.

SE – Amey

The OC's performance in managing its order v spend was very good.

3G contracts

NW – Scotland TranServ

Scotland TranServ's performance on orders v OC spend in 2006/07, where its orders exceeded spend by £8.2m (32%), was not as good as the other OCs (see **figure 35**). This would appear to conflict with the OC's performance in largely delivering operations in line with budget for the year. The likely reason for this disparity is that the order process for NW has not been effectively managed through the CCMS. Transport Scotland and PAG

have been actively involved in assisting the OC in improving its performance in this area.

SW – Amey

A similar situation to NW arose during the year. However, this was rectified by effective use of the CCMS to align orders and budgets. As a result, spend was within 7% of the ordered amounts at the year end.

General

There was also an issue with both 3G OCs overspending on amounts ordered for specific schemes. The OCs are investigating the reason for this, as their CCMSs should have built-in financial controls to prevent it from happening. Failure to resolve this issue could result in monies being deducted from the OCs.

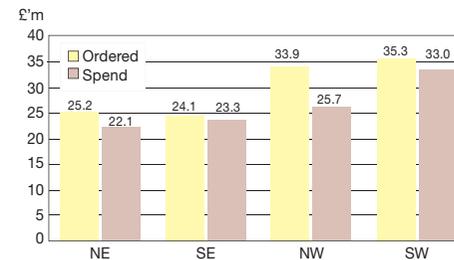


Figure 35 Orders v spend in relation to operations in 2006/07

4.1.3 Contract control and management systems (CCMS)

2G contracts

The OCs continued to operate a fully functional CCMS during 2006/07. While the performance of the OCs was good, there were some minor issues, which did not affect the integrity of the systems.

NE – BEAR

The CCMS in NE continued to be robust. The updating of scheme completion in the CCMS was monitored closely during the year. There were still some problems at the end of the year with the dates not being entered, as required under the contract.

SE – Amey

The system generally worked well, although PAG sometimes had difficulty accessing the system. Scheme completion was an issue throughout the year, but this did improve as the contract drew to a close.

3G contracts

The OCs were required to have their CCMS fully operational by 30 January

Effective management



2006. While this was not fully achieved, Transport Scotland and PAG helped to ensure a working system was available in both Units for the start of operations in April 2006. A number of further issues arose during the year that needed to be addressed by the OCs.

NW – Scotland TranServ

The OC had a functioning CCMS in place throughout the year.

As far as could be tested, the validation of the CCMS, at the beginning of the contract, showed it to be 98% compliant. Monies initially deducted for the element of non-compliance were released in October 2006. This was after the OC had addressed the outstanding issues and other areas of system or operational failure that had subsequently arisen. Not all of the system could be tested until it was fully operational.

Some further issues arose and of most concern were:

- Operational - not updating scheme completion.
- System - accuracy of statement totals in the OC's statement.

While these issues did not impact on the overall functionality of the CCMS, they did require the issue of NNCs. A remedial notice was also subsequently issued for accuracy of the statement totals. The remedial notice relating to statement totals and the NNC in respect of scheme completion remain open at the time of reporting. Transport Scotland and PAG are monitoring improvement in this area.

SW – Amey

Amey's CCMS was in place throughout the year, although it took some time for full functionality to be achieved.

The validation of the CCMS, at the beginning of the contract, showed the system was only 75% compliant. Nevertheless, with prompting from Transport Scotland and PAG, this was quickly brought up to a level of 98%. This position has been reflected in the payments of monies to the OC in respect of CCMS.

Since then, further issues have surfaced in parts of the system that could not have been readily identified until it was fully up and running. Issues have emerged, giving rise to six NNCs. Three of these remain open:

- Failure to deliver a fully functional CCMS.
- Expenditure profiles.
- Time work schedule costs – supporting documentation.

In addition, remedial notices have been issued for:

- Expenditure profiles.
- Works contractors module.

CCMS user group meetings involving the OC, Transport Scotland and PAG are being held to resolve these issues, with monies deducted as appropriate.

3G CCMS/RMMS link

An important part of the functionality of the CCMS, in delivering a robust financial monitoring system, is its ability to link with the RMMS. Progress on this in NW and SW is covered elsewhere in the report (see section 4.2.9).

4.1.4 Commercial issues

As with any major contract between parties, there will be issues around contract interpretation. The commercial issues teams within Transport Scotland and PAG use a register maintained by

PAG to address issues as they arise under both the 2G and 3G contracts. In addition, regular commercial meetings are held between all parties.

2G contracts

During 2006/07 a settlement agreement was reached between Transport Scotland and Amey for claims outstanding in the 2G contracts for both SE and SW. A similar agreement was reached in 2005/06 with BEAR for its operations in NE and NW.

3G contracts

NW – Scotland TranServ / SW – Amey

A number of issues have been identified in both NW and SW. These are currently being addressed through discussions between Transport Scotland and the OCs, with PAG involvement as appropriate.

There is a process to identify and record commercial issues within CCMS, however, the OCs could have used this facility more effectively during 2006/07.



The OCs' reports

The OCs must produce reports on their activities. They submit these weekly, monthly, annually and at other intervals as required. The reports detail the OCs' performance in relation to technical service standards and general management matters.

Regular reports include: a weekly programme of intent (WPI) detailing proposed and current works on the network, traffic restrictions and potential delays; and a monthly report detailing works that have taken place and forthcoming works.

WPIs allow the OCs to alert Traffic Scotland of changes to information useful to road users. This aids delivery of a safer and more responsive road network. Traffic Scotland places this information on its website.

Monthly reports allow the OCs to demonstrate progress and to highlight programmed operations.

4.2 Technical

4.2.1 Reports by the OCs

Weekly reports

Weekly reports contain four parts: WPI, actual carriageway occupations report, status reports on planning applications and further detailed directions. The OCs submit these reports to Transport Scotland and PAG each week.

For 3G contracts, an 'exceptions report' replaces the actual carriageway occupations report. The exceptions report details lane occupations that were proposed in the previous week's WPI, but not carried out, and the reasons for this.

2G contracts

In general, weekly reports for NE and SE were issued on time.

3G contracts

The OCs submitted weekly reports on time. However, they submitted actual carriageway occupation reports rather than exceptions reports. PAG advised the OCs of their contract obligations and exceptions reports are now being received.

Monthly reports

Each OC produced 12 reports for the year.

2G contracts

- All reports were submitted on time, except one in NE, which was three days late.

3G contracts

- All reports were submitted on time, except one report in NW, which was one day late.

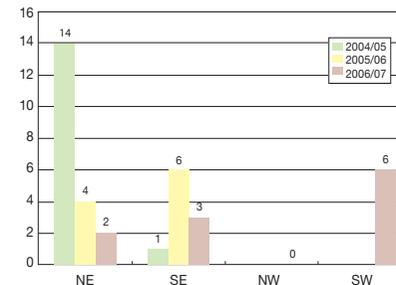


Figure 36 The number of ORIs issued to each OC for discrepancies in the accuracy of the ADF

Automated diary facility (ADF)

The OCs are required to update daily their roadworks in an automated roadworks diary. Information from this is communicated to road users and the media via Traffic Scotland's website and the variable message sign network.

PAG monitors the accuracy of the data held in the ADF and issues ORIs where discrepancies are found. See figure 36 for details of ORIs issued for these discrepancies.

2G contracts

NE – BEAR

Only two ORIs were issued, indicating an improved performance from the previous year.

SE – Amey

Three ORIs were issued. These related to failure to report works on the single carriageway network. In addition, an NEI was issued for inaccurate information in the ADF and daily updates of ADF not being undertaken. The NEI was closed out following Amey addressing this issue.

3G contracts

NW – Scotland TranServ

No ORIs were issued in relation to the ADF, but two were issued in relation to the WPI, indicating reasonable performance.

SW – Amey

Six ORIs were issued in the first year of 3G contracts.



Maintaining roads and bridges

Capital maintenance sustains the asset value by ensuring the network operates to the required level of service.

Typical work includes reconstructing and resurfacing carriageways, upgrading safety fencing, replacing bridge parapets and bridge deck waterproofing.

These operations are carried out by the OC for scheme values up to £150k for 2G and up to £250k for 3G. Larger schemes are procured using works contracts.



Resurfacing on A85 Arrivain in NW

4.2.2 Capital maintenance – operations

Roads renewal

The OCs regularly utilise sub-contractors to carry out major operations such as resurfacing and specialist activities such as anti-skid surfacing.

Sub-contracting and supervision

2G contracts

NE – BEAR

BEAR’s supervision of its sub-contractors was variable. Quality of work was good at the start of the year, although this appeared to tail off towards the end of the year. Some sites did not receive the level of supervision expected by PAG, particularly at crucial stages, such as before laying surfacing materials.

SE – Amey

Supervision by Amey remained good.

3G contracts

NW – Scotland TranServ

Supervision by Scotland TranServ of its sub-contractors was generally good. Some defects in surfacing identified by the OC were rectified quickly.

SW – Amey

Amey’s supervision of sub-contractors was good.

Workmanship

2G contracts

NE – BEAR

The majority of operations were carried out using experienced resources and sub-contractors. Most patching and resurfacing operations were therefore carried out to a good standard.

Defects were identified at a number of locations where thin surfacings were applied at high stress locations (e.g. roundabouts, slips). Some of these defects were not identified and rectified as quickly as expected.

The replacement of road markings following resurfacing or patching was also an issue, with BEAR taking longer than necessary to reinstate road markings.

SE – Amey

Workmanship was good, with an improvement noted in the timely reinstatement of road markings. PAG noted a number of locations where Amey did not complete operations within the original programme. However, overnight schemes were completed to allow traffic to run normally the following morning.

There were problems with thin surfacing at certain locations, such as M8 junction 3 slip road, and Amey has rectified these. In general, Amey made a considerable effort to ensure all examples of defective workmanship were rectified by the end of its contract, leaving completed operations in a relatively good condition at handover.

3G contracts

NW – Scotland TranServ

Workmanship from Scotland TranServ was good, particularly in resurfacing. The OC started a programme of safety fence component renewals, based on

Effective management



inspections carried out and handed over from the previous operator.

The OC's performance in the reinstatement of road markings, following surfacing work, was particularly poor, resulting in the issuing of an NNC. The situation has improved and will continue to be monitored by PAG in 2007/08.

SW – Amey

Workmanship was good. Rectification of thin surfacings defects, as with the other OCs, continues to be monitored, but has been good.

Thin surfacings

Design and workmanship issues for thin surfacings and the supervision/inspection of the surfacing to rectify defective workmanship were identified by Transport Scotland and PAG.

This is relevant to all OCs and to a number of works contractors. This issue has been identified previously and during the year Transport Scotland, and its advisor TRL, have been carrying out a study of how this can be improved. Following a series of workshops with industry, a final

report with recommendations is being prepared.

Records

2G contracts

NE – BEAR

Records were often kept by sub-contractors, and as a result were not retained in the OC's central office as required. Materials testing and site laying records have improved on previous years.

SE – Amey

Records were maintained to a good standard and access was provided to PAG when required.

3G contracts

NW – Scotland TranServ

Record keeping was good, with the majority of records available at the OC's central office.

SW – Amey

Most records were prepared and retained as required, although there were examples of poor measurement and supporting records processes. This is

being addressed by a remedial notice and improvement is expected (see sections 4.1.2 and 4.3.4). PAG will monitor progress on this issue.



Works contracts

Schemes with an estimated value above £150,000 for 2G, and above £250,000 for 3G, can be put out to tender by the OCs on behalf of Transport Scotland. The OC manages this process, including carrying out the design, preparing drawings and construction supervision. The work on site is carried out by a third party contractor under a works contract. VFM of works contracts is discussed in section 3.3.

4.2.3 Capital maintenance – works contracts

Works contracts

Figure 37 shows the split in type of work carried out under works contracts during 2006/07.

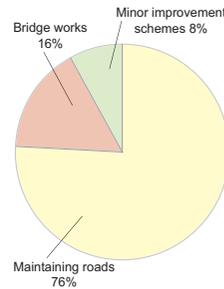


Figure 37 Proportion of tendered schemes during 2006/07 for different types of work

The majority of works contracts were to ensure the trunk road asset continues to operate to the required levels of service. This included reconstruction and resurfacing schemes. Other types of works contracts include:

- Minor improvements, such as junction improvements or new safety fencing.
- Works to bridges, culverts and retaining walls.

Tender documents

PAG carries out a technical review of at least 25% of all documents before tender issue. These arrangements are the same in both the 2G and 3G contracts. The OCs produced 46 sets of tender documents during 2006/07, the same as last year. Of these 15 (33%) were reviewed by PAG. Further details are given in figure 38.

Unit	Number received	Number reviewed	% reviewed	Number suitable to proceed
NE	11	3	27%	3
SE	14	4	29%	4
NW	11	5	45%	4
SW	10	3	30%	3
Total	46	15	33%	14

Figure 38 Draft tender documents received by PAG 2006/07

The standard of draft tender documents was generally good. However, a number of documents contained minor errors and inconsistencies, particularly those documents issued later in the year against tight deadlines.

One scheme in NW, A85 bilingual signing contract, was returned to Scotland TransServ as the documentation was poor.

This was amended and re-submitted by the OC.

Action has been taken by all OCs to address these issues. Progress will be monitored by PAG and Transport Scotland in 2007/08.

Programmes, workmanship and supervision

2G contracts

NE – BEAR

The majority of contracts were completed on time, with a number well ahead of programme. The workmanship of all schemes was generally good, despite some starting in the colder winter months. The completion of two works contracts was, however, delayed significantly:

- A90 Hatton Bends realignment was delayed by two months for a number of issues.
- A9 Balhaldie was 19 days late due to discovery of an uncharted water main.

Supervision by BEAR of works contractors was very good, with well resourced

Effective management



A works contract underway on M80 junction 5 to Denny in SE

supervision teams and emphasis on site safety. Record keeping was also good.

SE – Amey

All schemes were completed as required, with the exception of M80 junction 5 to Denny scheme, which was delayed by unforeseen circumstances. Supervision of works contractors was for the most part good, with all sites being supervised by Amey. However, there was variation in the amount of time spent on some sites by Amey's staff. Workmanship was good on all schemes.

3G contracts

NW – Scotland TranServ

A number of schemes handed over from the previous operator were carried out during the year. Other schemes were developed by Scotland TranServ, although a number of these were delayed.

Workmanship was satisfactory, although one contract, for surfacing on both A889 Dalwhinnie and A82 Drumnadrochit, resulted in some defective surfacing due, in part, to working during the winter

months. Remedials for these works will be addressed in 2007/08.

A contract using a new 'crack and seat' method of treating concrete roadbase was trialled on A9 south of Dalnaspidal during this year. This technique has major environmental benefits, as it recycles the roadbase in-situ, as well as potential cost savings. The long-term performance of this method is being monitored by the OC and Transport Scotland. Further details are given in section 5.1.

Scotland TranServ's supervision of works contractors and record keeping was good.

SW – Amey

Progress was good during the year, although preparation for a number of schemes took place late in the year.

There were a number of schemes completed to programme on M8 and M74 that involved complex traffic management, extensive surfacing, bridgeworks and distribution of traffic information. These schemes were very well supervised by Amey.

The remainder of Amey's contracts were also well supervised and record keeping was good, with an increasing emphasis on site safety.

Workmanship was generally good.

Future programming

Transport Scotland together with PAG, will continue to encourage all OCs in 2007/08 to prepare more schemes for construction well in advance of anticipated start dates. This will allow better programming of schemes and allow more time for checking of tender documentation.

Effective management



Preventing accidents

Road safety (RS) schemes are measures to cut the number and severity 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 RS schemes.

Sites are identified by analysing data using a moving cursor program (MCP) provided by Transport Scotland each autumn. The MCP pinpoints accident cluster sites and the OCs investigate these sites for possible common causes, e.g. drivers travelling at high speeds. The OCs use their findings to identify RS schemes.



A737 varioguard at Smithston in SW

4.2.4 Preventing accidents

Road safety schemes can include:

Low cost treatments:

- Reduced speed limits.
- New signs and road markings.

More extensive measures:

- Traffic signals including pedestrian crossings.
- Variable message signs.
- Retexturing or anti-skid surfacing.
- Village gateway treatments.
- New or improved lighting.

These can be applied to specific sites, or along a route as part of a route accident reduction plan.

2G contracts

NE – BEAR

BEAR carried out safety studies of sites identified from the MCP.

Route accident reduction plans were drawn up for A90 between Aberdeen and Fraserburgh and A96 from Aberdeen to Inverness. Road signing was rationalised on A92 between Dundee and Melville

Lodges in line with the current route signing strategy and there was also action to improve signpost safety on all routes.

BEAR investigated sites of fatal accidents and conducted road safety audits of schemes. Part-time 20 mph school speed limit signs were installed on A90, and vehicle activated safety signs were erected on A92 and A985. RS measures were constructed at sites on A90, A92 and A95.

Schemes in the programme were completed and the budget was fully spent.

SE – Amey

Amey developed a route accident reduction plan for A702 and carried out visibility studies on A7, A68, A702 and A720. A study on signpost safety and a review of part-time 20 mph school speed limit signs were also carried out.

Amey investigated the feasibility of mobile variable message signs for a number of accident reduction sites. These signs included speed warning, bend ahead and other warning signs in accordance with regulations. There was a substantial increase in vehicle-activated speed alert signs on single carriageway routes

and near schools. Additional minor RS measures were also implemented.

Some schemes were added to the programme and the increased budget fully spent. However, the MCP report for the 2007/08 proposals was late.

3G contracts

NW – Scotland TranServ

Scotland TranServ investigated eight sites across the Unit identified in the MCP. Route accident reduction plans were implemented on sections of A82, A85 and A99. The MCP report for the 2007/08 proposals was returned on time.

Work continued on RS schemes inherited from the previous OC, with completion of scheme investigations on various routes and junction treatments on A99. A programme of part-time 20 mph school speed limit signs was implemented across the Unit. Following a review, installation of safer signposts, which give way more readily when hit, began on A835, A9 and A99.

A study of measures to safeguard motorcyclists on A82, A84 and A85 was carried out in association with TRL. As

Effective management



Minor improvements

Minor improvement schemes are localised measures to assist vehicle and pedestrian movements such as turning manoeuvres or road crossings.

They can include low cost schemes, such as road markings and signs and more extensive schemes involving major construction.



New gateway signing at New Cumnock in SW on A76

As a result, high friction surfacing, signing and road markings are being installed at certain locations and 'bike guard' is planned to be fitted below safety fences to prevent injuries caused when motorcycles slide under the safety barrier. However, many of the programmed schemes were weather dependant and were planned to take place during the winter months. Only two thirds of the budget was spent.

SW – Amey

Amey investigated safety measures for individual sites and carried out about 50 schemes for single sites, routes, speed limit reviews and mass action schemes. The safety schemes included route accident reduction plans for A701 and A76 between Sanquhar and New Cumnock, school 20mph zones, skid reduction measures on M8 and M74/M73 slip roads, a pedestrian crossing on A75 at Springholm and installation of safer signposts and safety fence terminals.

Amey also investigated another 25 schemes including pedestrian crossing reviews in Greenock and Largs and measures for A77 including banned turns, review of speed limits and the crash cushion at Smyrton Cottages.

An NNC was issued for late return of the MCP report. The programme was augmented with additional schemes and the increased budget was fully spent.

4.2.5 Minor improvements

Minor improvement schemes may be implemented using some of the same measures as RS schemes discussed in section 4.2.4.

Schemes typically include:

- Additional lane or junction markings.
- Improved or new lighting.
- Improvements to junction layouts.
- Introduction of overtaking or turning lanes.
- Realigning roads to improve poor camber, increase sight lines or remove tight bends.
- New warning, direction or information signs.
- Providing safety barriers.
- Widening footpaths, providing pedestrian crossing facilities and constructing cycle tracks.
- Environmental mitigation measures.
- Traffic calming and pedestrian improvement.

The OCs carry out all the investigation and design of schemes. Construction and installation can be through works contracts or by OC operations. Consultation, land acquisition and statutory procedures are outwith the control of the OCs and can sometimes delay delivery of schemes.

2G contracts

NE – BEAR

BEAR completed 12 schemes during the year, started four others and assessed the feasibility and investigated the design at other prospective sites. The major re-alignment of A90 Hatton Bends was successfully completed. There were also improvements on A92 at Giffordtown Junction and reprofiling/surfacing at Forgan Roundabout, on A95 at Kinermory Bends, and on A985 at Limekilns Junction. On A92, there were two lighting schemes and a signing scheme.

SE – Amey

Two schemes were constructed by Amey: a drainage and a safety fence improvement on A702 at Hartside and a road realignment on A702 north of Melbourne. Detailed designs were also completed for A702 at Edmonstone Brae

Effective management



and Candymill Bend, A68 Charlesfield and A702 Symington junctions. A minor hazard vehicle restraint design was also completed. A route review was undertaken for A702 and further investigations carried out on A1 Skateraw to Bilsdean cycleway and A702 Dean culvert.

3G contracts

NW – Scotland TranServ

A number of signing measures were carried out in this Unit. Signs were replaced on A9 from Bruar to Dalwhinnie to bring them in line with current standards. Bilingual signs began to be introduced on A85 from Tyndrum to Oban and on A828 from Connel to South Ballachulish. Problems with land purchase and public utility diversions prevented completion of this programme and was noted by Transport Scotland. The budget was underspent.

Signing improvements will continue on A9 to Inverness as finance permits, and bilingual signs will be designed for A82 between Tarbet and Inverness. A study of traffic calming measures for Tyndrum has been submitted to Transport Scotland and various other measures examined, predominantly for reduced speed limits.

SW – Amey

Various schemes were constructed by Amey on A76 and A77, including rock and slope stabilisation, minor junction improvement, a pedestrian crossing, a new cycleway/footway and safety barriers. Gateway features at New Cumnock and Maybole are of particular note.

Large signpost protection was installed on A725 and toll barriers were removed on A898 Erskine Bridge. A737 Roadhead Roundabout was continued to compulsory purchase order stage and studies were carried out including schemes for A75 Dunjarg, A76 Holestane and Holywood and A898 at Erskine Bridge.

4.2.6 Materials and workmanship testing

Requirements for materials testing and workmanship form part of the contract requirements. PAG audited and observed the OCs' activities to verify compliance with their responsibilities.

Most materials testing was carried out by the OCs' suppliers under the relevant sector scheme.

2G contracts

NE – BEAR

PAG noted good records and registers maintained by the OC's site staff. Overall, the quality of the OC's record keeping was good and an improvement on previous years. However, some site testing records were not available in the OC's central office as required by the contract, and had to be requested from the works contractor or BEAR's sub-contractor.

SE – Amey

PAG observed that testing records for all surfacing work were generally being maintained as required by the contract.

3G contracts

NW – Scotland TranServ

PAG's audit of bridges works contracts identified that in general testing was satisfactory, although some issues were raised and dealt with by the OC. A second audit carried out later in the year showed site records and related documentation contained the required information.

PAG noted the testing on works contracts was better than on Scotland TranServ's

operations. Testing of routine operations, such as small patches, was rare and even on overlay works no temperature testing was observed. This is an area for improvement during 2007/08 and will be monitored by PAG.



Figure 39 Surface regularity testing on M8 in SE

SW – Amey

PAG's bridges works contract audit showed full and comprehensive records had been produced and the test results examined were all provided by accredited laboratories. An audit of Amey operations identified the range and frequency of testing was in accordance with the contract, although measurements used for level and depth control were not fully recorded, resulting in a remedial notice. The OC is in the process of rectifying this and PAG will monitor progress.

Effective management



Winter treatment

The winter service period runs from 1 October to 15 May. The main activities carried out by the OCs are precautionary treatment, with reactive treatment and snow ploughing carried out as required. In addition, on routes assessed as most at risk, winter patrol vehicles are deployed.

4.2.7 Winter service

3G contracts

Significant changes were made to the winter requirements for the 3G contracts, by comparison with 2G. These are outlined at section 3.2.1.

Weather conditions

Compared with the 1961 to 1990 average, mean temperatures throughout Scotland during the winter period were higher, and 152% more rainfall was experienced. This resulted in a milder winter with less salt usage overall than in 2005/06. However, wide geographic contrasts in weather conditions were experienced.

In NW, which recorded the highest salt usage, some precautionary treatment and snowfall was experienced in April and May 2006 and in every month between November 2006 and March 2007. January had the most days of snowfall, whereas the snow event in March was more intense. There were more snow days in NW in 2006/07 compared with 2005/06. By contrast in SW, which recorded the lowest salt usage, there were no significant snow events and a reduced number of treatments from the previous year.

There were fewer road closures due to ice and snow than in previous years, reflecting the milder winter. Road closures attributable to wintry weather occurred on three occasions, all within NW. **Figure 40** compares the 2006/07 winter with previous years.

Winter period	No. of winter related major incident road closures
2006/07	3
2005/06	7
2004/05	4
2003/04	11
2002/03	4

Figure 40 Number of winter-related major incident road closures over the last five years

Salt usage

Figure 41 shows the precautionary salt tonnage used over the last two years.

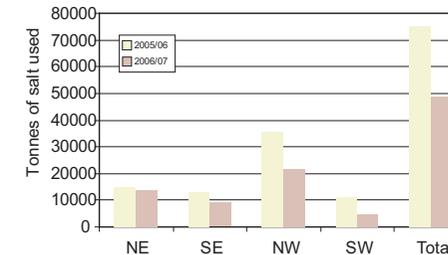


Figure 41 Precautionary salt tonnages over the last two years

There was a 35% reduction in the total amount of precautionary salt spread on the network in the 2006/07 winter season compared with last year. This reflects the milder winter in 2006/07.

2G contracts

NE – BEAR

9% less salt was used in 2006/07 compared with 2005/06.

SE – Amey

There was a 30% reduction in the amount of salt spread compared with 2005/06.

3G contracts

NW – Scotland TransServ

40% less salt was used in 2006/07 compared with the previous operator in 2005/06. It is worth noting the 3G contracts use pre-wetted salt, which may have contributed to this reduction in salt used.

SW - Amey

There was 57% less salt used in 2006/07 compared with 2005/06. Again the use of pre-wetted salt may have contributed to this.

Effective management



Winter service related audits and contract compliance

PAG's audit strategy contained a series of winter service audits across the four OCs, examining the compliance with their contractual obligations. The audits confirmed all the OCs had fulfilled their main obligations.

2G contracts

NE – BEAR

BEAR's performance was broadly in line with the contract.

Winter audits identified issues for salt with excessive moisture content and route treatments taking more than two hours. Action was taken at the time to rectify these issues.

SE – Amey

Winter service was carried out broadly in line with contract requirements.

Winter audits identified some occasions when treatment of routes within two hours was not met, salt storage was unprotected and treatment did not commence at the times instructed by the winter maintenance manager.

3G contracts

NW – Scotland TranServ

Handover from the previous operator BEAR was handled well by both parties and performance was maintained.

Performance during the winter period was generally good. At the start of the winter period, however, there was delay in the OC having full pre-wetting equipment available for all routes. During this period, winter service was provided using traditional salting techniques. A remedial notice was raised and is now closed.

A lack of remote access to some winter records was identified by PAG.

SW – Amey

Overall Amey's performance in treating the Unit was generally good. However, it was unable to commence pre-wetting salting at the start of the winter period and a remedial notice was issued. During this period, winter service was provided using traditional salting methods. They were able to carry out pre-wetted treatment on all routes by mid-December and the notice was later closed.

A further remedial notice was also issued for failure to implement the pre-wet facility on winter patrol vehicles. The OC has undertaken to have this facility available before the start of the 2007/08 winter season.

NNCs were issued for missing/incomplete winter records and for inadequate storage of de-icing material. These were subsequently closed.

Audit findings were raised for requirements such as the treatment of routes within two hours not being met.

Lack of remote access to some winter records was also identified by PAG.

The access to records is being dealt with under each OC's quality system. PAG closely monitored these findings and the OCs' corrections and corrective actions.

Handover to new contracts in NE and SE on 1 April 2007

Due to the relatively mild weather and good coordination between Amey and BEAR in SE, transition arrangements for winter service went well.

Summary

The OCs continued to comply with the contract in general.

The relatively mild winter led to substantially less precautionary salt spread on the network than the previous winter. Amey and Scotland TranServ have completed mobilisation to the 3G requirements, although later than anticipated and Amey is still to complete work to patrol vehicles. Generally the handovers between 2G and 3G operators went well.

Winter service operations will continue to be monitored in detail by PAG, and improvement will be sought in access to records.

Effective management



Effective management



4.2.8 Cyclic maintenance

Road sweeping, grass cutting (see [figure 42](#)), controlling weeds, picking up litter (only on motorways and special roads), and cleaning signs, gullies and drains are done on a regular, ongoing basis and are known as cyclic maintenance.

The OCs receive a monthly fixed sum for cyclic maintenance. Section [3.1](#) of this report gives a detailed VFM study of cyclic maintenance. Further specific comments regarding the OCs' performance on cyclic maintenance are given here.

2G contracts

NE – BEAR

BEAR's performance on grass cutting was generally good.

Extensive flooding was recorded on sections of A985 and A92 over several months. Despite gully cleaning, the problem persisted until it became apparent there was a problem with the carrier drains. Action is being taken by the OC.

Despite BEAR removing large volumes of litter and debris, substantial deposits of

litter accumulated at certain locations. Fife Council was reluctant to undertake litter picking on verges on both A92 and A985.

SE – Amey

Amey's performance on grass cutting was good, with a good standard of swathe cut to a width exceeding the contract specification. The work was well resourced, with new plant and machinery. There was good attention to detail, with grass clippings cleared from hard surfaces and the trimming around sign posts being carried out.

On single carriageway routes, Amey implemented various solutions to address areas of long-standing carriageway flooding.

On motorways and special roads, Amey responded well to litter issues by deploying additional resources when required, although there were some problems with specific locations.

3G contracts

NW – Scotland TranServ

Scotland TranServ's grass cutting was not to the required standards at the beginning of the season and PAG issued an NNC to

the OC. This resulted in an improvement in the OC's performance. After a slow start, high amenity grass cutting was completed to a very good standard.

Extensive shrub and tree cutting was carried out successfully on all routes, particularly the A9 Perth to Inverness, A82, A84, A85 and A830.

SW – Amey

Some grass cutting was missed early in the season, but generally carried out to the required standards later in the year.

Litter and fly-tipping continued to be a problem at certain blackspots, especially at junctions on M8 through Glasgow. Particular problems were experienced by Amey on remote verges during the year.

Membership of 'Keep Scotland Beautiful' has assisted Amey in establishing the required benchmarks. Transport Scotland and PAG have also worked in partnership with Glasgow City Council to help Amey improve litter collection in the urban motorway area.



Figure 42 Grass cutting on A90 in NE



RMMS

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

4.2.9 Recording details of routine maintenance operations

The main factors for assessing the OCs' RMMSs are:

- RMMS hardware and communications links.
- Systems compliance and operation.
- OC performance.

There is a substantial difference between the 2G and 3G contracts. Under 3G, the RMMS is provided by Transport Scotland and the OCs record details of their maintenance operations into this system. Under the 2G arrangements, the OCs provided the system, as well as having responsibility for entering data.

RMMS hardware and communications links to PAG and Transport Scotland

2G contracts

The hardware and communication links for NE and SE worked throughout the year. This enabled PAG to access remotely the OCs' RMMS when required.

3G contracts

The RMMS has a web interface to allow access to the system data and applications to retrieve and upload the data. This is provided by Transport Scotland and worked well.

Systems compliance and operation

2G contracts

NE – BEAR

BEAR continued to use separate RMMS and street lighting software, both of which were linked to the CCMS. BEAR's RMMS complied with the contract throughout the year.

SE – Amey

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

3G contracts

There were technical issues with the data capture devices purchased by both the OCs for recording defects in the field. These have now been resolved. There were also problems with recording cyclic maintenance activities in the RMMS. These are being addressed in 2007/08 by Transport Scotland and the OCs.

NW – Scotland TranServ

At the start of the contract, the OC experienced technical issues with links between its CCMS and Transport Scotland's RMMS. The OC was able to start using the RMMS by mid-December 2006.

A remedial notice was issued in 2007/08 for the OC to supply dates for category 1 defects repaired in 2006/07 (see section 2.3). Work was still ongoing in summer 2007 to backfill the records from the start of the contract.

SW – Amey

A remedial notice was issued to Amey in August 2006 for failing to provide a working CCMS link to RMMS. Amey also required several changes to the linkages between RMMS and CCMS. This further delayed the full usage of the RMMS until 1 April 2007.

A remedial notice was also issued to the OC to supply repair dates for category 1 defects (see section 2.3). Considerable effort was required by Amey and Transport Scotland to backfill the data from the first year into the RMMS, with the OC only able to record all maintenance details from June 2007.

Effective management



OC performance

Safety inspections

The 2G contract requires safety inspections to be carried out every seven days on motorways, dual carriageways and other specified routes. The remaining mainly rural routes are inspected every 28 days. The 3G contracts require all routes to be inspected every seven days.

Figure 43 gives the OCs' performance in meeting these requirements.

Unit	2006/07	2005/06
NE	100%	100%
SE	99%	99%
NW	100%	100%
SW	100%	98%

Figure 43 KPI - Safety Inspections

2G contracts

NE – BEAR

The safety inspection KPI provided by the OC indicates BEAR carried out 100% of its safety inspections on time. This demonstrates another year of excellent performance.

SE – Amey

Amey also carried out 99% of its safety inspections on time achieving an excellent performance, which was similar to the previous year.

3G contracts

NW and SW achieved an excellent performance with 100% of their safety inspections carried out on time.

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 road surface or lighting columns so that long term programmes to maintain them can be drawn up.

Figure 44 details the OCs' performance in meeting the requirements for detailed inspections.

Unit	2006/07	2005/06
NE	100%	100%
SE	100%	100%
NW	100%	100%
SW	100%	100%

Figure 44 KPI - Detailed inspections

2G contracts

NE – BEAR

The KPI for detailed inspections indicates BEAR carried out 100% of its detailed inspections on time.

SE – Amey

Amey achieved 100% for this KPI.

3G contracts

NW – Scotland TranServ

From the KPI data supplied, Scotland TranServ carried out 100% of its detailed inspections for 2006/07 on time, showing an excellent performance.

SW – Amey

The KPI information provided indicated that Amey carried out all detailed inspections on time.

All the OCs

Detailed checks of all the detailed inspection KPI performance values will be audited by PAG during 2007/08 to ensure all requirements are met.

Cyclic maintenance

2G contracts

In the 2G contracts, cyclic maintenance was successfully recorded in the RMMS by the OCs.

3G contracts

Under the 3G contracts, cyclic maintenance was required to be recorded in Transport Scotland's RMMS. Due to some technical difficulties, this was not possible until later in the year. Amey and Scotland TranServ were required to maintain paper and electronic records during this period (see section 3.1.2), and are now required to record details in the fully operational RMMS.



Emergencies

The OCs must provide resources to deal immediately with emergencies on the network or to assist the emergency services. Emergencies include: debris removal, overturned lorries, road traffic accidents, landslips, flooding, serious carriageway defects, bridge/gantry strikes, spillages and incidents due to adverse weather.

4.2.10 Dealing with emergencies

Emergency response

2G contracts

NE – BEAR

There were no major incidents, although the OC dealt with numerous smaller emergencies.

BEAR showed initiative in developing an innovative method of communicating with road users by fitting a variable message sign to the roof of one of its emergency response vehicles. This was used to good effect to advise road users of diversion information, lane closures and potential traffic delays.

SE – Amey

There was one major incident during the year. In February, a sign gantry on M80 was struck by a lorry. Part of the lorry became detached and wedged under the gantry, separating it from the support columns (see [figure 45](#)).

Amey responded quickly to the incident, assisting the police in setting up diversion

routes, mobilising staff and specialist resources to site to make safe and remove the gantry. There was serious traffic disruption, however, as M80 northbound carriageway was closed for most of the day due to the complexity of the operation.



Figure 45 Amey deals with emergency on M80 in SE

3G contracts

NW – Scotland TranServ

Scotland TranServ was well equipped to deal with emergencies at the start of the contract.

Good use was made of Traffic Scotland to inform road users about emergency closures and roadworks, as well as poor driving conditions due to snow and ice.

In October, there were a number of closures on the A9 and A835, lasting

between a few hours to several days, as a result of fallen trees, some landslips and flooding following heavy prolonged rain. Scotland TranServ performed well in dealing with these incidents.

The rockfall on A9 at Drumochter following a landslip required a lane closure to allow immediate treatment to repair the slope. Further treatment is to be carried out.

Scotland TranServ also responded well to further adverse weather in December and January, which resulted in landslips, flooding, and fallen trees to various routes.

SW – Amey

In December, heavy rain resulted in flooding mainly in the East Renfrewshire area with some road closures lasting over four hours. Amey responded promptly to these problems.



Figure 46 Carriageway subsidence on A78 in SW

Effective management



Very high winds and high tides on Hogmanay caused carriageway subsidence to A78 near Largs (see **figure 46**). Amey responded well, installing varioguard protection and temporary traffic lights.

Emergency response performance

The OCs are required to respond to emergencies quickly and within specific maximum timescales depending on the type of road and time of day. A KPI is used to monitor the OCs' maximum response time. See **figure 47** for a comparison of the OCs' performance. For NW and SW, all results before 2006/07 reflect 2G contractors' performance.

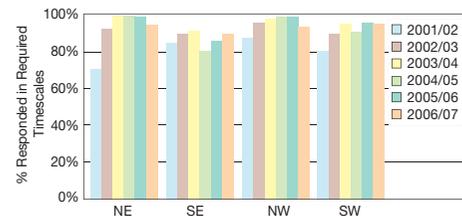


Figure 47 OC response times to emergencies

2G contracts

NE – BEAR

BEAR continued to perform strongly despite a slight reduction in the KPI.

SE – Amey

Amey's emergency response times improved by 4% continuing the improvement recorded last year.

3G contracts

NW – Scotland TranServ

Scotland TranServ performed well in its first year of the 3G contract.

SW – Amey

Amey provided a high level of performance.

Hazard notices

PAG continued to operate its system of hazard notices. These are issued to the OCs, by mobile email, when PAG's field engineers observe or identify hazardous situations within the Units.

Typical hazards include:

- Dangerous carriageway defects (potholes).
- Poor traffic management.
- Missing/broken ironwork and gullies (within the road boundary).
- Exposed electrical wiring.
- Flooding.

129 hazard notices were issued by PAG during the year. This is a 30% reduction on the number issued last year and slightly below the average annual number of hazard notices issued since April 2001 (see **figure 48**).

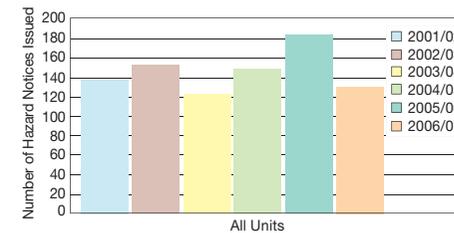


Figure 48 Hazard notices issued to OCs

The OCs responded well to emergencies and hazard notices, with issues being dealt with promptly and professionally.

Trunk road incident support service

In 2004, the Scottish Executive and the Association of Chief Police Officers in Scotland reviewed the split of functions undertaken by the police and the Scottish Executive in relation to the operation of trunk roads.

The result of the review was to pass some central and on-road functions to Scottish

Executive, which in turn delegated them to Transport Scotland and Traffic Scotland.

A trunk road incident support service (TRISS) was introduced as a requirement of 3G, but only in SW. The overall aims of TRISS are:

- To provide a better service to road users by clearing up incidents more quickly.
- To reduce congestion.
- To free up police time.

TRISS is provided by fully trained staff operating from two specially adapted and equipped high roofed vans. The vehicles patrol the Unit responding to incidents reported to them or identified by them. However, management of incidents remains the responsibility of the police.

Amey's TRISS teams performed very well throughout the year attending approximately 6,500 incidents. The teams attended 97.7% of incidents within the required 20 minutes of a request being received. Feedback from road users has been very positive.



Maintaining structures

The term ‘structures’ includes bridges, culverts, retaining walls, sign gantries, high mast lights and CCTV poles.

Under the contracts, the OCs must inspect structures at two and six-yearly intervals and prepare programmes to manage and maintain them. The OCs then design, procure and carry out works either directly, or by works contacts. The OCs must also monitor sub-standard structures and update Transport Scotland’s trunk road bridges database (TRBD).

4.2.11 Management of structures

Transport Scotland is responsible for a total of 5,563 structures on the network managed by the OCs. These structures range from major estuarial crossings, such as at A898 Erskine in SW and A9 Cromarty in NW, to small culverts carrying watercourses under a road. In 2006/07, the amount of money spent was £22.3m, representing 13% of the overall budget.

Inspecting structures

The OCs are responsible for carrying out principal inspections of all structures every six years. These are the equivalent of the detailed inspections carried out on roads. There are 4,104 structures requiring principal inspections on the network. **Figure 49** shows the percentage of principal inspections carried out on time by the OCs during the past year.

The OCs also carry out general inspections every two years, superficial inspections and optional special inspections as part of other inspection and maintenance duties.

The OCs must also submit reports on their inspections, including recommendations for structural maintenance, and update the trunk road bridges database (TRBD) to a prescribed timescale.

2G		3G	
NE	SE	NW	SW
93	100	95	98

Figure 49 Percentage of principal inspections carried out within the programmed period in 2006/07

2G contracts

NE – BEAR / SE – Amey

BEAR achieved a high proportion of principal inspection programmes during the reporting period and maintained its good performance from 2005/06.

BEAR experienced delays in carrying out some principal inspections due to the need to arrange special health and safety access to confined spaces or railway property. These delayed inspections have been carried forward to 2007/08, and will be carried out by the new OC for this Unit.

Amey’s performance was excellent, fully completing its principal inspection programme.

3G contracts

NW – Scotland TranServ / SW – Amey

Both OCs performed very well, substantially completing their principal inspection programmes during the year.

NW achieved the full cyclic maintenance inspection programme during the year. However, due to the large number of structures and work required, some operations will be carried forward into this year, with the agreement of Transport Scotland.

SW did not achieve the full cyclic maintenance inspection and works programme, with about 13% remaining outstanding.

Both OCs were, however, delayed by the need to arrange special confined space access or underwater scour surveys for some inspections. These delayed inspections have been carried forward to 2007/08.

All OCs had to deal with a number of new technical standards and requirements for inspections and assessments, e.g. related to parapets, parapet/fence connections, scour investigations and bridge deck

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joints. This work had an impact on the OCs' capability to perform where some have been better than others.

Maintaining structures

The OCs carry out regular maintenance on structures, known as cyclic maintenance. There is an enhanced level of cyclic maintenance on bridges and structures under the 3G contracts. Many of the cyclic tasks, such as clearing vegetation and cleaning expansion joints and drainage systems, are minor in themselves, but aim to prevent deterioration and the need for more significant repairs later.

The OCs also design and carry out structural maintenance and strengthening or bridge replacement operations. These are either managed internally using sub-contractors or, in the case of the larger more complex schemes, tendered as works contracts. Examples of this work include rewaterproofing, resurfacing and replacement of deck joints. Repair and replacement of accident damaged parapets is also a common activity.

2G contracts

NE – BEAR / SE – Amey

The OCs continued their good record from the previous year. A small number of works contracts were ongoing at the completion of the 2G contracts in March 2007. Management responsibility for these transferred to the 3G OCs in NE and SE. Handovers were achieved smoothly.

BEAR's spend on structures was £657k, significantly lower than the reduced budget of £987k. This budget had already been reduced from £1.4m with the agreement of Transport Scotland.

Amey successfully spent its budget of £2.85m.

3G contracts

NW – Scotland TranServ / SW – Amey

Major bridge replacement works commenced under the previous 2G operators and completed during the year were A82 Lairig Eilde bridge (see [figure 50](#)) in Glencoe in NW and A78 Inverkip Street railway bridge in Greenock in SW. Despite difficult site conditions, these were completed successfully.



Figure 50
Replacement of Lairig Eilde bridge on A82 in NW

In SW, major bridge refurbishment and replacement works contracts were successfully carried out at M74 J5 Raith, M8 White Cart viaduct, A898 Erskine Bridge and A78 Inverkip Bridge.

The OCs developed and implemented their annual programmes from handover.

Scotland TranServ successfully spent its structures budget of £6.53m.

In SW, Amey spent 92% of its £13.4m budget for structures.



OC management systems

The OCs must have management systems that comply with the standards for

- Quality management systems BS EN ISO 9001:2000,
- Environmental management systems BS EN 14001:2004
- Occupational health and safety management systems OHSAS 18001:1999.

A management system refers to processes, mainly administrative, that each OC must have in place to meet its own standards and comply with the contract. These standards must be continually reviewed and updated as necessary.

4.3 Management systems

Management systems are required by the contracts to allow the OCs to demonstrate they are complying with all aspects of the contract. To ensure their effective implementation, the OCs perform internal audits to the requirements of the ISO and OHSAS standards.

In addition, the contracts require the OCs to appoint staff to carry out independent audits at specified intervals and report to Transport Scotland. These are known as contract quality managers (CQM) in the 2G contracts and contract quality management systems managers (CQMSM) in the 3G contracts.

2G contracts

Both BEAR and Amey had established management systems complying with the required standards. These were continually reviewed and updated as necessary throughout the 2G contract period.

Date	Interval (weeks)	Topic	Findings		Major defects
			NCRs	Obs	
11/04/2006	-	Annual and three year maintenance plan	0	2	None
24/07/2006	15	Cyclic maintenance	2	5	Waste management documentation training
23/10/2006	13	EMS	8	10	Little improvement since last audited in 2005

Figure 51 CQM audits carried out in NE

3G contracts

The 3G contracts require Amey in SW and Scotland TranServ in NW to submit their management system documentation to Transport Scotland for written consent.

PAG reviewed these documents, to confirm the requirements of the contract were incorporated, before recommending consent by Transport Scotland. However, although most of the documentation was considered suitable for use and has subsequently been implemented by the OCs, consent was withheld, as a proportion was considered unsuitable.

Both Amey and Scotland TranServ have now received consent for their management systems, although a few procedures are not yet fully compliant.

4.3.1 Quality management

2G contracts

NE - BEAR

BEAR had an established QMS system which was well managed and conformed to the requirements of BS EN ISO 9001:2000 and the contract. The system was regularly audited by Lloyd's Register Quality Assurance, as the ISO accreditation body; PAG; and internally by the operating company.

The closing out of corrections and corrective actions within set timescales tended to be poor during the year, although there was some improvement towards the end of 2006. However, this trend did not continue into 2007. At the end of the 2G contract in March 2007,

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20 PAG findings remained open and, therefore, BEAR agreed to carry the bulk of these over into the new 3G contract.

12 internal audits were carried out over the year. These were found to be satisfactory and completed as scheduled for 2006/07.

The CQM audits were performed by an independent company, QMI Scotland Ltd. Three audits were carried out over the last year at intervals slightly longer than the specified period of 12 weeks, see **figure 51**. The major issues identified over the year concerned environmental issues, see section **4.3.2**.

BEAR provided access to its QMS and other documentation using the Q-Pulse data management system. Access was readily available to all its employees, and to PAG and Transport Scotland via remote terminals.

Three aspects of the quality system were audited during the year by PAG. These were competence, awareness and training; internal auditing and NCR management.

Although some weaknesses were identified in the implementation of the plans and evaluation of training, the measures taken just before the audit should ensure all personnel are given the necessary training.

BEAR's audits and management of the close out of nonconformances, were satisfactory.

SE – Amey

Amey had an established QMS which was well managed and conformed to the requirements of BS EN ISO 9001:2000

and the contract. The system was regularly audited by BSi as the ISO accreditation body; PAG; and internally by Amey's own auditors.

During the first half of the year, Amey's performance was relatively good in closing out corrections and corrective actions. However, towards the end of 2006 and the beginning of 2007 this performance deteriorated.

16 internal audits were carried out over the year and were found to be satisfactory, meeting the requirements of

the contract and completed as scheduled. Issues mainly centred on the input of data into CCMS, RMMS and control documentation.

Four CQM audits were carried out, but the intervals between them exceeded the specified timescale, see **figure 52**. The only major issues identified concerned calibration of cable detecting tools.

Throughout the year, Amey's intranet site developed technical problems, which resulted in the OC using shared network drives on its computer system. This did not prevent its employees obtaining current information and documentation in order to carry out their work.

At the beginning of 2007, PAG carried out an audit of Amey's preparedness for handover of all historical and contemporary records to the new OC under the 3G contract. All records had been scanned on to an electronic format that could be handed over on an electronic storage device. Where paper documents had also been generated these were in excellent condition and well documented for easy retrieval.

Date	Interval (weeks)	Topic	Action request			Major defects
			Major	Minor	Imp	
09/05/2006	-	Sector scheme 2B, 12A, B & C	2	3	0	Permit to dig system not in use for barrier repairs & callibration of equipment
16/05/2006	1	Enviromental plan and implementation	0	2	1	None
20/10/2006	22	Reporting and KPIs	1	1	0	Action to rectify a previous finding was ineffective
23/03/2007	22	Demobilisation and close out of findings	0	0	0	None

Figure 52 CQM audits carried out in SE

Effective management



3G contracts

NW – Scotland TranServ

The QMS was established for the 3G contract and used the format of existing systems operated by the joint venture companies. Audits of the QMS found it to be adequate in meeting the requirements of both the contract and BS EN ISO 9001:2000. However, some minor weaknesses were identified in purchasing, and identification and traceability of materials. These were subsequently rectified.

Closures of NCRs within set timescales was an issue during the year. Following intervention by PAG and Transport Scotland to emphasise the importance of closing out corrections within time, the OC has made some progress. However, further action is needed by the OC to

meet contract requirements and this will be monitored by PAG.

27 internal audits carried out by the OC were found to be satisfactory and completed as scheduled.

Three CQMSM audits were programmed, but only two were carried out over the year, see **figure 53**. These were QMS and health and safety audits. No findings were raised on the QMS, but it was felt the system was still too immature for a thorough and complete audit of process evaluation. Scotland TranServ has programmed four audits for the forthcoming year covering quality, environment, health & safety and integrated management systems.

Scotland TranServ's intranet site 'SharePoint' continues to enable the

QMS and other management systems to be viewed by all personnel within its organisation. It is also accessible by PAG and Transport Scotland from terminals located in their offices. The OC's NCR register is, therefore, a live document, allowing PAG and Transport Scotland to view current progress on correction closures.

observed on the trunk road network. Scotland TranServ's website, which meets the contracts requirements can be found at www.scotlandtranserv.co.uk, see **figure 54**.

SW - Amey

Amey's QMS system was well established under the 2G contract. It was further developed for 3G and continues to be robust, meeting the requirements of BS EN ISO 9001:2000 and the contract. The system is regularly audited by an ISO accreditation body, internally by the OC and by PAG.

Recent audits and monitoring by PAG identified the OC was under-performing on a number of activities, but this was not reflected in QMS reports. Amey's performance management team took immediate action to identify operational deficiencies that may have indicated system failures.

Towards the end of 2006 there were a large number of corrections and corrective actions that were not closed within specified timescales. However, with a renewed commitment from Amey this resulted in improvements and a noticeable

Date	Interval (weeks)	Topic	Findings		Major defects
			NCRs	Obs	
05/07/2006	-	QMS	0	7	None
01/11/2006	17	EMS	-	-	Cancelled
14/02/2007	15	Health and safety	5	5	Reporting and supervision needs to be improved

Figure 53 CQMSM audits carried out in NW

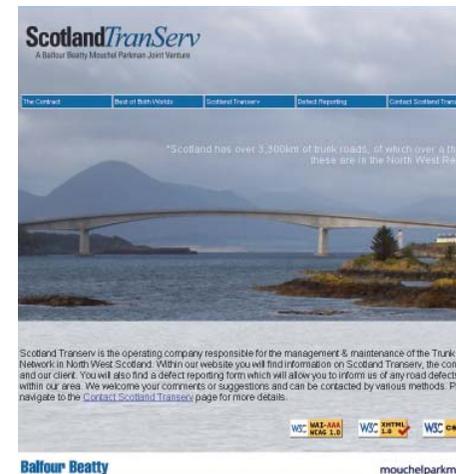


Figure 54 A page from Scotland TranServ's website

A new requirement of the 3G contracts is to provide a Unit-specific website which provides a facility for members of the public to obtain information including useful contacts and to report defects

Effective management



Date	Interval (weeks)	Topic	ARs			Major defects
			Major	Minor	Improvement	
17/05/2006	-	Environmental plan and implementation	1	1	0	Environmental incident log
14/07/2006	8	ISO 9001 management commitment	0	0	0	
24/08/2006	6	ITP, NCRs and management review	2	0	5	ITP not being followed and no meetings to review NCRs
26/10/2006	9	Winter design and development	0	0	0	
15/01/2007	12	CDM regulations	0	0	0	
21/03/2007	9	Works contracts - management	1	1	1	No test results

Figure 55 CQMSM audits carried out in SW

reduction in the quantity of late NCRs closed late.

32 internal audits were carried out over the year and were found to be satisfactory, meeting the requirements of the contract and completed as scheduled.

The CQMSM audits are performed by a senior management systems representative of the OC's parent company. Six audits were carried out over the last year at intervals between 6 and 12 weeks, see [figure 55](#). Major issues were

raised including inspection and testing of materials and review of NCRs. Action has been taken to rectify these.

The Amey intranet site continues to be a useful and informative tool, for staff and for use during PAG audits. It provides access to the latest procedures and high level documented systems. Amey will be providing remote access to parts of its intranet to both Transport Scotland and PAG in the near future.



Figure 56 A page from Amey's website

Amey produced a good website (see [figure 56](#)) meeting the requirements of the 3G contracts. It can be found at www.swtrunkroads.amey.co.uk.



Environmental management

The OCs for 2G and 3G are required to operate an environmental management system (EMS) in accordance with BS EN ISO 14001. The standard requires that an organisation's EMS must include:

- An environmental policy.
- Provision for identification of aspects that could have a significant impact on the environment.
- Documented environmental objectives and targets.

The objectives and targets should include a commitment to prevention of pollution, compliance with applicable legal requirements and continual improvement.

4.3.2 Environmental management

All the OCs had operational EMSs, with varying levels of performance, and all generally met the requirements of the standard. However, there is significant scope to improve the effectiveness of the systems.

2G contracts

NE – BEAR

Although improvements were made in some areas of BEAR's EMS, the majority of environmental issues raised as NCRs were not addressed effectively.



Figure 57 Storage of oils at Keith depot in NE

BEAR developed a management systems policy, which included QMS, health and

safety and EMS. However, there was little reference to environmental issues included in the policy.

While BEAR produced a register for recording environmental aspects and impacts, it appeared not to have fully considered all the environmental aspects. A more comprehensive register was being put together ahead of the 3G contract. The OC was required to review and revise the register accordingly to ensure all environmental aspects, both positive and negative, were considered.

ISO 14001 requires an organisation to assess all environmental legislation to identify how this impinges on all its activities. However, BEAR only assessed environmental legislation relevant to those aspects it had already identified.

During audit, some improvements were clearly visible at the Keith depot (figure 57), where storage of fuel and other materials had previously been an issue. PAG still had some concerns regarding storage of oil and diesel at the depot and on site, indicating a lack of awareness of pollution prevention by some operatives. The same audit identified a lack of records for waste transfer, in particular

consignment notes for removal of special waste.

SE – Amey

The new standard, BS ISO 14001:2004, set an 18-month transition period to implement its requirements with effect from November 2004. Amey has accreditation to ISO 14001:2004.

While the process for monitoring environmental objectives and targets was more transparent than in previous years, and performance for each month could be viewed, it was still difficult to track progress against a programme. For this reason, it was not possible to confirm whether the previous year's targets had been met.

An audit at a sub-contractor's depot at Newtown St Boswells revealed a number of instances where it was failing to meet its responsibilities to ensure prevention of pollution, particularly with regard to storage of oils, fuels and chemicals.

The audit also revealed there had been good progress at Burghmuir depot with regard to storage of various materials and fuels and that the depot was well organised.

Effective management



Personnel at both depots were unsure of their obligations regarding special waste and the requirement for consignment notes.

3G contracts

NW – Scotland TranServ

Scotland TranServ made use of the Balfour Beatty Infrastructure Services (BBIS) EMS intranet site for communicating environmental procedures to OC personnel. This was a generic system used on all BBIS contracts.

BBIS has a corporate environmental policy statement, which is reviewed annually and displayed on noticeboards and on the BBIS website. Scotland TranServ plans to produce a contract-specific statement of intent.

An EMS audit revealed that, although an aspects register for each depot has been established and priorities set for tackling significant environmental aspects, Scotland TranServ had not established any measurable environmental objectives and targets.

While some environmental training was provided during the induction period, by November 2006, when audited, Scotland

TranServ had not adequately evaluated the environmental training required by OC personnel or subcontractors.

The use of a number of BBIS procedures also led to instances where Scottish environmental legislation was not being considered. This situation was reviewed and reference is now made to both SEPA and the relevant pollution prevention guidelines (PPGs). However, further assessment of specific Scottish legislation is still required.

SW – Amey

Amey has accreditation to ISO 14001: 2004.

Amey has established a process for monitoring environmental objectives and targets which allows performance each month to be viewed. However, it was not possible to confirm whether the previous year's targets had been achieved as it was still difficult to track progress against a programme.

An EMS audit revealed both Tannochside and Kilbarchan depots to be fairly well run, though there were a number of minor issues to be addressed, particularly at

Kilbarchan, regarding the level of depot tidiness and chemical storage.

4.3.3 Health and safety management

2G contracts

Although the contracts required the OCs to operate in accordance with health and safety legislation there was no requirement for them to establish, operate and maintain a health and safety management system.

NE – BEAR

PAG carried out an audit on the use of work and lifting equipment and found the information presented for audit was well maintained. Where available, records were well documented.

SE – Amey

PAG also carried out an audit on the use of work and lifting equipment and generally found that the OC was very knowledgeable.

3G contracts

The contracts require each OC to establish and maintain a documented health and safety system.

NW – Scotland TranServ

In September 2006, the health and safety management system was audited by PAG, which found procedures had been implemented and improvements in the system were under continual review. Subsequently, a CQMSM audit in February 2007 identified issues, which included concerns on the reporting and the implementation of procedures.

SW – Amey

The operational Amey health and safety management system was audited by PAG at the start of 2007. The audit found that Amey procedures for safety management systems were being adhered to for both the planning and construction phases.



Resolving problems

Where an OC does not meet its contractual requirements, it is important that action is taken to improve performance.

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

If the problem continues, or if it is considered significant, Transport Scotland can issue a further notice. This requires the OC to resolve the problem within a set time and can result in withholding payment.

4.3.4 Resolving problems and improving performance

A system of notices, as shown in **figure 58**, forms part of an escalation strategy, which is an agreed extension of PAG's role. It formalises discussions with the OCs and enables PAG, in the spirit of partnering, to take a more proactive role in resolving problems and improving performance.

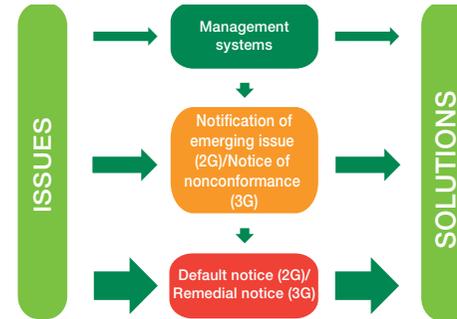


Figure 58 Procedure for resolving problems

Under 3G this procedure is formally incorporated into the contract rather than, as under 2G, being by agreement. Different terms are used to describe the notices under the two contracts and indicate this strengthening of emphasis and contractual status (see **figure 58**).

Notification of emerging issue (NEI)/ Notice of nonconformance (NNC)

The NEI/NNC process deals with issues at an early stage, to try and prevent them becoming serious problems.

The process sits between recorded observations/audit findings and default/remedial notices. It raises the profile of an issue or trend, focusing attention on its resolution. It enables Transport Scotland and PAG to formally raise issues of concern at an early stage, before a default/remedial notice is required.

2G contracts

Unit	NEIs issued 2005/06	NEIs open at start of 2006/07	NEIs issued 2006/07	NEIs closed 2006/07	NEIs open at end of 2006/07
NE	7	4	4	6	2
SE	5	2	0	2	0
Total	12	6	4	8	2

Figure 59 NEIs issued in 2006/07

Figure 59 shows a summary of NEIs in 2006/07, compared to the previous year.

Overall there were only four NEIs issued in the year, all in NE. This compares with a total of 12 issued to the two OCs last year.

Progress on resolving NEIs was good, with many closed quickly. However, in NE several issues brought forward from 2005/06, relating to sign and carriageway remedials, took longer to resolve.

NE – BEAR

The four NEIs issued related to grass cutting, supervision, measurement and insurances. Two were closed during the year, however, disappointingly, two were unresolved at the end of the contract. All four NEIs open at start of 2006/07 were closed during the year.

SE – Amey

Two NEIs were open at the start of the year. After improvement and monitoring these were both closed. The absence of any further NEIs reflected Amey's strong performance.

3G contracts

Unit	NNCs issued in 2006/07	NNCs closed in 2006/07	NNCs open at end of 2006/07
NW	7	4	3
SW	14	8	6
Total	21	12	9

Figure 60 NNCs issued in 2006/07

Effective management



Figure 60 shows the NNCs in 2006/07.

NW – Scotland TranServ

Seven NNCs were issued during the year. Issues included delay in the provision of a QMS, grass cutting, safety fence repairs and processing of planning applications.

SW – Amey

Amey’s disappointing performance is reflected by the 14 NNCs issued.

NNCs included issues over-running from the mobilisation period relating to major processes, such as incomplete QMS, CCMS submissions and RMMS data entry.

Two NNCs relating to financial monitoring and RMMS were closed when the issues became remedial notices, as part of the escalation strategy.

In both Units, closure of NNCs has been slower than expected, but particularly in SW. PAG is working with the OCs and Transport Scotland to improve performance.

Default/remedial notices

Transport Scotland issues default/remedial notices when an OC fails to meet particular contract requirements. The notice gives details of what the OC is required to do and by when. Transport Scotland can also withhold payment from the OC for the failures that gave rise to the default/remedial notices.

Transport Scotland and PAG closely monitor the OCs to make sure they comply with these notices. PAG produces regular reports on the resolution of default/remedial notices. These are circulated to senior management in Transport Scotland.

2G contracts

There were no default notices open at the start of the year and none were issued during the year. This compares well with 2005/06, when two were issued in NE and one was issued in SE.

This continued the improvement observed during the earlier years of the 2G contracts and shows the OCs had become increasingly capable in delivering the contract requirements.

3G contracts

Unit	Notices issued in 2006/07	Notices closed in 2006/07	Notices open at end 2006/07
NW	3	2	1
SW	5	1	4
Total	8	3	5

Figure 61 Remedial notices issued in 2006/07

Figure 61 details remedial notices issued in 2006/07. Key issues are:

NW – Scotland TranServ

Three remedial notices were issued for:

- Grass cutting.
- Winter preparedness for using pre-wetted salt.
- Response to planning applications.

NW closed out the grass cutting issue rapidly, but took a few months to resolve the winter remedial notice. The outstanding issue for planning applications was closed early in 2007/08.

In addition to this, early in 2007/08, a remedial notice was issued for poor category 1 repair performance during 2006/07.

SW – Amey

There were five remedial notices issued in the past year. Progress in resolving these was disappointingly slow.

Remedial notices related to:

- Winter preparedness under the new pre-wetted salt regime.
- Provision of a working RMMS/CCMS link.
- Expenditure profiles.
- Records for works contracts.
- Accuracy of financial measurement.

While the winter service issue was closed out in around four months, progress on the other issues has been very slow.

PAG and Transport Scotland met Amey’s senior management in April 2007 to seek commitment to a sustained improvement to performance. Amey has undertaken to achieve this and its performance is being closely monitored.

Early in 2007/08, a remedial notice was issued regarding Amey’s poor RMMS record keeping during 2006/07. PAG will monitor Amey’s performance in dealing with this issue.



Key performance indicators (KPIs)

Certain information is used to indicate how the OCs are performing in complying with the provisions of the contracts.

Under both the 2G and 3G contracts the OCs must supply this 'KPI information'. However, it is used solely for this purpose and has no contractual significance.

The information required under the 3G contracts is the same as for the 2G contracts, with the addition of six new KPIs.

4.3.5 Key performance indicators

PAG assessment for reasonableness

2G contracts

NE – BEAR / SE – Amey

PAG carried out audits of the NE and SE KPIs to establish whether the data submitted was consistent and represented the performance being measured.

In both Units, the audits found some examples of records not being brought up to date before KPI results were calculated. Results in these cases may not accurately represent the OCs' performance. Improved record keeping is required and this will be monitored by PAG.

3G contracts

NW – Scotland TranServ / SW – Amey
Neither OC provided all the required KPI results. Issues regarding the measurement of KPI information were raised by the OCs and are currently being reviewed. PAG will be addressing the poor reporting of KPIs with the OCs during 2007/08.

OCs' performance

Some KPI information has been provided throughout this document within the context of the various sections. Therefore only the KPIs with performance issues not discussed elsewhere in the report are included in this section.

Submission of reports

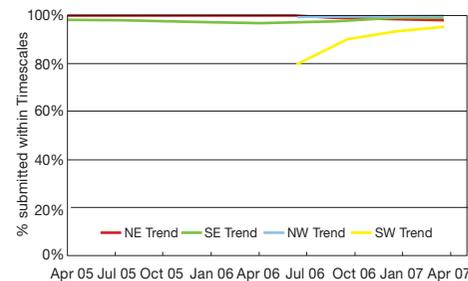


Figure 62 Submission of reports, programmes and minutes

Figure 62 shows the trend in performance for each OC for submission of reports, programmes and other documents to Transport Scotland within required timescales.

2G contracts

NE – BEAR / SE – Amey

NE and SE maintained their very good performance.

3G contracts

NW – Scotland TranServ / SW – Amey

In NW, the OC performed well. In SW Amey also showed good performance after a poor start.

Answering of correspondence

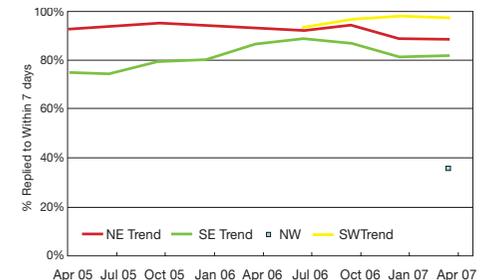


Figure 63 Time taken for the OCs to reply to public correspondence

This KPI reports the performance of the OCs in replying to public correspondence within required timescales. **Figure 63** shows the trend in performance for each OC.

Effective management



2G contracts

NE – BEAR / SE – Amey

Performance in NE declined during the year. After an initial improvement in SE, performance also declined.

3G contracts

NW – Scotland TranServ / SW – Amey

NW initially provided no KPI results and when reported the result was poor. Amey performed well in SW.

Draft responses and briefing to Transport Scotland on general and ministerial correspondence

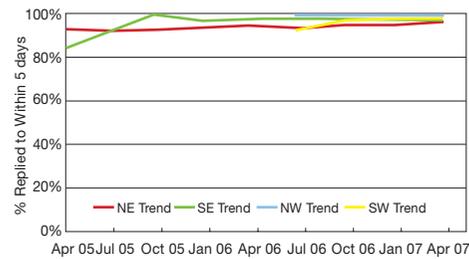


Figure 64 Time taken for the OCs to provide briefings and draft responses

The OCs prepare draft responses and briefings to Transport Scotland for ministerial and general correspondence

within required timescales. **Figure 64** shows the trend in performance of each OC.

2G contracts

NE – BEAR / SE – Amey

NE and SE maintained consistent good performance.

3G contracts

NW – Scotland TranServ / SW – Amey

NW and SW performed well.

Planning applications

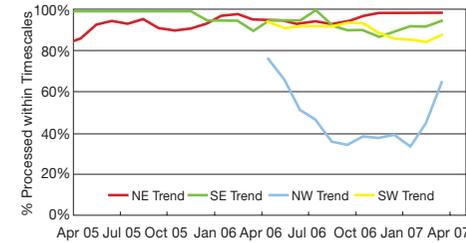


Figure 65 Percentage of comments on planning application submitted

Figure 65 shows the trend in performance of each OC for submission of advice to Transport Scotland within required timescales for planning applications.

2G contracts

NE – BEAR / SE – Amey

NE performance was very good. In SE, performance was good, but declined and later recovered during the year.

3G contracts

NW – Scotland TranServ / SW – Amey

NW performance was unacceptable for a period and a remedial notice was issued. A sustained improvement was achieved later and the notice has been closed out. Amey's performance in SW could be improved and will be monitored by PAG.

Completion of operations

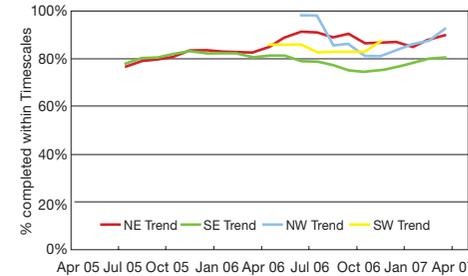


Figure 66 Operations instructions by the OCs

This KPI reports the trend in performance of the OCs in completing operations within their estimated timescales.

Figure 66 shows:

2G contracts

NE – BEAR / SE – Amey

NE maintained a consistent performance. In SE performance declined, but improved later.

3G contracts

NW – Scotland TranServ / SW – Amey

Neither NW nor SW provided a complete set of results, but those available indicated reasonable performance. This will be monitored by PAG.



Team working

PAG, Transport Scotland and the OCs work together to create a culture of communication and information sharing.

In doing this we aim to:

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

Formal initiatives, as well as the attitudes of individuals, help to ensure effective team working across all the parties. This can be contrasted with the more adversarial approach that traditionally prevails in the construction industry.

4.3.6 Working together

BEAR

Working relationships continued to be strong, although no formal meetings with this agenda took place during the period.

Amey

There were no formal meetings with this agenda during the period, however, working relationships remained strong and Amey continued to be proactive in contributing to a joint quarterly newsletter 'Roundabout'. The newsletter contains articles from Amey, PAG and Transport Scotland. It includes news of work being done on the network, as well as having a strong people focus.

Scotland TranServ

Managers from Transport Scotland, PAG and Scotland TranServ met during the year to discuss ways of improving communication to enhance delivery of the contract requirements. This included attending a productive workshop.

Some issues discussed during the year were: video conferencing, joint training sessions and a joint newsletter. Scotland TranServ also circulated its internal newsletter to managers in the 'virtual team'.

Chapter 5

Sustainability

Key points

Sustainability

Sustainability is increasingly important across the industry to ensure the needs of future generations are not compromised.

- Each of the OCs has, to varying degrees, introduced a level of sustainability when planning and carrying out operations on the network.
- This area continues to develop.



Figure 68 Filter media recycling on M90 in NE



Sustainability

An accepted definition for ‘sustainability’ describes development which meets the needs of the present, without compromising the ability of future generations to meet their own needs.

Although there are no specific requirements in the OC contracts, the issue of sustainability is being developed by all parties. PAG has started reporting on this topic this year to encourage development in this area.

5.1 Sustainability and Scotland’s trunk roads

Within road maintenance it is increasingly important that a sustainable approach to operations and development is taken and that performance with regard to sustainability is measured and assessed to facilitate improvement.

By their nature, the OC contracts encourage overall sustainability by requiring maintenance of existing assets. If maintenance was not effective, there would be more new build construction, which could have a greater adverse environmental impact.

Sustainable development requires organisations to consider the social, economic and environmental aspects of their operations and the resulting impacts.

Action can then be taken to reduce any negative impact or preferably bring about a positive outcome, striking a balance between economic success, safeguarding the environment and promoting social wellbeing within the wider community. **Figure 67** shows a widely accepted view of how sustainability relates to economic, environmental and social elements.



Figure 67 The inter-relationships between the economic, environmental and social elements of sustainability

These activities could include:

- Improving the network by providing better access for disabled people.
- Choosing materials in keeping with the surrounding area or which reduce any adverse effects on the environment without incurring excessive cost.
- Sourcing materials produced locally whenever possible to minimise transportation costs, support local business and preserve local character.

- Re-using materials on site, reducing the need to transport and dispose of materials unnecessarily.
- Putting into place a biodiversity action plan to meet Transport Scotland’s requirements.

Each of the OCs has, to varying degrees, introduced elements of sustainability when planning operations and carrying out work on the network. They have reported carrying out the following:

2G contracts

NE – BEAR

Planings from A90 Liff Road contract were mixed 50/50 with virgin aggregate to produce a type 1 sub-base material.

Filter drain material on M90 was recycled by cleaning the material on site and minimising the amount of new material required to top up the new filter drain (see **figure 68**).

Planings from M90 Bridge of Earn, A9 Inveralmond and A9 Balhaldie were recycled and reused within the contracts.



Figure 69 New crack and seat being trialled on A9 south of Dalnaspidal in NW

Red chips from A92 central reserve were also recycled.

SE – Amey

Amey progressed the design of two minor improvement schemes on A702 at Candymill Bend and Edmondson Brae. Both schemes were subjected to significant ecological assessments to review and provide a sense of balance to the potential environmental impact.

Amey adopted a sustainable approach in relation to earthworks import.

Approximately 18,000m³ of acceptable material excavated from A702 Edmondson Brae improvement scheme will be used as suitable fill in A702 Candymill Bend scheme.

3G contracts

NW - Scotland TranServ

Scotland TranServ has received approval in principal for a re-planting programme for a community woodland along trunk road boundaries.

A works contract was completed during the year, which involved a new method of construction called crack and seat (see **figure 69**). This allowed the existing road base on A9 South of Dalnaspidal to be left in place and treated, instead of being replaced with new virgin aggregate material. This method is being monitored by Transport Scotland and PAG for future use.

Scotland TranServ has developed strategic partnerships with local authorities. This has resulted in sharing a number of depots and facilities across the Unit, reducing the need for new facilities and cutting energy use.

SW – Amey

During scrub clearing works vegetation was shredded and used as mulch.

A project was set up by Amey’s environmental team to improve and maintain a wetland site on the south side of the A898 Erskine Bridge (see **figure 70**).

Wood chippers were used on winter landscape verge maintenance operations to shred the cut material on site. This minimised the volume of material sent to landfill and helped maintain nutrient levels



Figure 70 Wetland site by Erskine Bridge on A898 in SW

in the soil. This method can also help to suppress weed growth, reducing the need for chemical application.

Badger conservation measures were included as part of an advance works contract for a road improvement scheme on A75 at Newton Stewart.

Amey worked with a local school to create a mural at the A75 Colin underpass.

At A76 Kirkconnel, Amey worked with the local community to improve the village environment by planting trees and shrubs.



Acronyms

2G	Second generation	OI	Operations instructions
3G	Third generation	ORI	Observation resulting from inspection
ADF	Automated diary facility	PAG	Performance audit group
BS	British Standard	PPP	Public private partnership
CCMS	Contract control and management system	QMS	Quality management system
CCS	Customer contact service	RMMS	Routine maintenance management system
CPF	Contract price fluctuation	RS	Road safety
CQM	Contract quality manager	SE	South East Unit
CQMSM	Contract quality management systems managers	SERIS	Scottish Executive road information system
DBFO	Design, build, finance and operate contract	SPECS	Speed enforcement camera system
EMS	Environmental and management system	SW	South West Unit
EN	European standard of the GEN	TRBDb	Trunk road bridges database
EPA	Environmental Protection Act 1990	TRCCS	Trunk roads customer contact service
GPS	Global positioning system	UKAS	United Kingdom Accreditation Service
ISO	International Standards Organisation	VFM	Value for money
KPI	Key performance indicators	WPI	Weekly programme of intent
MCP	Moving cursor programme		
NADICS	National drivers information and control system		
NE	North East Unit		
NEI	Notification of emerging issue		
NNC	Notice of non-conformance		
NW	North West Unit		
OC	Operating company		
OHSAS	Occupational health and safety assessment series		



Useful websites

PAG

www.performanceauditgroup.co.uk

Halcrow

www.halcrow.com

PricewaterhouseCoopers

www.pricewaterhousecoopers.co.uk

Scott Wilson

www.scottwilson.com

Tony Ham Insurance Brokers

www.thibl.co.uk

TRL

www.trl.co.uk

University of Dundee

www.dundee.ac.uk

Transport Scotland

www.transportscotland.gov.uk

Traffic Scotland

www.trafficscotland.org

Scottish Executive

www.scotland.gov.uk

Scottish Parliament

www.scottish.parliament.uk

Amey

www.amey.co.uk

BEAR

www.bearsco.com

Scotland Transerv

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