The Performance Audit Group's Annual Report 2007/08

An independent public report on Scotland's trunk road maintenance

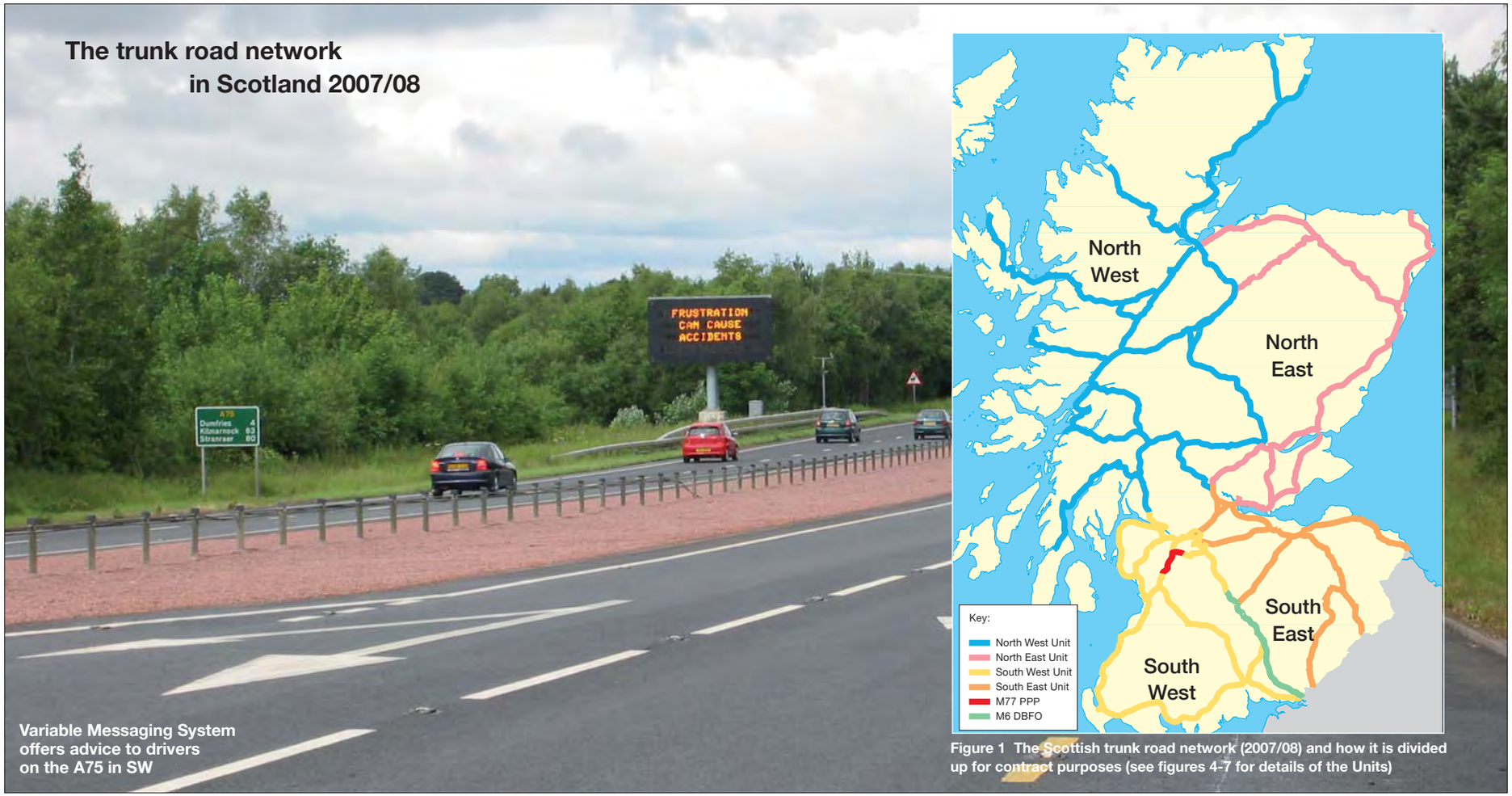
TRANSPORT SCOTLAND

The Scottish Government

Performance Audit Group

Halcrow in association with PricewaterhouseCoopers and Scott Wilson

The trunk road network in Scotland 2007/08



Variable Messaging System offers advice to drivers on the A75 in SW

Figure 1 The Scottish trunk road network (2007/08) 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 annual report on Scotland's trunk road maintenance in 2007/08.

The report pulls together the extensive work carried out over the last year by our multi-disciplinary team of specialists, led by Halcrow, in association with PricewaterhouseCoopers. Our team has worked closely with Transport Scotland and the Operating Companies, auditing, monitoring and reporting on trunk road maintenance performance.

From this, we aim to raise standards and help Transport Scotland achieve success:

> "...Our purpose is to help deliver the Scottish Government's vision for transport, making a real difference for businesses using the national rail and road networks."
>
> Transport Scotland 2008

The objectives of the PAG team 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 year has seen further developments on the network, with BEAR commencing its operations under the new, third generation contracts in North East and South East.

Amey in South West and Scotland TranServ in North West have moved into their second year of the third generation contracts, building on their success to date.

Trunk road maintenance ensures Scotland's road users can travel on a safe and efficient network for business and pleasure.

The PAG team is proud of its contribution to the successful management and maintenance of Scotland's trunk roads. We are pleased to continue our strong, constructive working relationships with Transport Scotland and the Operating Companies.

We hope you find our report clear, comprehensive and informative.

Donald Bell, Project Director
Performance Audit Group
Halcrow Group Ltd

September 2008

Emergency response vehicles and helicopter deal with a landslip at the Rest and Be Thankful on the A83 in NW



Executive summary

This was the first year that the entire network operated under the third generation contracts, with BEAR starting work in April 2007 in the North East (NE) and South East (SE). Handover from the previous operator in SE went well and BEAR remained the operator in NE.

Amey in South West (SW) and Scotland TranServ in North West (NW) Units have been operating under these new contracts since April 2006.

Overall, maintenance on the trunk road network was carried out to a good standard. There continued to be very positive working relationships between Transport Scotland, the Operating Companies (OCs) and PAG. All parties worked constructively to resolve issues and raise standards.

The budget allocation from Transport Scotland, at £168.5m, was almost identical to the previous year. Overall spend was broadly in line with budget, with underspends in SE and NW being partly off-set against overspends in NE and SW.

An Efficient Government Assessment indicated the 3G contracts delivered more work on the network for a similar budget than the previous arrangements. The financial systems operated by the OCs were robust.

The OCs successfully operated their management systems, demonstrating they were monitoring their own activities. The OCs showed a highly responsible attitude towards heath and safety and the environment, with their systems meeting the contract requirements.

The OCs performed well in managing roadworks to minimise delays. Cyclic maintenance was generally good, and grass cutting progressed well after a slow start.

In maintenance operations, the OCs' workmanship, as well as the performance and supervision of their sub-contractors were generally good. The OCs ran the works contracts process well.

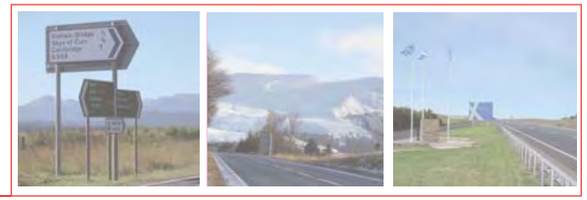
In NE, BEAR clearly demonstrated it is providing value in the treatment of pavement condition, although there is room for improvement by the other OCs in this area.

Amey in SW successfully carried out the cyclic maintenance of structures. The other OCs were slow to progress this and some improvement is required. All OCs carried out the necessary principal inspections of structures, although there were delays in the process that all parties are seeking to address.

BEAR in NE performed well in repairing Category 1 defects on time, while there is still some room for improvement by the other OCs, particularly Scotland TranServ in NW.

The OCs performed well in carrying out the specified safety and detailed inspections. Further work is required by all parties, including software supplier WDM, to develop the electronic recording of data for routine maintenance activities.

Executive summary



The OCs' performance in delivering their winter service was generally good. The winter period was marginally colder than 2006/07 and this was reflected in more road closures due to winter weather.

Traffic management at roadworks sites was good, particularly on the larger works contracts.

The OCs responded professionally to emergencies on the network. In particular, Scotland TranServ in NW and BEAR in SE dealt well with major landslips and subsidence respectively.

Work across the network was generally delivered on programme. Factors outside the control of the OCs sometimes delayed progress on minor schemes.

The OCs have made significant progress in developing sustainable practices over the past year.

Generally, the testing of materials and workmanship was good across the network.

In NE, BEAR responded well to issues as they arose, with only one remedial notice being issued. BEAR in SE was slower in closing out issues, although again only one remedial notice was issued.

Scotland TranServ's performance in resolving issues was good, similar to last year, although three remedial notices were issued.

Amey in SW delivered a sustained improvement in its performance. Four remedial notices were issued, fewer than the previous year.

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 support role 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 Government, 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 Government's national transport agency responsible for helping to deliver the Government's £3 billion capital investment programme over the next decade, overseeing the safe and efficient running of Scotland's trunk roads, rail networks and concessionary travel scheme.

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 2007/08, the OCs for each Unit were: BEAR for NE and SE, Scotland TranServ for NW and Amey for SW.

What do the OCs do on the network?

The OCs oversee, coordinate and undertake cyclic and routine maintenance, winter service and emergency response. In addition, they undertake structural road maintenance, bridge strengthening and maintenance, road structures inspection, road safety and minor improvement schemes.

What else do the OCs do?

The OCs also oversee and coordinate maintenance works carried out by contractors and coordinate 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; 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, built on experiences of earlier contracts, were known as the second generation (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 third generation (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

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Chapter 1

Overview

1.1 Background

The Scottish trunk road network

The network is 3,128km long, excluding M6 DBFO and M77 PPP. It contains a total of 5,627 structures, including 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.

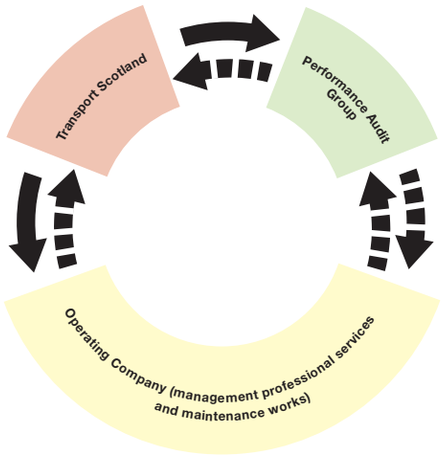


Figure 2 Structure of arrangements with the OCs

The OC contracts

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

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. The new contracts started on 1 April 2007 (see figure 3) and will be in place until at least 2012.

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. The opportunity was also 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.

	2G	2G/3G	3G
Unit	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

As the 2007/08 reporting period is the first to include all OCs operating under 3G contracts, this will be the first annual report to cover these contracts for all Units.

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."

Overview



- 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

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: £35.4m.

Number of structures: 643.

Amount of precautionary de-icing material used: 20,674 tonnes.

Winter patrol length: 405km.

South East fact file

Figure 5 SE Unit

Managed and maintained by:
BEAR Scotland

BEAR's central office:
6A Dryden Road
Bilston Glen
Loanhead
EH20 9TY

Total route length of the network in SE: 473km.

Budget for maintaining trunk roads in SE this period: £29.1m.

Number of structures: 702.

Amount of precautionary de-icing material used: 12,426 tonnes.

Winter patrol length: 344km.

North West fact file

Figure 6 NW Unit

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: 1,366km.

Budget for maintaining trunk roads in NW this period: £50.3m.

Number of structures: 2,355.

Amount of precautionary de-icing material used: 35,458 tonnes.

Winter patrol length: 696km.

South West fact file

Figure 7 SW Unit

Managed and maintained by:
Amey Infrastructure Services

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

Total route length of the network in SW: 647km.

Budget for maintaining trunk roads in SW this period: £53.7m.

Number of structures: 1,927.

Amount of precautionary de-icing material used: 9,262 tonnes.

Winter patrol length: 461km.

Chapter 2

Reliable journey times and safety on the network

Key points

Planning roadworks

- By carefully planning roadworks, the OCs continued to perform well in minimising delays and keeping the trunk road network open.

Maintenance

- In maintenance operations, the OCs' workmanship, as well as the performance and supervision of their sub-contractors was generally good.
- The works contracts tender documents prepared by the OCs continued to be of a high standard. Contractors' workmanship on works contracts was good and they were supervised well by the OCs.
- The tendering process for works contracts was well managed, and out-turn costs were controlled.
- NE clearly demonstrated it is providing value in the treatment of pavement condition. There is room for improvement by the other OCs in this area.
- SW successfully carried out the cyclic maintenance of structures. The other OCs were slow to progress this and some improvement is required.
- All OCs carried out the necessary principal inspections of structures, although there were delays in the process that all parties are seeking to address.

Road defects

- NE performed well in repairing Category 1 defects on time. There is still room for improvement by the other OCs, particularly NW.
- The national freephone number for defect reporting continued to pass road users' comments on to the OCs.

Winter

- The winter period was marginally colder than 2006/07. This was reflected in more road closures due to winter weather.
- The OCs' performance in delivering their winter service was generally good.

Safety

- Traffic management at roadworks sites was generally good, particularly on the larger works contracts.
- The OCs put considerable effort in to identifying, developing and designing schemes for implementation.

Emergencies

- The OCs responded professionally to emergencies on the network. In particular NW and SE dealt well with major landslips and subsidence.

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 Planning roadworks

Transport Scotland's budget for capital investment in the trunk road network for maintenance and improvement was £168.5m in 2007/08. This was marginally lower than the previous year, as can be seen in figure 8.

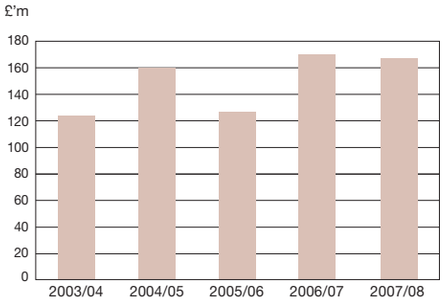


Figure 8 Capital investment budget for maintenance and improvement

This budget is allocated to maintenance and improvement schemes through the OC contracts. It is the responsibility of the OCs to programme all works on the trunk road network to minimise the level of disruption and inconvenience to all road users.

The delivery of this investment programme is pivotal to a safe, efficient, reliable and environmentally acceptable network that meets current and future needs of road users.

Overall the OCs managed 13,146 individual roadwork sites, which is an average of 36 roadworks sites per day. Figure 9 provides a breakdown on the number of roadworks sites managed by each OC during 2007/08.

Unit	Number of Roadworks Sites
NE	3,687
SE	2,815
NW	2,791
SW	3,853

Figure 9 Number of roadworks sites managed by the OCs

To cope with increasing traffic volumes, OCs used a variety of measures for major works to minimise delays, maintaining reliability and network wide safety. These included:

- Traffic management measures such as contraflows, use of temporary vehicle restraint systems (see figure 10), lateral safety zones and convoy working.
- Advance notice of roadworks using media campaigns and placing of signs advising of start dates and durations of the works.
- Average speed cameras to reduce speeding through roadworks sites.

The OCs measure and report lane occupations for roadworks via a Key Performance Indicator (KPI), which is 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.

Figure 10 use of temporary barrier to protect workforce on M77 scheme in SW

As can be seen from figure 11, the OCs continued to perform well in keeping the trunk road network open throughout 2007/08, with an overall accessibility of 99.20%. This is marginally down on last year's figure of 99.4%.

Unit	KPI Value	% available
NE	212,732	98.79
SE	197,524	98.56
NW	63,804	99.75
SW	101,290	99.44
Total	576,101	99.20

Figure 11 KPI reporting road occupations and percentage of network available to road users

Cyclic Maintenance

Cyclic maintenance activities are tasks generally carried out at regular intervals and are necessary to keep the network operational, safe and tidy.

Examples include, gully cleaning, sign cleaning and grass cutting. Litter picking and channel sweeping are carried out by the OCs on motorways and special roads, but are the responsibility of local councils on all other trunk roads.

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

2.2 Maintenance

2.2.1 Cyclic maintenance

NE – BEAR

BEAR's grass cutting was not to the required standards at the beginning of the season and PAG issued a NNC to the OC. This resulted in an improvement in the OC's performance in the second half of the year and the NNC being closed.

Extensive shrub and tree cutting was carried out across the Unit during the year. This has improved visibility, as well as creating a tidier looking Unit.

BEAR was very active in the removal of litter and debris from M90. Litter picking by local councils has also improved this year.

Despite regular clearing, a few litter hotspots continue to quickly gather litter accumulations in both OC and local authority areas.

The OC carried out gully cleaning and grip cutting across the Unit, although localised flooding continues to be an issue in a few areas during periods of heavy rain. BEAR has investigated many locations where there is a persistent flooding issue and identified problems with the drainage infrastructure. Action continues to be taken by the OC, including installing more efficient drainage where possible.

SE - BEAR

BEAR's standard of grass cutting was initially poor. Although standards rose during the season, there is still room for further improvement.

The OC carried out gully cleaning across the Unit, with more frequent cleaning to proactively treat areas of known flooding.

The OC also performed well in the treatment of injurious weeds including Giant Hogweed, Ragwort and Japanese Knotweed.

Although BEAR has reacted promptly and thoroughly to notifications of litter accumulations, it did not apply sufficient resources to maintain a good visual amenity across the motorways and special roads. This will continue to be monitored by Transport Scotland and PAG.

NW – Scotland TranServ

Similar to last year, Scotland TranServ had problems with grass cutting during the early part of the season resulting in a NNC being issued. Following this, the OC's performance improved during the middle and latter part of the season.

The lack of road channel sweeping by the responsible local authorities continues to be problematic in NW.

SW – Amey

After a slow start, the OC carried out its grass cutting obligations to a good standard throughout the year.

Amey has carried out extensive litter picking on the motorway routes throughout the year. A few litter hotspots and landscaped areas remain problematic, particularly along the M8 corridor in Glasgow.

Maintaining roads and structures

Capital maintenance, which includes:

- reconstruction and resurfacing of carriageways,
- application of surface dressing and anti-skid surfacing,
- repairs to structures, including joint replacement,

is carried out to sustain the asset value of the network.

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

2.2.2 Capital maintenance - operations

Roads and structures maintenance

Although the OCs are responsible for the operations, specialist activities and major operations are routinely carried out by sub-contractors. Workmanship, supervision of operations and performance are monitored by the OCs.

Workmanship, sub-contracting and supervision

NE – BEAR
The general standard of workmanship was reasonable, with a small number of issues to be addressed.

Generally, site supervision was satisfactory, but there remains room for improvement.

SE – BEAR
Workmanship, especially hand laid carriageway patching and machine laid patching, was carried out to a good standard.

When week-end operations commenced in September 2007, there were issues initially with regard to works supervision and measurement. However, improved standards and accountability have resulted from a change in BEAR's procedures.

NW – Scotland TranServ
Workmanship was generally good. Operations were of an acceptable standard, with only a few issues being identified.

SW – Amey
Generally, the standard of workmanship, supervision of works and of sub-contractors continued to be good.

A safety fence replacement maintenance scheme is shown in figure 12.

Figure 12 Safety fence replacement works between J29 and J30 on M8 in SW

Value study 1 – pavement condition on routine patching

Background

This value study examines whether the OCs are providing value in maintaining pavement condition. During 2007/08, over £14.4 million was spent on routine repairs to pavements, representing 13.1% of the overall OC spend.

To ensure routine repairs are carried out in areas of most need, and to facilitate future budget allocations, the OCs are required to carry out detailed inspections of all carriageways every year. They must then record in RMMS details of all major and minor carriageway defects.

The OCs' analysis of these defects should ensure the appropriate treatment is targeted to the relevant areas. This should demonstrate that OCs are spending their budgets on a prioritised basis.

Findings - Scheme justification

PAG reviewed a random sample of between five and nine routine patching schemes for each OC.

The study examined the percentage of each patched area that had originally been defective. The area of these defects should be recorded in RMMS, and further records show the area subsequently patched.

Value is demonstrated when most of the area repaired was previously defective.

Figure 13 shows the percentage of area patched that was identified as having defects in RMMS in each Unit.

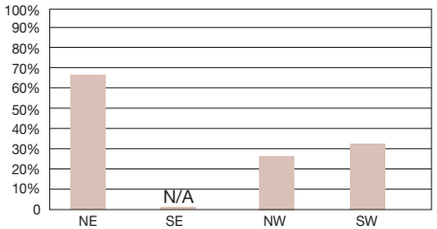


Figure 13 Percentage of area patched that had defects recorded in RMMS

NE – BEAR

The OC demonstrated very good scheme justification, with extensive detailed inspection records available in RMMS for all schemes reviewed.

BEAR proactively carried out detailed inspections of the carriageway prior to each scheme. This enabled justification for schemes to be documented. This clearly demonstrated good value.

SE – BEAR

The apparent poor performance by BEAR reflected difficulties it experienced in accessing existing RMMS data.

BEAR used programmes of work passed on from the previous OC. Where appropriate, BEAR had provided a statement of intent demonstrating the scheme was justified on pavement condition.

For the remainder of the schemes full records were therefore not available to BEAR.

PAG will monitor BEAR's justification of schemes during the coming year.

NW – Scotland TranServ

Of the seven schemes reviewed by PAG, only two schemes had extensive RMMS records to justify the schemes.

The remaining five schemes had very few defects recorded, despite Scotland TranServ having carried out at least one detailed inspection. Where the OC had provided statements of intent, the schemes were justified by poor pavement condition.

Improvement is required by the OC in recording defects that can clearly demonstrate the justification for a scheme. This will be monitored by PAG.

SW – Amey

PAG analysed nine schemes carried out by Amey. This identified that only two schemes had extensive RMMS records as justification. The remaining seven schemes had limited records to justify the works.

PAG will monitor the OC's performance in recording defect data to justify schemes.

Summary of findings

Only BEAR in NE can clearly demonstrate that it is providing value in the treatment of pavement condition.

Both Scotland TranServ and Amey need to improve their defect recording during detailed inspections. This should ensure all defects are recorded, enabling them to demonstrate they are delivering value.

In SE, there is a need to monitor the OC's performance to ensure it can access and use defect data from its RMMS to justify schemes.

Works contracts

Procurement of works contracts for scheme values greater than £250k but less the £5m is either from a standing list of contractors or by advertising in the Official Journal of the European Union.

Schemes in excess of £5M are put out to tender by Transport Scotland and outside the scope of the OC contracts.

2.2.3 Capital maintenance - works contracts

Figure 14 shows the type of work carried out under works contracts during 2007/08. The value of these contracts totalled £58.7m.

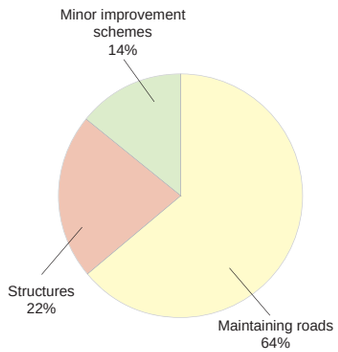


Figure 14 Works contracts in 2007/08 by category

Works contracts were undertaken to ensure that the network continues to operate to the required standard. Carriageway reconstruction and resurfacing schemes and structures improvements were carried out, as well as new safety fencing and lighting works.

Unit	Number received	Number reviewed	% reviewed	Number reviewed and suitable to proceed
NE	10	3	30%	2
SE	5	2	40%	2
NW	5	1	20%	1
SW	12	7	58%	7
Total	**32**	**13**	**41%**	**12**

Figure 15 Draft tender documents received by PAG 2007/08

Tender documents

PAG is required to review 25% of all the tender documents produced by the OCs. The OCs prepared 32 sets of tender documents during 2007/08, which was 14 less than the previous year. Of these, 13 (41%) were reviewed by PAG. Further information is given in figure 15.

In common with last year, the standard of preparation of draft tender documents was generally good.

Only one scheme, in NE, was returned to the OC as the documentation was not suitable for tender purposes.This was subsequently amended and successfully re-submitted by BEAR.

Workmanship and supervision

NE - BEAR

The general standard of workmanship on works contracts was good, but there is room for improvement by the contractors to reduce the number of remedial works.

Supervision was very good, with full-time OC site supervision staff being present. Figure 16 shows a works contract in NE.

Figure 16 Trenching machine at A985 Devilla forest works contract in NE

SE – BEAR
The OC provided good full time supervision for works contracts. The general standard of workmanship was good.

NW – Scotland TranServ
Good full-time OC site supervision was noted on all works contract sites visited by PAG. The general standard of workmanship was good.

SW - Amey
The standard of supervision has improved on last year's good performance, with continued emphasis on health and safety issues on site. The good standard of workmanship has been maintained.

Value study 2 – works contracts

The objective of this value study was to identify trends in tenders, and to examine tender value and the control of final scheme costs. It included those schemes awarded during the year, but which may not necessarily have been completed by the end of 2007/08.

The study looked at a total of 28 works contracts awarded in 2007/08. The total tender value of these works contracts was £48m. A typical works contract in NW is shown in figure 20.

The principal type of works falls into three categories:

- Pavement structural repairs.
- Structures.
- Minor improvements.

The numbers of works contracts in each of these categories are indicated in figure 17.

Type of contract	No
Pavement structural repairs	18
Structures	6
Minor improvements	4

Figure 17 Types and numbers of contracts

Findings

The average number of tenderers per works contract in each Unit in 2007/08 ranged from 3.9 to 4.5, which was broadly similar to previous years.

Trends in tenders

The average percentage difference between the lowest and highest tenderer has generally reduced as a whole across the network from 2001/02 to 2007/08 (see figure 18). With the exception of 2006/07, this suggests that tendering has become more competitive since 2001/02.

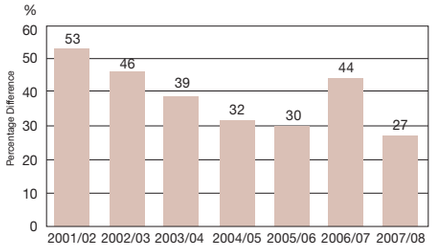


Figure 18 The average percentage difference between the lowest and highest tender

Trends in tenders showed:

- As with 2006/07, the pre-tender estimates were again very close to the tender award values. The average difference over the four Units was pre-tender estimates being 2.1% lower than tender award values.
- NE had the most competitive tendering for the fourth consecutive year, with the average difference between the lowest and highest tenderer being only 18%.
- The highest average award value was £2,156k in NW, and the lowest average value was £1,125k in NE.
- The highest award value was £4,332k in SW, whilst the lowest award value was £373k in NE.

OC	NE	SE	NW	SW
Most successful contractor by number schemes won	Ennstone Thistle 44%	N/A (see Note 1)	Ennstone Thistle 60%	Tarmac 38%
Most successful contractor by value of schemes won	Ennstone Thistle 39%	CEMEX 31% (see Note 1)	Ennstone Thistle 52%	Tarmac 62%

Note 1: In SE each of the works contracts was won by different contractors

Figure 19 The most successful contractors by number and value of schemes won

Reliable journey times and safety on the network

Details of the most successful contractors by number and value of schemes won are shown in figure 19.

Tender value and outturn costs

Out of 28 works contracts included in this value study, 18 were completed before the end of March 2008.

The average differences between tender award and scheme outturn values were broadly similar to the previous year, and ranged from -1.2% in NE to 22.3% in SW.

The most significant variance (49.5%) was on the M8 St James Interchange Bridge Column Protection scheme in SW. This was due to necessary changes in the containment requirements for safety barriers, which resulted in significant increases in the amount of concrete used and the addition of hard landscaping in the centre reserve to replace red chippings.

If this scheme is excluded from the analysis, the average difference in SW was 15.5%. This has been raised with the OC and performance will be monitored by PAG and Transport Scotland.

The average difference in the other three Units was 4.8%, which was broadly similar to the previous year.

Figure 20 A87 Varragil road reconstruction in NW

Summary of findings

This study shows that value continues to be delivered in the procurement of works contracts with competitive tenders being received.

Maintaining structures

The term 'structures' includes bridges, culverts, retaining walls, sign gantries, high mast lighting and CCTV poles.

Under the contracts, the OCs must inspect structures (see figure 21) at two and six-yearly intervals and prepare programmes to manage and maintain them. The inspection of some major structures, such as A898 Erskine Bridge and A9 Kessock Bridge, are carried out on a year on year rolling programme. 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 bridge database (TRBDb).

Management and maintenance of the Forth and Tay Road bridges are not part of the OC contracts.

2.2.4 Structures

Maintaining Structures

During the year the OCs were responsible for managing a total of 5,627 structures on the network on behalf of Transport Scotland. These structures range from major crossings, such as at M8 Kingston Bridge in SW and A87 Skye Bridge in NW, to culverts carrying watercourses under roads. Of these structures, 1,962 are bridges or footbridges.

A breakdown of the type and number of structures in each Unit, as extracted from TRBDb, is shown in figure 22.

Figure 21 Underbridge inspection vehicle in NW

Unit	Bridges	Footbridges	Other structures	Total
NE	315	17	311	643
SE	339	16	347	702
NW	595	60	1,700	2,355
SW	569	51	1,307	1,927
Total	**1,818**	**144**	**3,665**	**5,627**

Figure 22 Number and type of structures in each Unit

Unit	Structures Budget £m	Structures Spend £m
NE	1.38	1.23
SE	3.08	2.70
NW	6.00	6.22
SW	11.02	11.98
Totals	**21.47**	**22.13**

Figure 23 Comparison of structures budgets against spend

In 2007/08, structures spend was £22.1m representing 13% of overall spend. This represents a slight reduction from the total spend of £22.3m in the previous year. Allocation of budget is based on network need and reflects the age and condition of the structures, as well as traffic volumes. Over 50% of the budget is spent in SW.

A comparison of spend against budgets for structures is given in figure 23, and shows that spend was within 3% of total budget.

Inspecting structures

Regular inspection of structures to monitor and record their in-service condition is one of the OCs' major responsibilities.

Of the 5,627 structures across the network, 4,135 require principal inspections every six years. In addition, the OCs undertake general inspections of structures every two years and superficial inspections.

The OCs must submit reports on these inspections, including costed recommendations for structural maintenance, and update the TRBDb to a prescribed timescale.

The inspection year runs from February to November in each calendar year. In 2007, all four OCs failed to complete their programmes of inspections within this timescale. However, with the approval of Transport Scotland, all OCs completed the inspections and filed reports by the end of December, with a small number being carried forward to the 2008 inspection year.

These delays were for a variety of reasons, including mobilisation in NE and SE, the breakdown of specialist inspection equipment and the principal inspection of several major structures in this year.

Section 2.2.5 has a more detailed analysis of the principal inspection programmes.

Cyclic maintenance of structures

The OCs carry out regular maintenance on structures, known as cyclic maintenance. The cyclic maintenance requirements were enhanced under the 3G Contracts, and are more comprehensive than previously. Many of these cyclic tasks, such as clearing vegetation, and cleaning expansion joints and drainage systems, are minor in themselves, but aim to prevent deterioration of structures and delay the need for more expensive repairs/replacements.

NE – BEAR

BEAR did not start its cyclic maintenance programme until well into the autumn. A NNC was issued to express concern about the implementation of this work.

At the end of the year, BEAR claimed to have successfully completed the activities listed in its schedule. However, observations by PAG indicated that some activities, such as cleaning of joints and bearing shelves had not been completed at several structures. Outstanding cyclic maintenance items have been carried forward to the 2008/09 programme, where a general improvement in OC performance will be sought.

SE – BEAR

As in NE, BEAR did not start its cyclic maintenance programme until well into the autumn. A NNC was issued to express concern about the implementation of this work.

Again at the end of the year, and as in NE, BEAR claimed to have successfully completed all cyclic maintenance activities. However, observations by PAG indicated that some activities, such as clearing of vegetation, cleaning of joints and bearing shelves had not been completed along several of the major routes.

This failure was discussed with the OC and a Remedial Notice issued, requiring the work to be carried out during the early months of 2008/09. An improvement is expected in the coming year.

NW – Scotland TranServ

Only 80% of the cyclic maintenance programme was completed by the end of the year.

A NNC was issued in early 2008/09 and discussions were held with the OC to address the backlog and ensure improved performance. The NNC was subsequently closed.

SW – Amey

Amey completed its cyclic maintenance programme this year, which was a significant improvement over its performance in 2006/07.

Amey published detailed weekly spreadsheets of its work done, which allowed observations to be made of its work on the Unit. This useful information was also collected and included in its monthly report.

Structural maintenance of structures

The OCs design and carry out structural maintenance and strengthening or replacement operations. These are either managed internally or, in the case of the larger more complex schemes, tendered as works contracts.

Structures management process

In-depth audits of the structures management processes were carried out in all four Units during 2007/08. These found that generally activities were being carried out well. However, there were issues with TRBDb, where the OCs were not fully updating the inspections and expenditure & works modules as required, and with some details of the cyclic maintenance tasks. The OCs are addressing these issues.

Inspection of structures

The inspection of structures is a key requirement of the contract and a vital tool in ensuring that the structures remain serviceable and safe to carry traffic.

In addition, these inspections allow a prioritised programme of work to be developed for maintenance, such as replacement of waterproofing and joints, parapet repair and replacement, concrete repairs, repainting and to rectify minor faults before they become serious.

Following each inspection, the OCs submit a draft report to Transport Scotland for review and discussion. On the basis of these discussions, the OCs issue a final report. This report may recommend future work on the structure.

2.2.5 Principal inspection of structures

Monitoring of Results

An analysis has been carried out of the data stored in TRBDb for the PIs programmed and carried out in 2007. This analysis was to:

- Compare the agreed programme with the dates inspections were actually carried out.
- Compare the agreed programme for submission of the PI report with the month in which it was approved.

Figure 24 shows the total number of structures inspected in 2007 and the percentages of site works and reports completed early, on-programme or late.

	NE	SE	NW	SW
Total No of Structures Inspected	70	42	97	154
Inspections complete				
Early	23%	5%	11%	18%
On-programme	10%	59%	10%	44%
Late	67%	36%	79%	38%
Total	**100%**	**100%**	**100%**	**100%**
Final Report Approved				
Early	3%	5%	0%	5%
On-programme	1%	7%	17%	15%
Late	96%	88%	83%	80%
Total	**100%**	**100%**	**100%**	**100%**

Figure 24 Comparison of delivery of PI programme for 2007

NE – BEAR

BEAR completed only 33% of its inspection programme early or on-programme. The remaining 67% of inspections were late. 96% of final approved reports were late.

SE – BEAR

In SE, 64% of the inspections were completed early or on-programme. The remaining 36% were late. 88% of final approved reports were late.

NW – Scotland TranServ

Only 21% of its inspections were completed early or on-programme, with the remainder of inspections being late. 83% of final approved reports were late.

SW – Amey

Amey completed over 60% of its inspections early or on-programme. 38% were completed late. 80% of final approved reports were late.

The apparent poor performance on reports by all OCs was perhaps due to the staged process. This involved drafting by the OC, submission and then assessment, possibly including revision, and approval by Transport Scotland. Only the final approval date was recorded for this process.

All OCs have given a commitment to improve performance in 2008/09.

Category 1 defects

Category 1 defects are the most serious faults which could affect the safety of road users. Examples of Category 1 defects include potholes, flooding, damage to safety fences, parapets (bridge safety barriers), footpaths, cycleways and signs.

To ensure that Category 1 defects are identified and repaired promptly, the OCs carry out safety inspections of the whole network every seven days.

In addition, Category 1 defects are reported to the OCs from many other sources including members of the public.

Category 1 defects must be made made safe within 24 hours of their identification by the OCs and permanently repaired within 28 days.

2.3 Road defects

2.3.1 Repair of serious defects

The OCs' performance in repairing Category 1 defects within 28 days is measured as a KPI. The 3G contract requires the OCs to produce this KPI from the RMMS data. However, due to problems with the RMMS supplied to the OCs they have been required to derive the KPI data from other sources.

The steps being taken to resolve the technical issues with RMMS are discussed in more detail in section 5.2. Figure 25 summarises OC performance in repairing Category 1 defects.

Unit	2007/08	2006/07
NE	96%	n/a
SE	85%	n/a
NW	65%	58%
SW	85%	88%

Figure 25 OC performance in repairing Category 1 defects

NE – BEAR
BEAR was the best performing OC, with consistently good performance.

SE – BEAR
In the first year of its contract, the performance of BEAR was varied, but has improved significantly during the second half of the year. There is still room for improvement.

NW – Scotland TranServ
Although Scotland TranServ's overall performance has improved from the previous year, it remains unacceptable.

A NNC was issued as a result of this poor performance. In addition, the OC is to implement an action plan to improve its performance in repairing defects. PAG and Transport Scotland will monitor performance very closely in the coming year.

SW – Amey
Amey's performance has deteriorated slightly from last year and there remains room for improvement.

2.3.2 Reporting defects

There is a national freephone number (0800 028 1414) to allow members of the public to report defects they identify on the trunk road network. This service operates 24 hours a day, 365 days a year. Up to 30 November 2007, this service was operated by Glasgow City Council's Access Centre. From 1 December 2007, the freephone service has been operated by Becogent Ltd.

In addition, all OCs provide a customer contact telephone service (CCTS), which provides not only a defect reporting function, but also enables receipt of calls about general road conditions, complaints and third party damage claims.

These CCTSs assist the OCs in responding to enquiries and complaints in accordance with Transport Scotland's requirements. Each OC must also provide a website with a defect reporting facility.

The total number of calls received in each of the four Units for 2007/08 is shown in figure 26.

Reliable journey times and safety on the network

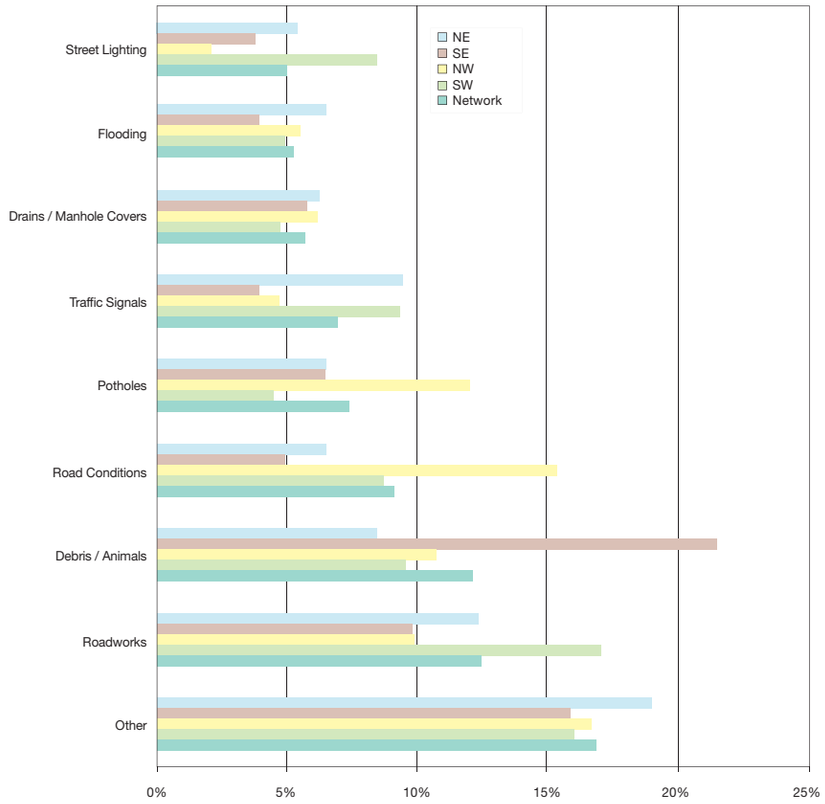


Figure 27 Customer call categories representing 80% of all calls received 2007/08

NE	SE	NW	SW
1856	1658	2100	2166

Figure 26 Total number of calls received 2007/08

Figure 27 shows all 2007/08 call data ranked in categories, according to the total network number of complaints and represents 80% of all calls received by each OC. The remaining 20% covered a wide range of minor issues that were not significant.

Across the network as a whole, the most reported issues were roadworks and debris/animals (both 12%), road conditions (9%), and potholes and traffic signals (7%).

NE - BEAR

In NE, the issues with most calls were roadworks (12%) and traffic signals (9%).

SE - BEAR

Debris/animals (21%) and roadworks (10%) were the most frequently reported issues in SE.

NW – Scotland TranServ

In NW, most calls were received in respect of road conditions (15%) and potholes (12%).

SW - Amey

In SW, roadworks (17%)and debris/ animals, traffic signals and road conditions (9% each) were the most reported issues.

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 de-icing material 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.

Winter patrols are also carried out on certain risk assessed routes and de-icing material is spread where necessary.

2.4 Winter

Winter Service

Transport Scotland's aim is to provide a 24-hours a day, 7-days a week dedicated and efficient service during the winter period, which runs from 1 October to 15 May. The main objective of winter service is, as far as is reasonably practicable, to keep the network free of ice and snow, thus reducing the risk to road users.

Winter weather conditions

Figure 28 Winter conditions on the A95 in NE

Figure 28 shows winter weather conditions on the network. Met Office figures indicated winter 2007/08 was marginally colder than the previous year.

Road closures

The OCs responded well to snow conditions and high winds experienced at the end of December 2007 and beginning of January 2008. These caused significant traffic congestion following the closures of the Erskine, Tay and Forth bridges.

There were more road closures due to winter conditions than in 2006/07. Figure 29 compares the 2007/08 winter with previous winters.

Winter Period	No. of winter related major incident road closures
2007/08	6
2006/07	3
2005/06	7
2004/05	4
2003/04	11
2002/03	4

Figure 29 Number of winter related major incident road closures over the last six years

De-icing material

The 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.

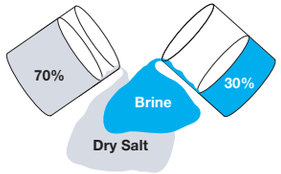


Figure 30 Make up of pre-wetted salt

Figure 30 shows pre-wetted de-icing material comprises 70% fine grade salt and 30% brine. Pre-wetting uses salt more effectively and efficiently. In snow conditions, dry salt is used in conjunction with ploughing.

Figure 31 shows pre-wetted salt being spread on the network. Figure 32 shows a snow plough on the network as part of the winter service operations.

Figure 31 Pre-wetted salt being spread on the M90 in NE

Figure 32 Snow plough on the A82 in NW

Winter service audits and contract compliance

NE - BEAR

Overall BEAR's performance was good.

PAG's early winter audit identified excellent management by the OC of the winter service plan, clearly showing that it had everything in place for winter events. A subsequent audit identified continued good performance, although improvements in footway treatment were required and this will be addressed by the OC.

SE - BEAR

BEAR fulfilled its main obligations, although improvements are required.

Early in the winter season PAG found the OC had a baseline capability to deliver winter service requirements. There were, however, some items to be addressed such as some routes in excess of target treatment times and salt testing arrangements.

An end of season audit subsequently identified problems with information recording and a lack of accurate records.

As in NE, footway precautionary treatment also required improvement. Some of these issues had already been identified by the OC's quality system and are being dealt with accordingly.

NW – Scotland TranServ

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

Early in the season the OC demonstrated everything was in place for any winter events. A subsequent audit raised some issues which were addressed by the OC in accordance with its quality system.

SW - Amey

Winter service in SW was satisfactory.

PAG's early audit identified that the OC was prepared for winter 2007/08, but some minor issues were raised and subsequently resolved.

Footway treatments were carried out in SW, but did not reflect carriageway treatment frequencies.

Value study 3 – winter service

Winter service operations are paid for on a fixed monthly lump sum payment basis, and accounts for around 5% of the overall spend on the network. Delivery of winter service is important to road users. PAG has investigated the following over the 2007/08 winter:

- Precautionary de-icing material application rate per route.
- Precautionary de-icing material usage.
- Winter service KPIs.

Unit	2007/08 (g/m^2)
NE	3401
SE	1648
NW	3705
SW	1217

Figure 33 Cumulative average precautionary de-icing material spread rates

Precautionary de-icing material application rate per route

The OCs' winter records were examined by PAG to identify the quantity of precautionary de-icing material spread on the network. Treatments varied within the contract requirements of $10g/m^2$ and $40g/m^2$ depending on the weather conditions anticipated and encountered. As in previous years, a $20g/m^2$ spread rate was the most common application rate used.

Ethylene glycol is used as the precautionary de-icing material on certain major structures instead of pre-wetted salt. However, the use of ethylene glycol is outwith the scope of this value study

The variations in altitude, landscape and climate throughout Scotland mean the extent of precautionary treatment varies across the network.

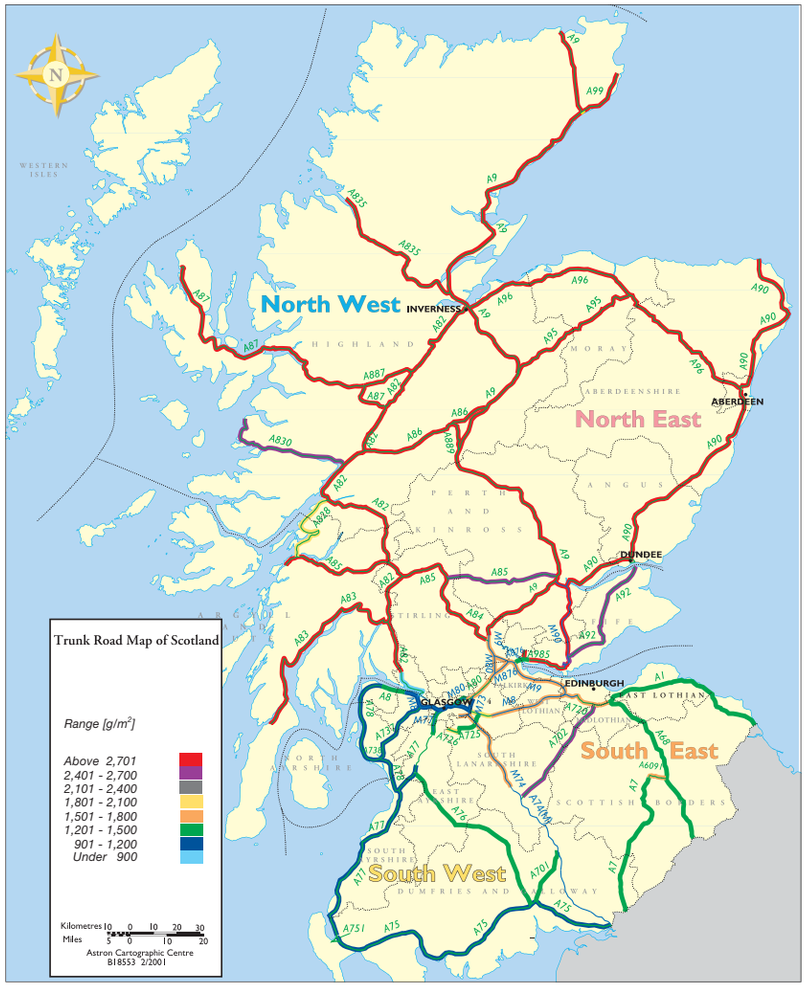
PAG's detailed analysis of the OCs' records allows the cumulative average precautionary treatment spread rates to be calculated for individual routes across the network. The results of this analysis are shown in figures 33 and 34.

The study showed:

- The highest average precautionary spread rates were in NW, with all routes being treated with more than $1,800g/m^2$. Over $4000g/m^2$ was spread on A86, A9, A889 and A84.
- All routes in NE were treated with more than $2,400g/m^2$. On M90 and A985 BEAR spread over $5000g/m^2$.
- Nearly all the routes in SE and SW were treated with less than $1800g/m^2$.
- In SW, the average precautionary spread rate was less than any of the other three Units, reflecting its milder, wetter climate.

Reliable journey times and safety on the network

Figure 34 Cumulative average precautionary de-icing material spread rate in 2007/08



The results in all Units are broadly in line with historic trends. The study showed that NW used considerably more de-icing material than the other Units, reflecting its colder climatic domains.

Precautionary de-icing material usage

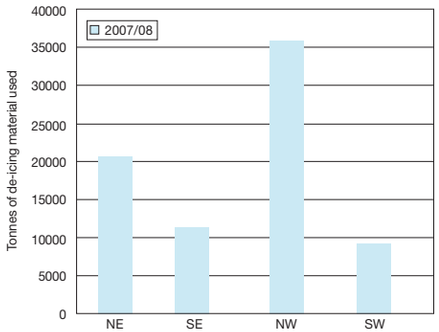


Figure 35 Precautionary de-icing material tonnages

Figure 35 shows the total precautionary de-icing material used by each OC in 2007/08.

Winter service key performance indicators (KPIs)

To measure how well the OCs carry out their winter duties they report their performance monthly using three KPIs.

KPI for winter service response times

This measures how quickly de-icing treatment commences following a call-out. Treatment must start within one hour of a decision to treat. However, it should be noted that there are relatively few reactive call-outs over the winter period.

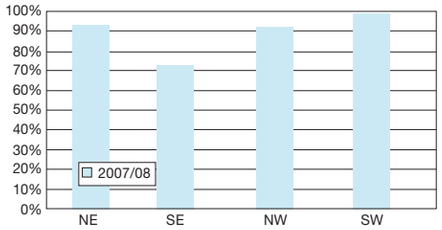


Figure 36 Comparison of KPI for winter response times

Figure 36 shows that SW performed very well, with NW and NE also performing well. The performance of SE was poor by comparison. However, this was due to a poor performance in December which subsequently improved.

KPI for winter service treatment times

This measures OC performance in completing precautionary treatment across all routes within two hours of starting (see figure 37). This KPI covers most of the OCs' winter service treatment on the network.

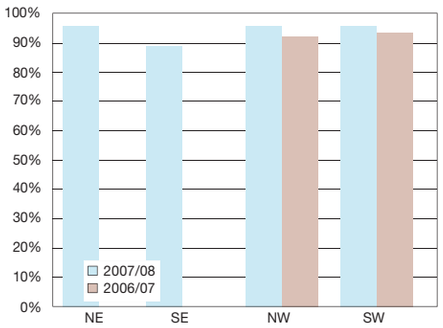


Figure 37 Comparison of KPI for winter treatment times

Figure 37 shows NE performed well, with improved performance in NW and SW from 2006/07. Following a poor start, BEAR's performance in SE improved later in the season.

KPI for electronic data logger downloads

The data loggers record, in electronic format, the de-icing material spread rate, location, date and time (see figure 38).

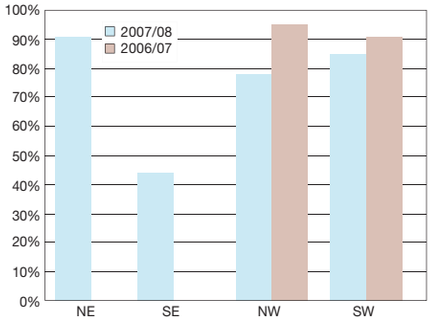


Figure 38 Comparison of KPI for successful data logger downloads

Figure 38 shows a reduction in performance in both NW and SW from the previous year. This is being addressed by the OCs. NE performed well. SE had poor performance. This is being addressed by the OC.

Summary of Value Study Findings

The winter period was marginally colder compared to 2006/07. The average de-icing material spread rate varied across the network, reflecting the differing climatic domains.

SW performed very well in its winter response time KPI result, with NE and NW both performing well. SE has improved following poor performance in December. This needs to be maintained over the coming year.

The KPI results for winter treatment times show very good performance in NE, NW and SW. In SE, performance improved over the course of the year, and overall its performance was reasonable.

The KPI results for data logger downloads showed a reduction in performance in both NW and SW since 2006/07. This is being addressed by the respective OCs. NE performed well and SE performed poorly.

Overall, the above data indicates that the OCs' performance in delivering winter service was generally good. The OCs are delivering appropriate treatment on the network and where necessary are seeking ways to improve.

Managing traffic
Traffic management measures are implemented at roadworks to provide safe working conditions for road workers and a safe route for road users.

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.

2.5 Safety

2.5.1 Safety at roadworks sites

Operations

Traffic management was generally of a good standard, but all OCs need to continue to focus on the provision and maintenance of lateral safety zones at roadwork sites.

NE – BEAR
Traffic management was generally found to be satisfactory. However, there were some instances where it was not always set out properly. There is still some scope for improvement.

SE - BEAR
Traffic management has now improved following some initial issues at the start of the contract.

NW - Scotland TranServ
Following agreement with Transport Scotland, the national standards for traffic management measures were modified in respect of lateral safety zones and working spaces at roadworks sites on certain narrow roads within the Unit.

The OC's traffic management was good and there were no significant issues.

SW – Amey
Traffic management was of a good standard. Examples of good practice by Amey included the use of convoy systems on single carriageway routes. Temporary crash barrier systems have also been used at sites, to protect site staff and road users.

Works contracts

NE – BEAR
Works contracts have generally been handled well, with good traffic management.

SE - BEAR
Traffic management has now improved following some issues at the start of the contract.

NW - Scotland TranServ
The quality of traffic management on works contracts was generally good, with only minor issues occasionally identified.

SW - Amey
On works contracts, traffic management on site was generally good.

Improving safety

The OCs carry out day to day management of the network, which includes delivery of road accident reduction measures. Along with other parties, the OCs are stakeholders in delivering the Scottish Government's road safety strategies including the Strategic Road Safety Plan. The strategy includes physical improvements to the network, as well as developing safety improvements at roadworks.

Improvement measures taken forward by the OCs are either:

- Safety schemes, including new signs and markings, reduced speed limits, installation of passively safe roadside furniture, traffic signals and pedestrian crossings, anti-skid surfacing, village gateway treatments, and new or improved lighting.
- Minor improvement schemes, which may include additional lane or junction markings, improvements to junction layouts, realigning roads, improving poor road camber, removing tight bends, widening footpaths, strengthening carriageway edges and widening roads. These schemes frequently include safety-related elements.

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

2.5.2 Safety improvements

The Moving Cursor Programme (MCP) screens accident records on the entire trunk road network in order to identify accident cluster sites. The MCP is run annually by the OCs and, traditionally, formed the basis for the identification of the annual programmes of Accident Investigation and Prevention (AIP) safety schemes.

The more dispersed nature of today's accidents requires greater emphasis on the proactive removal of risk through large scale mass actions and route treatments.

In accordance with the Strategic Road Safety Plan, initiatives aimed at reducing risk and mitigating the effects when accidents do occur, are included in the OCs' annual road safety programmes. These complement the works identified through the MCP.

Over the year, the OCs have put considerable effort into identifying, developing and designing safety schemes for implementation. Over 100 schemes were taken forward across the network.

NE - BEAR

In NE, there was significant investment in the passive safety mass action plan programme. This included improving safety barrier, upgrading lighting columns with passively safe replacements on A90, and passively safe sign posts on A92.

Other safety schemes included pedestrian guardrail replacement in Dundee and Aberdeen, and installing high performance reflective road studs on A96.

Minor improvement schemes undertaken included safety barrier works on M90, junction improvements on A92 and A95/A96, sign improvements on A985, on A90 and road/rail safety fence improvements on A92 and A96.

The overall budget of £4.5m for safety and minor improvement schemes was fully spent.

SE - BEAR

The main expenditure on safety schemes in SE was directed towards investigation and introduction of accident prevention measures, including completion of some schemes identified in previous years.

Safety studies for passively safe sign poles were carried out on A702 and A720. Signing strategy reviews continued on a number of routes. The OC developed various initiatives as part of the A702 road safety group, formed in response to police concerns about the level of road casualties.

The minor improvement programme was predominantly design-only, mostly for four schemes on A702 following a route review by the previous OC.

These and other smaller projects have progressed through design to provide schemes for construction early in 2008/09.

Reliable journey times and safety on the network

The minor improvements budget was doubled from £1.5m during the year, with final spend being £0.61m, which was mainly spent on studies and design. There was minimal expenditure on the construction of minor improvement schemes. This was due to factors mostly outwith the OC's control.

The initial budget for safety schemes was just under £0.9m. This was increased during the year to about £1.5m, however, the overall spend was £0.98m.

NW – Scotland TranServ

The OC developed proposals to address locations in NW with higher accident rates than the national average. In addition, phased route accident reduction plans (RARP) were implemented on sections of A82, A83, A85 and A99.

Scotland TranServ's safety schemes have included the first use in Scotland of safer barriers for motor cyclists on A85 in Glenogle (see figure 39) and deer mitigation signing on A87.

Figure 39 Safer barriers for motorcyclists on A85 in NW

The OC also started route action schemes and work on individual schemes such as A9 at Latheron, A84 at Blair Drummond and A85 at Dalchonzie. Passive safety measures, including special sign posts, safety barriers and lighting columns have been installed at locations across the Unit. Speed activated signs were provided on the A9 at Bankfoot.

A variety of minor improvement schemes were designed and constructed during the year. These included bilingual signing, junction and alignment improvements. Preparatory work was also undertaken for schemes on A9 and on A82.

Although Scotland TranServ successfully delivered the £1.5m safety schemes budget, there was a significant underspend in minor improvement schemes, where spend was £2.4m out of a budget of £5.6m. This was due to factors outside the OC's control including utilities, statutory processes and land issues.

SW - Amey

Amey developed proposals to address locations with higher accident rates than the national average. It also implemented five RARPs on sections of A75, A76, A82 and A737.

Sign post replacement was reviewed on a route by route basis, with work programmed for A76 and A737. Designs for safety barriers improvements were progressed.

A number of vehicle activated signs have been installed on A76 and at other locations across the Unit.

The OC worked on over 30 minor improvement schemes, at various stages of development. These included maintenance and operational strategies for high mast and gantry refurbishment, feasibility studies and designs for various projects valued from £50k to £5m. These ranged from major road improvements such as A737 Roadhead roundabout and A77 Burnside, to improved road/rail protection on a number of routes.
The overall budget of £4.7m for safety and minor improvement schemes was successfully delivered by Amey.

Dealing with emergencies

The OCs must provide resources to deal immediately with emergencies on the network or to assist the emergency services.

Typical emergencies that are dealt with by the OCs can include:

- Flooding
- Overturned lorries
- Debris removal
- Fallen trees
- Road traffic accidents
- Landslips
- Impact and damage to structures
- Spillages
- Incidents due to adverse weather.

Contractual response times for emergencies vary depending on the type of road and time of day. For motorways and dual carriageways the initial response time is one hour during the day and one and a half hours overnight. For other trunk roads the initial response time is one and a half hours during the day and two hours overnight.

2.6 Emergencies

Emergency response

The OCs dealt well with emergencies throughout the year, responding quickly and professionally to try and minimise delays to road users.

NE – BEAR

Although there were no major incidents, the OC dealt with numerous smaller emergencies, the majority of which were spillages, road traffic accidents and debris.

SE - BEAR

There were two major incidents during the year, both on the M80/A80.

In June 2007, subsidence was discovered in the northbound carriageway of the A80 near Castlecary. BEAR responded quickly, installing traffic management measures to allow ground investigations to be progressed. The OC then designed and completed the stabilisation of the old mine workings, minimising the disruption to road users (see figure 40).

In October 2007, a lorry carrying 1800 live chickens overturned on the M80 just north of Castlecary.

Figure 40 Grouting of mine workings near A80 Castlecary in SE

The road was closed for nine hours, with local diversions set up, to allow vets and specialist handlers access to the incident to collect up and clear the chickens from the road and surrounding area.

BEAR responded well to both these major emergencies, ensuring the roads were reopened as soon as possible.

The OC also dealt with a number of smaller incidents over the course of the year, the majority of which were debris, road traffic accidents and dead animals.

NW – Scotland TranServ

In late October, a landslip occurred on the A83 near the summit of the Rest and Be Thankful completely closing the road to traffic (see figure 41).

The OC responded well to the incident, setting up and maintaining a lengthy diversion route. Whilst the road was closed, Scotland TranServ undertook works to stabilise the mountain above and below the road. A helicopter was used to assist in a controlled landslip of loose and dangerous material above the road using water bombing and jetting.

Figure 41 Landslip on A83 Rest and Be Thankful in NW

After being closed for just under three weeks, the road was reopened with temporary traffic lights in place. These traffic lights remain in place, with the slopes being subject to ongoing monitoring, particularly during adverse weather.

Scotland TranServ performed well in dealing with this incident getting the road reopened as quickly as possible, which was reflected in comments made by the Minister for Transport, Infrastructure and

Climate Change. The OC is designing a permanent scheme to remove the need for temporary traffic lights.

In addition, the OC dealt with a number of minor incidents across the Unit over the year, the majority of which related to road condition, road traffic accidents, debris and dead animals.

SW - Amey

There were no major incidents, although the OC dealt with numerous smaller emergencies, which included the closure of the M74 for several hours in January 2008 for the recovery of lorries blown over in high winds. In addition, the A898 Erskine Bridge was closed on several occasions due to high winds.

Emergency response performance

The OCs are required to respond to emergencies as quickly as possible 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 42 for a comparison of the OCs' performance for emergency response).

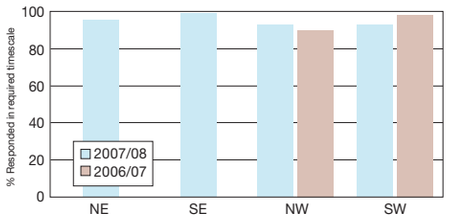


Figure 42 Emergency Response KPIs

NE – BEAR

BEAR performed very well.

SE – BEAR

The OC provided a very high level of performance.

NW – Scotland TranServ

Scotland TranServ continued to perform very strongly, improving on its previous year's performance.

SW – Amey

Amey performed well, despite a slight dip in its performance from last year.

Hazard notices

As in previous years, PAG continued to issue hazard notices to the OCs by mobile e-mail when field engineers observed or identified hazardous situations within the Units.

Typical hazards include:

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

109 hazard notices were issued by PAG during the year. This is a 16% reduction on the number issued last year, and is 22% below the average annual number of hazard notices issued since the start of the 2G contracts in April 2001 (see figure 43).

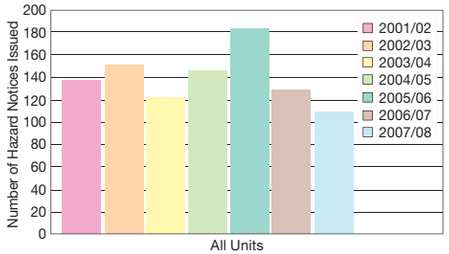


Figure 43 Number of Hazards Issued

Trunk Road Incident Support Service

In 2005, Transport Scotland undertook a six month trial of a trunk road incident support service (TRISS) in SW. The success of the trial led to TRISS being introduced as a requirement of the 3G contracts in SW in 2006 and SE in 2007 on a limited number of routes. The overall aims of TRISS are to:

- Provide an improved service to road users in clearing up incidents more quickly.
- Reduce congestion.
- Free up police time.

In each of the two Units in which it operates, the TRISS is provided by fully trained staff working for the OC operating from two specially adapted and equipped high roofed vans. The vehicles patrol the Unit responding to incidents reported to them or as they are identified by them. However, management of incidents remains the responsibility of the police.

Both OCs' TRISS teams performed well throughout the year attending a significant number of incidents, both in response to reports of incidents and as encountered travelling around the Units.

Chapter 3

Delivery of agreed programmes

Key points

Delivery of programmes in advance of works

- NE and NW performed well, submitting programmes on time. There is room for improvement in SE and SW.

Performance against programme

- SW was successful in delivering all its programmes.
- NE and NW delivered most of their work to programme, whilst SE's performance was not as strong.
- Across all Units the delivery of minor improvements to programme was often delayed due to factors outwith the OCs' control.

Delivery of agreed programmes

Programmes

The OCs submit for discussion and agreement with Transport Scotland 3-year and 1-year programmes.

Once these have been agreed, the OCs submit detailed 1-year programmes, which include bids with detailed cost estimates for each scheme. This allows Transport Scotland to issue orders to the OCs for the schemes it wants to implement.

The 3-year programmes include schemes for years 2 and 3, as well as the coming year. This enables Transport Scotland and the OCs to establish priorities for future schemes.

The main programme types are:

- Routine and cyclic maintenance
- Structural maintenance roads
- Bridge replacement, refurbishment or upgrading
- Minor improvements
- Accident, investigation and prevention (AIP)

3.1 Delivery of programmes in advance of works

NE – BEAR

Draft programmes were submitted on time and agreed by Transport Scotland with the 1-year programme being entered into the CCMS.

SE - BEAR

BEAR failed to submit its programmes through the CCMS, which resulted in a NNC being issued. Meetings were held with Transport Scotland to resolve the problem of BEAR inputting its programmes into the CCMS. At present this NNC remains open.

NW - Scotland TranServ

Both 1-year and 3-year programmes were submitted within the required timescale.

SW – Amey

Although the 3-year programme was submitted by the due date, a NNC was issued to Amey for failure to provide a 1-year programme. The NNC was subsequently closed following submission of the detailed 1-year programme and associated bids for 2008/09.

3.2 Performance against programme

Routine and cyclic maintenance

NE – BEAR

BEAR successfully managed to implement its full programme of annual maintenance works and routine management operations.

SE - BEAR

After a slow start to BEAR's programmed works, expenditure was achieved against budget.

NW - Scotland TranServ

The OC completed a full programme of routine and cyclic maintenance works. Scotland TranServ achieved expenditure slightly in excess of its budget allocation, which was increased twice during the year.

SW – Amey

Amey carried out extensive works across the Unit, successfully delivering its programme on budget.

Structural maintenance - roads

NE – BEAR

The OC programmed additional works contracts and operations over the course of the year to accommodate an increase in budget. Final expenditure was just over budget.

SE - BEAR

BEAR used the programme of schemes developed by the previous OC. The budget was increased during the year, allowing any additional works contracts to be programmed. BEAR managed to achieve its programmed expenditure, which was a good performance in its first year of the 3G contract.

NW - Scotland TranServ

Scotland TranServ responded positively to a substantial increase in budget early in the financial year by revising its programme and completing works on budget.

SW – Amey

Amey successfully delivered its 2007/08 programme, which included the procurement and construction of three high value works contracts.

Routine/structural maintenance - structures

Inspecting structures

As discussed in section 2.2.4 Structures, the OCs must prepare annual programmes to manage and maintain structures.

The four OCs did not complete their programmes of inspections within the required timescale. However, all the OCs completed their programmes within the extensions of time granted by Transport Scotland.

Cyclic maintenance of structures

NE – BEAR
Most work was completed on programme. At the end of the year BEAR had some remaining cyclic maintenance works to complete, which were carried out at the start of 2008/09.

SE - BEAR
Whilst a good deal of work was carried out, the programme of works was not completed by the end of the year. This resulted in a Remedial Notice being issued requiring BEAR to carry out the work during the early months of 2008/09. PAG will monitor the OC's progress in completing this work.

NW - Scotland TranServ
Approximately 80% of the annual cyclic maintenance programme was complete at the end of March 2008. This resulted in a NNC being issued for the outstanding works. This was subsequently closed in 2008/09.

SW – Amey
The 2007/08 programme was successfully completed.

Structural maintenance of structures

Maintenance works such as upgrading of parapets, concrete repairs and replacement of waterproofing were carried out directly by the OCs and by works contracts. All OCs completed their programmes on target.

Minor improvements

Further details on minor improvements are given in section 2.5.2.

NE – BEAR
A number of improvement schemes were completed during the year, including junction improvements on A95 and A92 and signing improvements on A985. However, the minor improvement programme could not be completed due to land acquisition issues, which were outwith the control of BEAR.

SE - BEAR
Since this was the first year of the 3G contract, BEAR concentrated on a programme of designs and studies. However, the OC is well placed to deliver its minor improvement programme in 2008/09.

NW - Scotland TranServ
The majority of the minor improvement programme was completed during the year, including bilingual signing on A85 and a junction improvement on A9. However, there was a significant underspend against budget in NW. This was outwith Scotland TranServ's control and will hopefully be resolved with Transport Scotland in 2008/09.

SW – Amey
The programme, which included high mast and gantry refurbishments and construction of a new roundabout on A737, was completed on target.

AIP

NE – BEAR
BEAR successfully managed to complete a programme of schemes, with a final spend of £2.1m.

SE – BEAR
BEAR's original programme was revised following additional budget being made available. However, the OC was unable to achieve delivery of this revised programme.

NW - Scotland TranServ
The OC delivered its programme, carrying out detailed studies of accident clusters and several phases of route action plans, as well as construction of a number of schemes.

SW – Amey
Amey delivered a variety of reports, detailed designs and construction of schemes to achieve programme.

Traffic on the A90 in NE

Chapter 4

Sustainability

Key points

Sustainability and Scotland's trunk roads

- The OCs have made significant progress in developing sustainable practices over the past year.
- All OCs are recycling road planings in some form, cutting down on the use of quarried rock.
- In addition to environmental issues, the OCs are also involved in community engagement.

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 reported on this topic to highlight the good work being carried out by the OCs.

4.1 Sustainability and Scotland's trunk roads

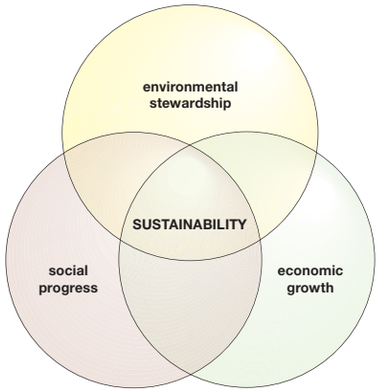


Figure 44 The inter-relationships between the economic, environmental and social elements of sustainability

In the past year, sustainability in trunk road maintenance has flourished in Scotland. This has been encouraged by Transport Scotland and PAG, with all of the OCs seeking to promote sustainable development from the design and planning stage through to carrying out work on the network.

Figure 44 shows the different elements of sustainability.

All four OCs have made significant progress in developing sustainable practices. PAG considers further improvements are still possible, especially in the collection and reporting of data such as energy use and waste volumes. Analysis of this data by the OCs will highlight trends, enabling forward planning, cost savings and benchmarks to be set for continuous improvement.

All OCs recycle road planings in some form. These are reused in constructing haul roads and hardstandings, cutting the need for aggregate extraction and reducing energy consumption.

From PAG's review of the OCs' sustainability practices over the past year, it was evident they have differing views of the meaning of sustainability and how they prioritise the various contributory factors. Transport Scotland is working with PAG and the OCs to define sustainability in relation to trunk road maintenance with the intention of establishing a common practice in gathering data. This will allow monitoring sustainability across the network to be consistent, achievable and provide results which can be benchmarked against similar operations.

The aim of this work is to promote continuous improvement in a way that is reasonable, without stifling innovation.

Examples of good practice

NE – BEAR

BEAR has started to use a proprietary method, which is a blend of chemically modified natural plant fibres from renewable sources, to treat oil and chemical spills in its depots and on site.

The material is spread over the spillage and when the contaminant has been completely absorbed, the material is lifted and filtered in the purpose designed bin, see figure 45. After filtering, most of the absorbent material can be reused up to eight times, reducing the waste that goes to landfill.

Figure 45 Proprietary spill-kit used in NE

BEAR has purchased a new fleet of vehicles for use across both NE and SE. These are provided with efficient Euro 4/Euro 5 engines, which considerably reduces emissions making the fleet more environmentally friendly. Further reductions in emissions are achieved by the use of an additive to treat the exhaust and flue gases.

BEAR is actively working with the community by holding regular discussions with local schools and communities across the Unit about aspects of the organisation of road management such as design and hours of work. BEAR sponsored the Forres in Bloom programme, which is a sustainable environmental community project, and also attends some community council meetings.

SE – BEAR

Drainage works on the A7 at Dryden involved the on-site recycling of 1300m^3 of filter material. BEAR employed sub-contractor Carnell to carry out the works using specialised plant to clean and replace the filter media in one operation and then remove the residue for appropriate disposal.

BEAR was a sponsor for the erection of a commemorative cairn at the birthplace of civil engineer, Thomas Telford.

NW - Scotland TranServ

Scotland TranServ introduced an innovative method of carriageway reconstruction called rubblisation, on the A9 at Kincraig, see figure 46.

Figure 46 Rubblisation of carriageway on A9 Kincraig in NW

The concrete carriageway layer was broken up and re-compacted in-situ reducing waste, haulage costs, emissions and the need for new material. The contract also required the resurfacing to be 15% recycled bituminous material. The OC is also actively using synthetic geogrids as reinforcement on surfacing schemes across the Unit. This provides strengthening to the underlying pavement courses and reduces the thickness of new surfacing, which then requires less virgin aggregates and produces less waste.

As part of Scotland TranServ's social commitment to sustainability it organised a road safety-themed Christmas card competition for primary schools in Argyll and Bute. It also raises money for local charities.

SW – Amey

Throughout the last six months the OC's environmental team has been closely involved with The Transportation Noise Action Plan Working Group, led by Transport Scotland. The purpose of the working group is to provide a draft action plan for reducing transport noise over the next five years in accordance with The Environmental Noise (Scotland) Regulations 2006.

Amey has also been liaising with the Carbon Trust in recent months and has produced a report on how energy can be saved at four of its properties. The report identified a number of improvements which could be made, including enhanced lighting efficiency and alternative power sources.

For a scheme on the A76 at Burnside, a dry tunnel was constructed above the regular underpass as a small mammal crossing. This included fencing to encourage badgers and other animals to use the crossing.

Amey worked with local schools on projects such as the eco schools scheme looking at reducing water consumption in cisterns when flushing. The OC also worked with the local community as part of an underpass refurbishment on A75 (see figure 47).

Figure 47 A75 Collin underpass in SW

Traffic on the A9 in NW

Chapter 5

Monitoring, testing, recording and reporting

Key points

Materials and workmanship testing

- Generally, the testing of materials and workmanship was good across the network.

Recording details of routine maintenance operations

- The OCs performed well in carrying out the specified safety and detailed inspections.
- Technical difficulties with the cyclic maintenance module of the RMMS continued during the year. This has prevented the OCs from entering necessary records into the system. All parties will work together to resolve this issue.

Reports by the OCs

- NE, NW and SW delivered most of the required weekly, monthly and annual reports on time and to the required standard. There is room for improvement in SE.
- The OCs' performance in updating the automated diary facility was also generally good.

Management systems

- The OCs successfully operated their management systems, demonstrating they were monitoring their activities.

Environmental management

- All the OCs operated a successful environmental management system, although BEAR's systems in NE and SE took time to settle in.

Health and safety management

- The OCs showed a highly responsible attitude towards heath and safety.
- The health and safety management systems run by all the OCs met the requirements of the contract.

Resolving problems and improving performance

- In NE, BEAR responded well to issues as they arose, with only one remedial notice being issued.
- BEAR in SE was slower in closing out issues, although again only one remedial notice was issued.
- Scotland TranServ's performance was good, similar to last year, although three remedial notices were issued.
- Amey in SW delivered a sustained improvement in its performance. Four remedial notices were issued, fewer than the previous year, with two being successfully closed out by the year end.

Key Performance Indicators (KPIs)

- There was an agreed adjustment to the methods of calculating some KPIs
- All OCs supplied the required KPI data although not all could be verified by PAG. This issue is being addressed by the OCs.

Material and Workmanship Testing

Materials and workmanship testing form part of the OC Contract requirements. Record keeping in these areas by the OCs is fundamental to the assurance of work delivery to the required standards.

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

Section 5.1 Material and workmanship testing

PAG has conducted audits, monitored activities on site and reviewed records of the OCs' operations. The results of these were reported to both Transport Scotland and the relevant OC.

NE - BEAR

Materials and workmanship testing was generally good.

SE - BEAR

In general, material testing records were available, however there is some room for improvement.

NW – Scotland TranServ

Generally, workmanship on the OC's own operations was satisfactory. However, there were some instances where remedial works were required due to poor workmanship.

Material and workmanship testing was regularly carried on works contracts. Testing on works contracts continues to be more frequent than on the OC's own schemes. PAG will continue to monitor this.

There is a concern that safety barrier installations are not complying fully with Sector Scheme requirements. This is being addressed by the OC and will be monitored by PAG and Transport Scotland.

SW - Amey

Materials and workmanship testing was regularly carried out on works contracts and the larger OC operations.

There is room for improvement in the testing of routine operations. PAG will monitor this for improvement.

Recording details of routine maintenance operations

The OCs are required to record details of all inspections, defects, inventory and cyclic maintenance in a computer based Routine Maintenance and Management System (RMMS).

In the 3G Contracts, the RMMS has been supplied by Transport Scotland through its software supplier WDM.

5.2 Recording details of routine maintenance operations

RMMS performance

During the course of the year a considerable number of issues with the RMMS have been identified, which have prevented it from being fully utilised by Transport Scotland, the OCs and PAG. These issues continue to prevent the OCs entering a complete set of records into the RMMS.

PAG has been working closely with Transport Scotland, WDM and the OCs to work through the issues. This co-operation will continue in the coming year.

OC Performance

Safety inspections

Safety inspections are carried out on all routes every 7 days to identify the most serious defects requiring urgent attention. Figure 48 gives the OCs' performance in meeting these requirements.

All OCs achieved an excellent performance.

Unit	2007/08	2006/07
NE	100%	n/a
SE	99%	n/a
NW	100%	100%
SW	100%	100%

Figure 48 KPI – Safety inspections

Detailed Inspections

Detailed inspections are carried out at intervals of between three months and five years on all aspects of the trunk road infrastructure. The purpose of these is to identify minor defects to enable long term maintenance and replacement programmes to be drawn up and budgeted for.

Unit	2007/08	2006/07
NE	93%	N/A
SE	100%	N/A
NW	90%	100%
SW	99%	100%

Figure 49 KPI – Detailed Inspections

There was good performance by all OCs, although NE and NW have room for further improvement (see figure 49).

During the year PAG carried out monitoring exercises into some of the detailed inspection activities. These confirmed the OCs are generally carrying out their detailed inspection activities as required by the Contract.

During 2008/09 PAG will monitor further activities to ensure all requirements continue to be met and all records are entered into the RMMS.

Cyclic maintenance

Technical difficulties with the cyclic maintenance module in RMMS continued during the year and hindered data entry. A workshop was held with participation from all OCs, PAG and WDM, which developed a specification for an enhanced module. Delivery of this enhanced module is currently awaited from WDM.

NE – BEAR

BEAR has not input any records into the RMMS. A NNC was issued. This was subsequently closed in early 2008/09.

SE – BEAR

BEAR did not input any records into the RMMS. A NNC was issued requiring BEAR to implement an action plan. The NNC was subsequently closed out in early 2008/09.

NW – Scotland TranServ

Scotland TranServ entered some records into the RMMS, but PAG's analysis indicated a complete set of records has not been entered. Progress on resolving this will be monitored by PAG.

SW - Amey

Amey also entered some records into the RMMS, but PAG's analysis indicated a complete set of records has not been entered. Again, progress on resolving this will be monitored by PAG.

5.3 Reports by the OCs

Weekly reports

The OCs are required to issue weekly reports to Transport Scotland and PAG. These give details on technical performance and associated management issues. The weekly report must be submitted no later than noon on Thursday every week.

All OCs performed well in meeting the required timescales with the exception of SE, where sections of the weekly reports were often late, incomplete or not received. Transport Scotland and PAG will work with SE to seek improvement.

Monthly Reports

The monthly reports allow the OCs to demonstrate progress of operations against programme. The reports also highlight which operations are programmed for the current month and following two months. In addition, the monthly report also provides an update on the status of issues identified for discussion at the monthly progress meeting between Transport Scotland, PAG and the OC.

NE, NW and SW generally performed well in delivering monthly reports on time. In SE, however, sections of the monthly reports were often late, incomplete or missing. Again Transport Scotland and PAG will work with SE to seek significant improvement.

Annual Report

Each OC is required to produce an annual report describing the overall performance during the previous Annual Period. This report should be sent to Transport Scotland no later than midday on 15 May following the end of the Annual Period.

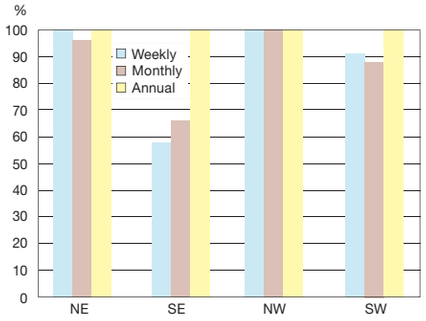


Figure 50 OC performance in report delivery

These reports were successfully delivered by the OCs.

Figure 50 shows the performance of all OCs in submitting the weekly, monthly and annual reports on time.

Automated Diary Facility (ADF)

The ADF contains roadworks information which is communicated to road users and the media via Traffic Scotland's web site and the variable message sign network. The OCs are required to constantly update the ADF.

PAG monitors the accuracy of the data held in the ADF, and issues ORIs where discrepancies are found. See figure 51 for details of ORIs issued.

Unit	2007/08	2006/07
NE	4	N/A
SE	4	N/A
NW	4	0
SW	5	6

Figure 51 The number of ORIs issued to each OC for discrepancies in the accuracy of the ADF

The performance of each OC was broadly similar, with almost all ADF entries being correct.

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.

5.4 Quality management

NE – BEAR

BEAR has a QMS, in accordance with the contract, which is being implemented in NE and SE. The documentation has been reviewed by PAG and Transport Scotland has given consent to its use.

PAG's audits confirmed the establishment of the system, although non-conformance and areas for improvement were identified.

However, BEAR's ability to resolve problems through its non-conformance reporting (NCR) system was disappointing throughout most of the year. Many actions were overdue and the NCR register was not being updated regularly with delays in recording PAG audit findings as NCRs. PAG escalated this problem by issuing a NNC and, from the start of 2008, there was a significant reduction in outstanding NCRs.

PAG's audit of the QMS included control of Sector Scheme approved subcontractors and found a good level of compliance.

BEAR successfully completed 36 internal audits in the year, including internal surveillance audits for Sector Scheme 12 – Traffic Management.

Figure 52 shows the status of NCRs raised from scheduled internal audits, based on BEAR's records at April 2008. Some improvement is needed for the close out of actions within set timescales. This is continuously monitored by PAG.

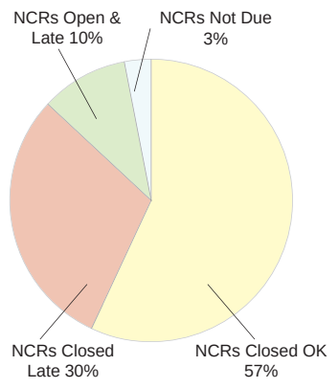


Figure 52 Status of NE internal Audit NCRs

As required, four Contract Quality Management System Manager (CQMSM) audits were carried out by QMI Scotland Ltd covering activities in NE and SE. The CQMSM recorded a high level of compliance with the requirements, although it also noted a need to ensure procedures are updated on an ongoing basis to reflect current practice.

SE – BEAR

BEAR has successfully established its QMS using the same system as in NE.

PAG audits generally confirmed the establishment of the system, although some non-conformances were identified and improvements were required.
At the start of the contract BEAR was not keeping its NCR register updated nor providing a copy to PAG on a regular basis. Although this was resolved, late closure of non-conformances remained an issue and PAG escalated this with a NNC. Significant improvements were then seen in the beginning of 2008. PAG is closely monitoring this situation and will take further action as necessary.

A PAG audit on BEAR's QMS and Sector Schemes requirements was carried out in June 2007. The audit concluded that most areas of the QMS were compliant. However, as the contract was in its early stages when the audit was carried out, further improvements will be expected.

PAG will audit the QMS in the coming year and will revisit those areas that were found to be weak, to confirm improvements have been made.

BEAR successfully completed 28 internal audits in the year, which met the contract requirements. Figure 53 shows the status of NCRs raised from internal audits during the year. The data obtained from the NCR register at April 2008 indicates that a number of NCRs are still being closed out late.

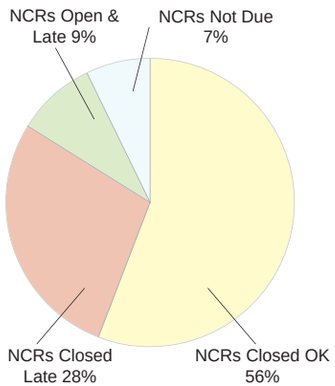


Figure 53 Status of SE Internal Audit NCRs

NW – Scotland TranServ

Scotland TranServ's QMS is well established and continues to be monitored and improved by the OC.

Initially, Scotland TranServ made a slow start to its internal audit programme and progress in resolving NCRs deteriorated. PAG escalated these problems with a NNC in July 2007. Scotland TranServ responded quickly by providing a revised audit programme and more details of the progress of NCRs.

Some improvement was evident in closing out corrections and corrective actions within set timescales. However, this performance was not consistently maintained. PAG continued to monitor the situation throughout the year and periodically reminded the OC of its responsibility of managing the closure of NCRs.

PAG's audit of the QMS indicated the system is working effectively, with an emphasis on continuous improvement through developing processes and proactive involvement from the OC's management team.

Scotland TranServ successfully carried out 34 internal audits in the year. The audit scheduling met the requirements of the contract and internal audit reports received by PAG were found to be satisfactory. Figure 54 shows NCRs raised from programmed internal audits by Scotland TranServ at April 2008.

Four CQMSM audits were carried out by management systems representatives for the parent companies. Action has been taken by Scotland TranServ to rectify the issues identified.

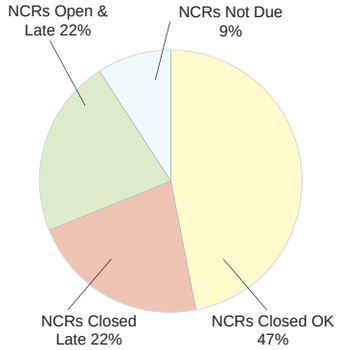


Figure 54 Status of NW internal audit NCRs

Additional internal audits were requested by the CQMSM where there was concern that the controls were not fully effective. These audits centred on programming and Category 1 defects; the EMS; safety, environmental and quality records; and scheme files. Action has been taken by Scotland TranServ to rectify the issues identified.

Monitoring, testing, recording and reporting

Following DNV external third party auditing in February 2008, Scotland TranServ's QMS was accredited to BS EN ISO 9001.

SW – Amey

Amey's QMS has achieved significant improvements during 2007/08. Close cooperation between the CQMSM and the OC's Performance Management Group has been particularly effective.

Closing out CARs showed significant improvements throughout the year in meeting target dates. Amey also introduced verification audits to confirm the actions taken had been effective. PAG audits identified that Amey was performing satisfactorily in most areas of its QMS. However, some weaknesses were identified, in particular the maintenance of training records and the presentation of some KPI results. Amey has taken appropriate action to resolve issues and this will be monitored by PAG.

The internal audit programme was successfully completed on time with 30 internal audits carried out in addition to the verification audits.

Figure 55 shows the number of NCRs raised from programmed internal audits recorded on Amey's NCR register at April 2008. Analysis of NCRs raised indicates that there is still room for improvement in closing out actions on time.

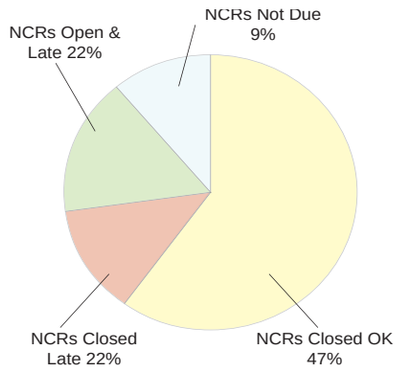


Figure 55 Status of SW Internal Audit NCRs at April 2008

Amey has been working with PAG to provide access to its intranet site. When IT issues have been resolved, the intranet site will allow PAG and Transport Scotland direct access to particular areas of interest.

Environmental management

The OCs 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.

5.5 Environmental management

Each of the OCs has established an EMS and PAG has monitored and audited their performance throughout the year.

NE – BEAR

BEAR was slow to establish the fully functional EMS which was required at the commencement of the 3G contract in April 2007. However, prompted by the issue of two NNCs, there was a significant improvement during the year.

The OC set two strategic environmental objectives for 2007. These were to:

- Achieve certification to ISO 14001: 2004
- Improve the effectiveness of waste control.

The first stage assessment for certification has been completed and certification is expected to be achieved during 2008. Provided BEAR implements the improvements indicated in its action plan, certification should be achievable.

BEAR employs a waste management sub-contractor, to handle the collection of waste arising from its operations, for disposal or recycling and to provide regular reports on waste quantities and compliance issues. However, there have been isolated problems concerning the control of waste streams prior to collection.

Following the issue of a NNC, BEAR took some action to improve the environmental management of the depot, but did not entirely resolve the issue.

BEAR's slow progress on these issues resulted in the issue of a further NNC. BEAR responded promptly by producing an action plan to address the issues by March 2008, which should bring about a marked improvement in its performance.

SE – BEAR

BEAR has developed a single EMS which is being implemented in NE and SE.

An audit in SE during the early part of 2008 found BEAR had significantly improved the implementation of its EMS and maintenance of its depots from the start of the contract.

Whilst the objective of certification to ISO 14001:2004 has not yet been achieved, BEAR has been working with its certification body throughout the year with the aim of attaining this in 2008.

BEAR employed the same organisation as NE to manage the collection of waste for disposal or recycling. This arrangement was seen to be working well at Burghmuir and Bilston Glen depots, where all waste types are collected and segregated into skips or storage bays before collection by the sub-contractor.

However, a visit to the Burghmuir depot during the course of the year identified a number of issues that required attention from BEAR.

A subsequent visit to the depot found that these issues had been rectified and other improvements made.

NW – Scotland TranServ

Scotland TranServ was successfully added to the scope of its parent company certification to ISO 14001 Environmental Management Systems in March 2008.

Monitoring, testing, recording and reporting

The use of the parent company high level environmental objectives instead of contract specific objectives was raised as an issue by PAG in its audit of July 2007. Scotland TranServ responded by producing a programme of objectives and targets specific to the Unit.

Several of Scotland TranServ's depots were visited by PAG throughout the year. Environmental issues were identified at each of the locations, but particular problems occurred where depots are shared with the local authority. Where issues were within the control of the OC, immediate action was taken to resolve them.

SW – Amey

Amey's EMS continues to have accreditation to ISO 14001.

The OC set environmental objectives and targets for the year, some high level and some contract specific. These were updated and analysed on a month to month basis, making it difficult to track progress against a programme.

Amey has an environmental team, made up of nine environmental graduates and environmental officers. PAG is encouraged by Amey's investment in establishing an environmental team comprising various individuals with a breadth of expertise.

During the year the OCs team established a rolling programme of environmental inspections of all depots.

Overall, the OC's environmental management was good. However, some problems were identified by PAG, relating to waste management and the storage of oils and chemicals at depots. The OC has taken steps to resolve these issues.

Health and safety

The 3G contracts require the OCs to establish health and safety management systems which meet the requirements of OHSAS 18001:2007.

A health and safety management system helps an organisation to manage its occupational health and safety more effectively and to achieve continuous improvement, whilst complying with relevant legislation.

5.6 Health and safety management

Health and safety is given the highest priority by Transport Scotland, the OCs and PAG. This is reflected in the contract requirement to operate a health and safety management system.

The OCs have been at the forefront in raising the profile of and improving health and safety for both road users and road workers. This has been done both externally through media campaigns and within their organisations through ongoing safety awareness training (see figure 56).

NE – BEAR

PAG's audit showed documentation was generally available and well-maintained. Depots visited were also well organised.

SE – BEAR

PAG's health and safety audit found the OC's procedures were up-to-date and in-line with the recent issue of CDM 2007. BEAR is in the process of updating procedures and reference clauses to the new issue of OHSAS 18001:2007.

Figure 56 Joint Amey and BEAR media campaign to highlight roadworker safety

NW – Scotland TranServ

The OC's health and safety management system was audited by PAG. The system was found to comply with the contract requirements.

Scotland TranServ has introduced a number of safety initiatives, such as driver awareness training, senior management safety tours and a behavioural safety initiative to maintain the focus on health and safety.

SW – Amey

Amey has an established health and safety management system and is accredited to OSHAS 18001:2007. PAG's audit showed the system was found to be satisfactory and Amey continues to meet the requirements of the contract.

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.

5.7 Resolving problems and improving performance

PAG continuously monitors the OCs' activities, predominantly using a structured approach, but also adopting a more flexible, reactive style when appropriate.

The structured monitoring is developed from an annual appraisal of the risks associated with failures by the OCs to deliver the contract requirements. This is used to establish the monitoring and auditing strategy.

The strategy directs a programme of activities such as auditing, statement reviews, site measurement reviews, tender document reviews and field engineers' route patrols.

PAG's flexible monitoring uses a variety of methods, including investigations of the OCs' responses to events on the network, investigations of reported areas of poor performance and proactive investigations preceding significant contract deliverables.

All issues arising from PAG monitoring or other sources are managed to conclusion using a formalised escalation process, see figure 57.

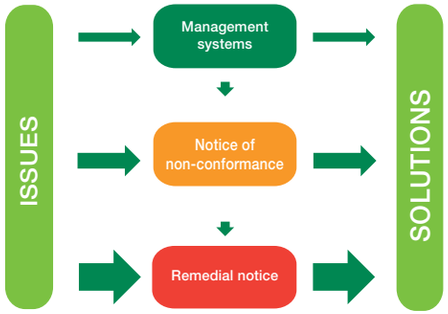


Figure 57 Procedure for resolving problems

PAG and Transport Scotland maintain a regular dialogue with the OCs regarding problems which have been identified. PAG also routinely monitors progress in the OCs' non-conformance registers. Progress of problems, which have been escalated to NNC or Remedial Notice, are reported at two weekly intervals and discussed at monthly progress meetings with Transport Scotland and each OC.

OC Performance

NE – BEAR

In NE, BEAR responded promptly when NNCs were issued and has, generally, resolved these without further escalation.

A total of 13 NNCs were issued during 2007/08. These included problems with cyclic maintenance of structures, EMS, QMS and RMMS (see figure 58).

A Remedial Notice was issued in mid July 2007 for:

- inaccurate financial statements.

This was resolved in mid October 2007.

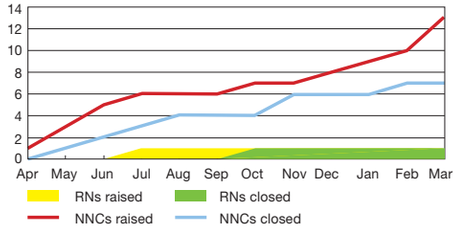


Figure 58 Issue and closure NNCs or Remedial Notices in NE during 2007/08

SE - BEAR

BEAR's response to NNCs has been poor with only six out of 13 NNCs issued being closed out at the end of the year. PAG closely monitored and liaised with BEAR throughout 2007/08, but action is still required by the OC to close out these outstanding problems (see figure 59).

A Remedial Notice was issued in mid July 2007 for:

- inaccurate financial statements.

This was closed out in early March 2008

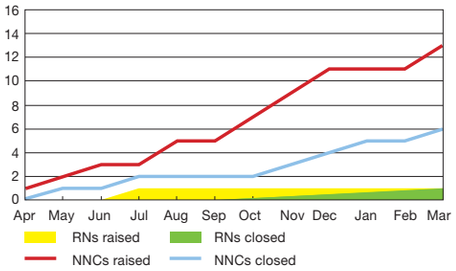


Figure 59 Issue and closure NNCs or Remedial Notices in SE during 2007/08

In addition to this, in early 2008/09, a remedial notice was issued for failure to complete the cyclic maintenance of structures in 2007/08.

NW – Scotland TranServ

The OC's performance was similar to the previous year with seven NNCs issued (see figure 60).

Three remedial notices were issued for:

- lack of accuracy in financial statements
- failure to maintain records in RMMS
- inadequate measurement records.

The remedial notice relating to lack of accuracy in financial statements was closed out in February 2008.

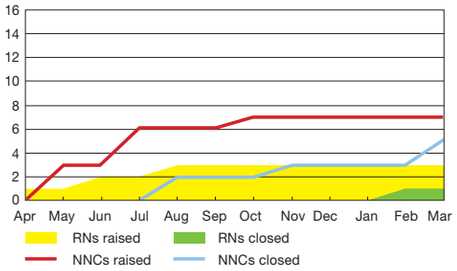


Figure 60 - Issue and closure NNCs or Remedial Notices in NW during 2007/08

SW – Amey

Several NNCs were issued in spring 2007 following discussion between Amey's senior management, Transport Scotland and PAG. As a result of this, a sustained improvement was observed during the latter half of the year. Over 2007/08, five NNCs were issued, which, compares favourably with 14 in the previous year.

The closure of NNCs to the required timescales was good (see figure 61).

Four remedial notices were issued early in the year for failures to:

- implement pre-wetted salt capability on winter patrol vehicles
- maintain RMMS records
- carry out the structures cyclic maintenance programme in 2006/07
- record scheme completions in the CCMS.

Action to resolve these was implemented promptly, although two remedial notices remained open at the end of the year.

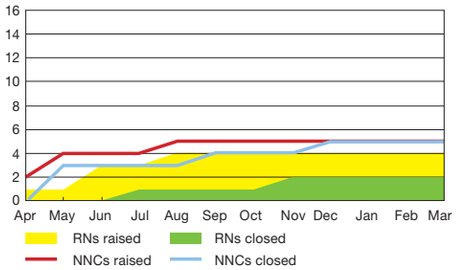


Figure 61 Issue and closure NNCs or Remedial Notices in SW during 2007/08

Key performance indicators (KPIs)

The OCs are required to provide certain information to indicate how they are performing in complying with the provisions of the contract.

This KPI information is used solely to monitor performance and has no contractual significance.

5.8 Key performance indicators

The contracts contain descriptions for each KPI, including the source of the data and the format of the values to be provided. However, issues regarding the consistency of measurements to be used were raised by NW and SW during 2006/07. These were substantially resolved following discussions between Transport Scotland, PAG and the OCs.

The agreement required some adjustment to the OCs' methods of calculating KPIs and it was agreed these will be introduced progressively to the end of 2007/08 and fully implemented during 2008/09.

PAG assessment for reasonableness

Some KPI information is reported by the OCs each month. PAG collates this, compares OC performance, identifies trends and includes a summary in its briefing notes for the progress meetings with all the OCs.

NE - BEAR

A PAG audit in March 2008 examined samples of results provided for twelve of the KPIs. This found that most of the results were verifiable, although some calculations were based on incomplete information.

The most recent information provided by BEAR at the end of 2007/08 corrected around 26% of the values provided during the year. Some of this was due to adjustments in the method of measurement, but the lack of robust values during the year is a concern.

PAG will monitor the results and revisions provided during 2008/09.

SE – BEAR

The PAG audit of twelve KPIs in April 2008 examined the results provided during 2007/08. The results for four of the twelve KPIs could not be verified and BEAR was required to improve its systems of recording and reporting KPI data in these cases.

Results provided by BEAR at the end of 2007/08 amended over 40% of the results provided during the year. While some of the changes are minor, or as a result of adjustments in the method of measurement, concern remains that the values provided during the year were not a true indication of the OC's performance. PAG will monitor the results provided during 2008/09.

NW - Scotland TranServ

In March 2008, PAG audited samples of results provided during 2007/08 for twelve KPIs. The audit found that Scotland TranServ had developed effective processes to produce verifiable KPI results. Where declining performance was indicated by the KPIs, NCRs were raised to generate improvement.

The OC revised or included previously unreported results for around 10% of the KPI results at the end of the year.

SW – Amey

The PAG audit of KPI results in SW recorded that some could not be verified. This problem had been recognised by Amey and NCRs had been raised to correct the problems identified.

Only approximately 6% of the results provided during 2007/08 were revised in the most recent KPI information provided at the end of the year.

KPI results – OC performance

The KPI performances are based on information provided by the OCs.

Sections of this report contains KPI information where appropriate. The information presented in this section covers other significant KPIs not included elsewhere.

Time taken to process planning applications

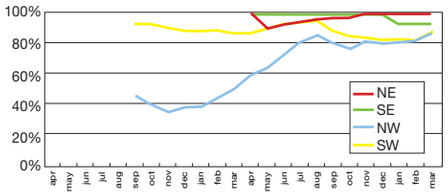


Figure 62 Percentage of planning applications submitted on time

Figure 62 shows the trends in performance of the OCs for submission of advice to Transport Scotland within the required timescale for planning applications.

NE- BEAR

BEAR's performance was very good after an early poor result.

SE- BEAR

The OC sustained very good performance.

NW – Scotland TranServ

After unacceptable performance in 2006/07, the OC improved during the first quarter of 2007/08 and can improve further.

SW – Amey

An anticipated improvement over the 2006/07 performance was not sustained and performance in the second half of 2007/08 was poor and could improve.

Draft responses and briefings to Transport Scotland on general and Ministerial correspondence

The OCs prepare draft responses and briefings to Transport Scotland for ministerial correspondence within required timescales. Figure 63 shows the performance of each OC.

	2006/07				2007/08			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
NE					100%	92%	100%	95%
SE					71%	100%	91%	90%
NW	100%	100%	100%	100%	100%	100%	100%	100%
SW	93%	100%	100%	96%	100%	100%	100%	100%

Figure 63 Draft responses and briefing to Transport Scotland on general and Ministerial correspondence

NE – BEAR

The OC consistently achieved very good performance.

SE – BEAR

BEAR's performance was good after an early poor result.

NW – Scotland TranServ

A consistent, excellent performance was achieved again in 2007/08.

SW – Amey

Amey also achieved a consistent, excellent performance during 2007/08

.

Answering of correspondence, enquiries and complaints

The OCs are required to reply to correspondence within specified timescales (see figure 64)

	2006/07				2007/08			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
NE					93%	93%	93%	100%
SE					83%	88%	88%	86%
NW	40%	47%	67%	36%	77%	91%	95%	92%
SW	93%	100%	100%	94%	100%	93%	84%	93%

Figure 64 Answering of correspondence, enquiries and complaints

NE – BEAR
In NE, BEAR performed consistently well.

SE – BEAR
In SE, BEAR could improve.

NW – Scotland TranServ
The OC improved to a good level of performance.

SW – Amey
Amey performed well, but lacked consistency.

Completion of Operations

This KPI reports the trend in performance of the OCs in completing operations within their estimated timescales (see figure 55).

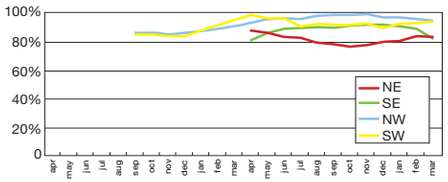


Figure 65 Trends for completion of operations instructions

NE- BEAR
BEAR performance was generally good but declined at the end of 2007/08.

SE – BEAR
In SE, BEAR performance was poorest and requires improvement.

NW- Scotland TranServ
The OC performed well for most of the year.

SW – Amey
Amey also performed well.

Patching works being carried out on the A78 in SE

Chapter 6

Financial

Key points

Overall position

- The budget allocation from Transport Scotland at £168.5m, was almost identical to the previous year.
- An Efficient Government Assessment indicated the 3G contracts delivered more work on the network for a similar budget than the previous arrangements.
- Overall, the financial systems operated by the OCs were robust, although there were some minor issues needing to be addressed by the OCs during the year.

Programme, budgets, orders and spend

- For all OCs overall spend was broadly in line with budget, with underspends in SE and NW being partly off-set against overspends in NE and SW.
- With the exception of SW, there is room for improvement from all OCs in the provision of accurate expenditure profiles.
- The OCs need to continue with close monitoring of spend against orders for specific schemes.

Contract control and management systems

- All the OCs operated a functional CCMS during the year.
- The OCs are not fully utilising CCMS to record the completion and closure of schemes.

Claims and commercial issues

- These continue to be reviewed and dealt with by Transport Scotland and PAG as required.

6.1 Financial overview

Overall Position – all Units

The overall financial postion across all Units is shown in figure 66 below.

	2007/08 £m	2006/07 £m	% +/-
Budget Allocation	168.5	169.0	-0.3
Budget Spent (excl.CPF)	165.8	162.5	+2.0
Total Value of Work Done (incl CPF)	171.9	174.3	-1.4
Split:			
- Operations	116.1	115.9	+0.2
- Works Contracts	55.8	58.4	-4.5

Figure 66 Overall position – All Units

A full profile of individual Unit financial performance is given in figure 67.

Spend was broadly in line with budget overall, with underspends in SE and NW partly matched by an overspend in NE and SW.

Whilst the total value of work done was similar to the previous year, an Efficient Government Assessment review for 2007/08 has indicated that the 3G contracts have delivered more work on the network for a similar level of budget than under the previous 2G contracts.

Initial indications are that the 3G contracts have delivered £17.8m more work for the same level of budget. This is up from £9.7m in 2006/07 as a result of Tranche 2 of the 3G Contracts coming on stream in the East Units.

Contract Price Fluctuation (CPF – an inflation index), applied to OC rates, reduced from £11.8m in 2006/07 to £6.1m in 2007/08.

This outturn reflects the cessation of 2G contracts on 31 March 2007 and the use of the 3G contract for all Units in 2007/08.

The base prices for Tranche 1 were established in 2005 and for Tranche 2 in 2006. Over the remaining life of the 3G contracts, CPF will continue to be applied.

PAG's monitioring and auditing showed that, overall, the OCs were operating robust financial systems.

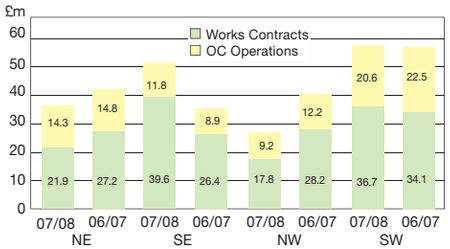


Figure 67 Overall position (including CPF) - all Units

6.2 Programmes, budgets, orders and spend

PAG assists TS and the OCs throughout the year, to monitor and report on the inter-relationship of budgets, orders and spend. How this fits into the overall process is shown in figure 68 below:

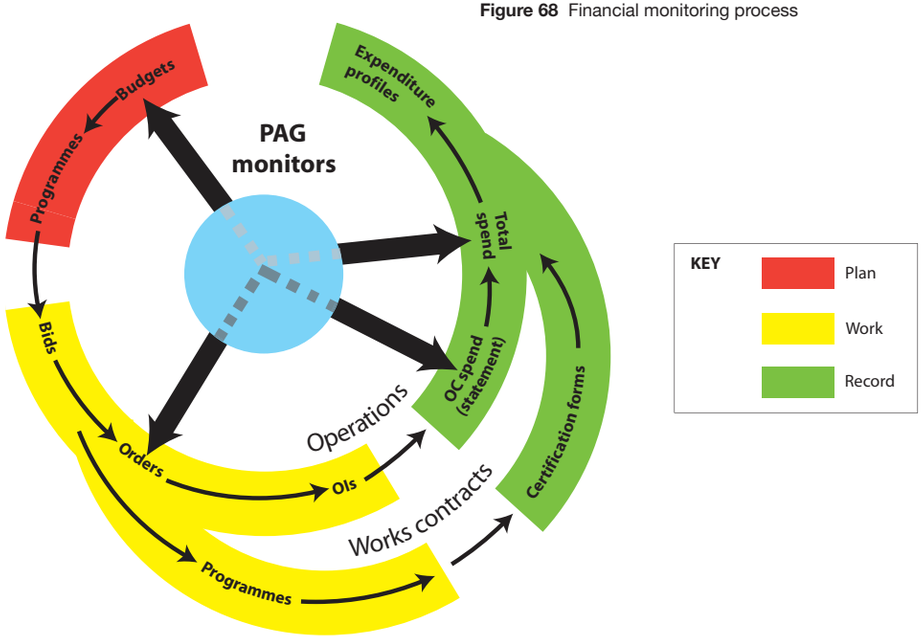


Figure 68 Financial monitoring process

A comparison of spend against budgets for the years 2007/08 and 2006/07 is shown at figure 69.

	2007/08 £m	2006/07 £m
Spend	165.8	162.5
Budgets	168.5	169.0
Variance	(2.7)	(6.5)
Spend/budgets %	98.4	96.2

Figure 69 Spend v Budgets

Budget variances

Both SE and NW delivered an underspend against budget. These were partly offset by overspends in NE and SW. The cumulative level of underspend at £2.7m (1.6%) across all Units was not material.

Expenditure Profiles

Expenditure profiles are an important tool for managing finances. As in previous years, PAG's monitoring of this area within the OCs' CCMS has shown continuing scope for improvement in the operation this control.

NE - BEAR

BEAR's performance has been slightly above average in spending its budget for 2007/08. This Unit's spend was in line with its budget, with a nominal overspend of £0.1m.

PAG has raised concern over the accuracy of the OC's expenditure profiles. PAG will continue to monitor OC performance in this area.

SE - BEAR

OC performance in spending its budget was poor, with the Unit reporting an underspend of £2.5m. This outturn may in part be due to start up issues following contract commencement in April 2007.

NW – Scotland Transerv

NW reported a net underspend of £1.3m. This was attributable to minor improvements partially off-set by an overspend against routine and cyclic maintenance work.

The accuracy of expenditure profiles for the NW was mixed. The profiles initially anticipated a high level of spend in the first half of the year. However, this did not materialise, with actual spend being at a lower level. PAG will monitor the OC's performance in this area.

SW – AMEY

Amey's performance throughout the year has been above average in delivering its budget. There was an overspend of £1m (2%) attributable to structures and structural maintenance.

This has been offset by underspends in routine and cyclic and minor improvements.

The OC's performance in accurately profiling spend was good, with actual spend in line with anticipated spend.

Financial control in delivering Operations

Figure 70 shows the bidding for work process:

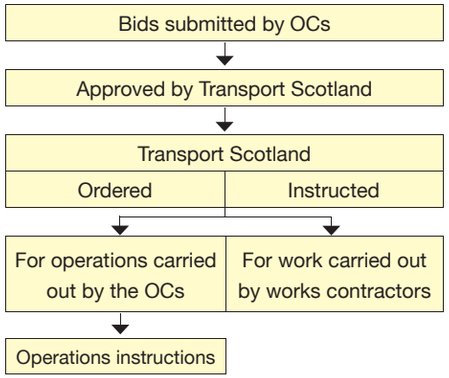


Figure 70 The bidding for work process

NE and SE – BEAR

PAG auditing and monitoring has highlighted concerns over the robustness of the OCs' measurement processes.

In a number of instances measurement of work done was not sufficiently robust to fully substantiate the OCs' charges. At the time of reporting these issues are subject to a NNC in each Unit. BEAR is working to an agreed action plan to resolve this.

NW – Scotland TranServ

The measurement process in the NW is subject to a remedial notice which was issued in August 2007. This relates to improvements required in demonstrating the basis of charging for work done.

PAG's ongoing monitoring has highlighted further issues, with monies being deducted where appropriate.

SW – Amey

Amey improved its measurement process during the year. A remedial notice on measurement issues was closed in April 2008.

Orders v Spend

The OCs have a responsibility to ensure that the value of orders issued by TS matches with their annual budgets and ensuing spend.

It is inevitable that operational demands will change over the year. Work that was bid and ordered may not proceed, or alterations are made to the specification which has a significant impact on financial out-turn.

OCs should ensure that de-bids are submitted to enable ordered work to track budget and anticipated spend. Throughout the year, activity of the OCs is monitored by PAG to ensure spend for each scheme does not exceed order value. PAG also reports on the relationship between total spend and total order value. Good budgetary control by the OCs is necessary to ensure that overspends do not occur.

During 2007/08 there was a general issue with all OCs overspending on amounts ordered for specific schemes. The OCs are investigating the reason for this as, apart from NW, the other OCs have built in controls to prevent this.

NW operates a manual process, which is allowed under the contract. Failure to resolve overspends has resulted in monies being deducted during the year from all Units, apart from SE.

6.3 Contract control and management systems

All the OCs continued to operate fully functional CCMS during 2007/08.

Whilst certain functional areas of CCMS performance, around reporting for example, gave some cause for concern, this did not affect the overall integrity of the systems.

As in 2006/07, all OCs did not effectively utilise CCMS to record the completion and closure of the schemes.

NE and SE - BEAR

BEAR operate the same CCMS in NE and SE. As this is the first year of the 3G contract for these Units there was a need to validate the CCMS. Some minor issues were identified which did not impact on the integrity of the system. BEAR is currently working with its software supplier to resolve these issues.

A CCMS User Group has been set up involving all parties to identify and address any issues arising from using the system.

NW - Scotland TranServ

A number of agreed changes and reports have still to be made available through the CCMS. The issues do not affect the integrity of the CCMS.

Issues are discussed at measurement and CCMS user group meetings

SW - Amey

As in NW there were CCMS validation issues to be addressed in year two of the contract. These were the subject of a NNC which was closed in May 2008.

CCMS/RMMS link

The effective links between each OC's CCMS to the external RMMS have been problematic during 2007/08. Indications are that improvements are required to the RMMS aspect of this. A solution is being sought by all parties at the time of writing. See section 5.2.

6.4 Claims and commercial issues

As with any major contract between parties, there will be issues around contract interpretation.

The commercial teams within Transport Scotland and PAG review and address all issues that arise under the contract. In addition, regular commercial meetings are held between parties to resolve matters.

Issues currently under discussion are unlikely to have a material impact on budgets.

Glossary of main terms

2G contracts
Second generation contracts which started on 1 April 2001 in all Units. These contracts continued in NW and SW until 31 March 2006 and in NE and SE until 31 March 2007.

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.

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.

Financial year
The period between 1 April 2007 and 31 March 2008.

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 3,128 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.

Operations
Work carried out by the OCs.

Orders
Instructions issued by Transport Scotland to the OCs. These give details of operations (not works contracts) to be 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 supplied by Transport Scotland and operated by the OCs, 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.

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.

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 between £250k and £5m, which the OCs design, procure through competative tender and supervise on site.

Acronyms

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

Useful websites

PAG
www.performanceauditgroup.co.uk

Halcrow
www.halcrow.com

PricewaterhouseCoopers
www.pwc.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 Government
www.scotland.gov.uk

Scottish Parliament
www.scottish.parliament.uk

Amey
www.swtrunkroads.amey.co.uk

BEAR
www.bearscot.com

Scotland TranServ
www.scotlandtranserv.co.uk

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