



The Performance Audit Group's Annual Report **2015/16**

An independent public report on Scotland's trunk road maintenance

PAGplus

City Park 368 Alexandra Parade, Glasgow, G31 3AU
Tel +44 (0) 141 552 2000 Fax + (0) 141-562 2525
www.performanceauditgroup.co.uk

Acting on behalf of the Trunk Road and Bus Operations
Directorate of Transport Scotland

ch2m.SM

in association with PricewaterhouseCoopers,
Aecom and TRL

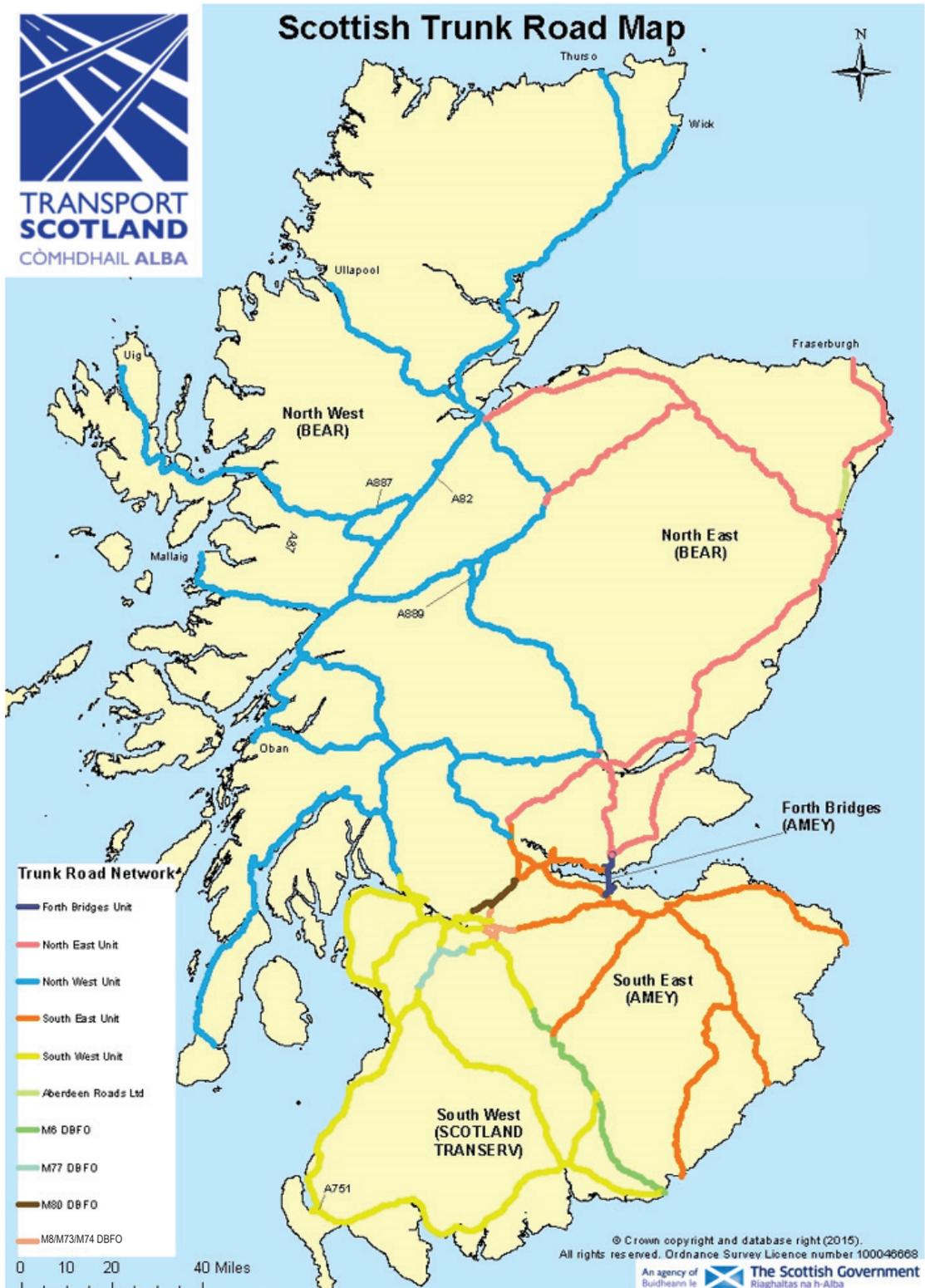


Figure 1 - The Scottish trunk road network (2015/16) and how it is divided up for contract purposes (see Figures 1-02 - 1-05 for details of the Units)

Foreword

This is the Performance Audit Group's (PAG) annual report on the management and maintenance of Scotland's trunk road network for 2015/16.

This report summarises the extensive work carried out by our experienced multi-disciplinary team over the last year, led by CH2M. Our role is to audit, monitor and report on the performance of the Operating Companies (OCs) in managing and maintaining the Scottish trunk road network.

Our team works closely with our client, Transport Scotland, who is committed to effectively managing the network. The overall aim of all parties is to raise standards and assist Transport Scotland in providing a safe and reliable network. Our team's approach to the commission is one of working closely with Transport Scotland and the OCs to provide:

- quality of service
- asset enhancement
- value for money

and collectively deliver sustainable value to all stakeholders.

We trust you find our latest report clear, comprehensive and informative.



Eddie McDowell
Performance Audit Group
Commission Manager
CH2M
December 2016

Executive summary

The 4G contracts have generated savings through the competitive procurement process when compared to prices under the 3G contracts for similar operations. Savings of £5.4m were delivered during 2015/16, with cumulative savings of £20.3m delivered to date over the life of the 4G contracts.

The budget for 2015/16 of £143.6m was up £4.2m (3.0%) from the previous year. However, with the introduction of the Forth Bridges Unit (FB) in 2015/16 with a budget of £17.5m, budget levels are down £13.3m (10%) in real terms compared to 2014/15.

Improvements in the level of service across the network were achieved in numerous areas as highlighted in the 'Performance at a glance' table on page 4; however, performance also reduced elsewhere. Overall, while NW, NE and FB delivered a good performance, SE and SW delivered only a fair performance.

FB made a good start after the contract commenced on 1 June 2015. The OCs handling of the emergency closure of the Forth Road Bridge in December 2015 and its ability to undertake the emergency truss end-link interim repairs within a three week period to re-open the bridge to over 90% of users was exemplary.

NW has maintained its good performance from last year, but still needs to improve further with respect to recording of some

inspections in IRIS and cyclic maintenance activities. Some quality management system process failures were identified.

NE performance has reduced, but remains good overall with improvement required to recording of some inspections and cyclic maintenance activities. A number of quality management system process failures were identified.

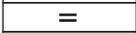
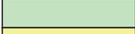
SE performance has reduced from good to fair, with improvement required to the recording of some detailed inspections in IRIS, inventory management and some cyclic and reactive maintenance activities.

SW has maintained its fair performance from last year. Improvements in some areas have been counterbalanced by reduced performance in other areas. Areas for improvement include inventory management and some cyclic and reactive maintenance.

The PAG team is proud of our ongoing and effective 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 OCs.

Performance at a glance

PAG has used a rating system to assist in benchmarking OC performance. These performance ratings have been applied throughout the Annual Report to reflect overall OC performance for the various areas reviewed. This performance at a glance table is a summary of these ratings and, where relevant, provides a comparison with OC performance in 2014/15. No prior comparison is available for FB as it is in the first year of its contract.

Key:		Excellent		Performance better than last year
		Good		Performance unchanged from last year
		Fair		Performance worse than last year
		Poor		Activity not reviewed in 2015/16
		Very Poor		

	NW	SW	NE	SE	FB
Chapter 2 Network management					
2.1 Network reliability					
2.1.2 Availability of the network to road users	=	=	=	=	
2.2 Network safety					
2.2.1 Safety inspections and patrols	=	=	▲	▲	
2.2.2 Detailed inspections - roads	▼	▼			N/A
2.2.3 Inspecting structures	=	=	=	▼	
2.3 Inventory management					
2.3.1 RMMf	▲	=	▲	=	N/A
2.3.2 SMS	=	▲	=	=	
2.3.3 Electrical assets	▲	▼	▲	=	
2.4 Traffic Management	=	▲	▼	=	
2.5 Sustainability	▼	=	=	▼	

Performance at a glance

	NW	SW	NE	SE	FB
Chapter 3 Network maintenance					
3.1 Cyclic maintenance					
<i>Grass cutting</i>	=	▲	=	▼	
<i>Weed control</i>	=	=	▼	=	
<i>Soft landscaping</i>	=	▲	=	▼	
<i>Sweeping, cleansing and litter</i>	▲	=	▼	=	
<i>Drainage, gullies and ironwork</i>	▼	=	▼	▼	
<i>Signing, signals, road markings and studs</i>	=	=	▼	=	
<i>Structures</i>	=	▼	=	=	
3.2 Reactive maintenance					
<i>Lighting</i>	▼	▼	▼	=	
<i>Safety fences, barriers and fencing</i>	=	=	▼	▼	
3.2.1 Repair of category 1 defects	=	=	=	▼	
3.2.2 Incidents	=	▼	▼	▼	
3.2.3 Winter service					
<i>Winter readiness</i>	=	▼	▼	▲	
<i>Winter decision making</i>	=	▲	=	=	
<i>PI for winter service performance</i>	=	=	▲	▲	
<i>Management of salt stocks</i>	=	=	=	=	
<i>Road closures</i>	N/A	N/A	N/A	N/A	N/A
3.3 Planned maintenance					
3.3.1 SOI					N/A
3.3.2 Roads	=	▲	▲	▲	
3.3.3 Structures	=	=	=	=	
3.4 Works contracts					
<i>Tender documents</i>	N/A	▼	N/A		N/A
<i>Supervision</i>	=	=		N/A	N/A

Performance at a glance

	NW	SW	NE	SE	FB
Chapter 4 Quality of service					
4.1 Management systems					
Quality management systems- processes		N/A		N/A	N/A
Quality management - rectifying non-compliance (PAGplus and internal)	=	▲	=	▼	
<i>Health and Safety management</i>	▼	=	▼	▼	
<i>Environmental management</i>	▼	▲			
4.2 Continuous Improvement	=	=	▼	▼	
Chapter 5 Value of service					
5.1 Budgets, orders and spend					
<i>Budgetary control</i>	▲	=	=	▼	
<i>Orders v spend</i>	▲	=	=	=	
5.2 Financial management					
5.2.1 Submission of financial information	=	▼	=	=	
5.2.2 General financial management	▲	▼	▲	=	
5.3 Commercial matters					
5.3.1 Measurement issues	=	=	=	=	
5.3.2 Claims	▼	=		▼	

Contents

Foreword	2
Executive summary	3
Performance at a glance	4
Chapter 1: Overview	9
Background	9
Network spend	14
Spend analysis	15
Chapter 2: Management of service	16
2.1 Network reliability.....	17
2.1.1 Coordinating roadworks	17
2.1.2 Availability of the network for road users.....	17
2.1.3 Scottish Road Works Register	17
2.1.4 Abnormal loads.....	18
2.1.5 High loads	18
2.2 Network inspections	18
2.2.1 Safety inspections and patrols	18
2.2.2 Detailed inspections – roads.....	19
2.2.3 Inspecting structures.....	20
2.3 Inventory management	21
2.3.1 Routine maintenance and management function (RMMf).....	21
2.3.2 Structures management system (SMS).....	22
2.3.3 Electrical assets.....	23
2.4 Traffic management.....	24
2.5 Sustainability.....	24
Chapter 3: Delivery of service	27
3.1 Cyclic maintenance.....	28
3.2 Reactive maintenance.....	32
3.2.1 Category 1 defects.....	34
3.2.2 Incident response	34
3.2.3 Winter	36
3.3 Planned maintenance	39
3.3.1 Statements of intent audit.....	40
3.3.2 Roads.....	40
3.3.3 Structures	41
3.4 Works contracts.....	43

Contents

Chapter 4: Quality of service	45
4.1 Management systems	46
4.2 Continuous improvement.....	50
Chapter 5: Value of service	56
5.1 Financial spend.....	57
5.1.1 Budget, orders and spend	57
5.2 Financial management.....	59
5.2.1 Submission of financial information	59
5.2.2 General financial management.....	60
5.3 Commercial matters	60
5.3.1 Measurement issues.....	60
5.3.2 Claims	61
Frequently asked questions	62
Glossary of main terms	64
Abbreviations	66
Useful websites	67

Chapter 1

Overview

Background

The Scottish trunk road network

The network is divided into five geographic Units (NE, SE, NW, SW and FB) and four DBFO/PPP projects, each with its own contract (see Figure 1).

Each of the five Units (see Figures 1-02 to 1-05) is managed and maintained by an OC. Figure 1-01 outlines the structure of these arrangements.

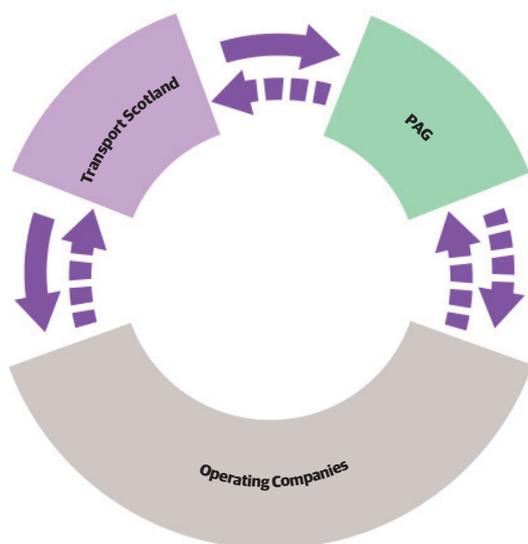


Figure 1-01 - Structure of arrangements between Transport Scotland, PAG and the OCs

The network is 3,134km long, excluding M6 DBFO, M77 PPP, M8/M73/M74 DBFO and M80 DBFO. It contains a total of 5,613 structures, including 1,896 bridges and footbridges.

The OC contracts

From 1 June 2015, the 4G contract in FB has been managed and maintained by Amey. The current contract expiry date for this contract is May 2020.

From 16 August 2014, the 4G contract in NE has been managed and maintained by BEAR Scotland Ltd (an independent company jointly owned by Jacobs Engineering, Breedon Aggregates and Eurovia) and the 4G contract in SE has been managed and maintained by Amey.

The 4G contracts in NW and SW have been managed and maintained by BEAR Scotland Ltd and Scotland TranServ (a joint venture between Balfour Beatty and Mouchel) respectively since 1 April 2013.

The current contract expiry date for NW, SW, NE and SE contracts is August 2020.

The contracts' objectives

The contracts to manage and maintain the network were awarded by the Scottish Ministers, and focus on the following three objectives:

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

The contracts also aim to encourage:

- Flexibility – “to accommodate changes to the trunk road network.”

Performance ratings

PAG uses a star rating system to assist in benchmarking OC performance. These performance ratings have been applied throughout the report.

Ratings used are:

- ★★★★★ Excellent
- ★★★★☆ Good
- ★★★☆☆ Fair
- ★★☆☆☆ Poor
- ★☆☆☆☆ Very poor

A summary of these ratings can be found in the ‘Performance at a glance’ section of this report. It should be noted that in the instance of a Notice of Non-Conformance (NNC) or Remedial Notice being issued, scoring of the related section reduces to no higher than ‘fair’ or ‘poor’ respectively.

Chapter 1

Overview

North West fact file



Figure 1-02 - NW Unit

Managed and maintained by: BEAR Scotland Ltd.

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

Total route length of the network in NW: 1,422km
Number of structures: 2,418
Budget for maintaining trunk roads in NW this period: £41.1m

Chapter 1

Overview

South West fact file



Figure 1-03 - SW Unit

Managed and maintained by: Scotland TranServ.

Scotland TranServ's central office:

Oatlands House
150 Polmadie Road
Glasgow
G5 0HD

Total route length of the network in SW: 623km

Number of structures: 1,730

Budget for maintaining trunk roads in SW this period: £35.6m

Chapter 1 Overview

South East / Forth Bridges fact file



Figure 1-05 - SE and Forth Bridges Unit

Amey's central office for SE:
6A Dryden Road
Bilston Glen
Loanhead
EH20 9TY

Total route length of the network in SE: 473km
Number of structures: 740
Budget for maintaining trunk roads in SE this period: £24.8m

Amey's central office for FB:
Forth Road Bridge
Administration Office
Ferrymuir Gait
South Queensferry
EH30 9SF

Total route length of the network in FB: 23km
Number of structures: 102
Budget for maintaining trunk roads in FB this period: £17.5m

Chapter 1 Overview

Network spend

Reported spend figures are inclusive of contract price fluctuations (CPF) unless otherwise stated.

A comparison of spend figures for 2015/16 and 2014/15 is shown in Figure 1-06. Total spend for 2015/16 is £145.5m (2014/15: £139.2m).

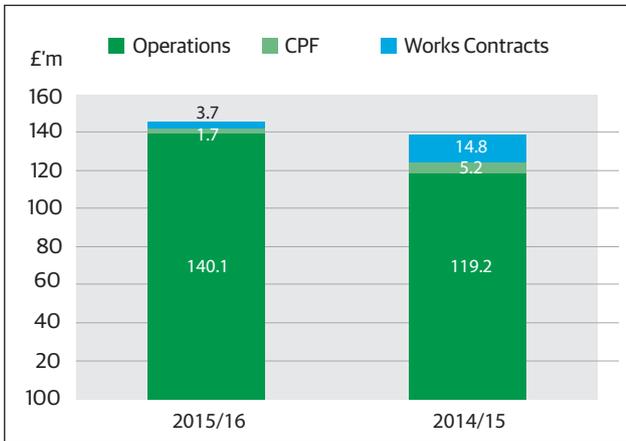


Figure 1-06 - Financial comparison - all Units

A profile of spend by Unit split between OC operations and works contracts is given in Figure 1-07.

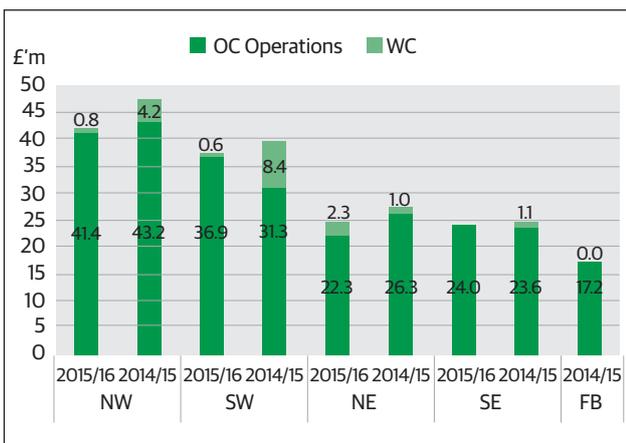


Figure 1-07 - Spend split by works and operations by Unit

The budget for 2015/16 of £143.6m (net of CPF) was up £4.2m (3.0%) from the previous year (see Figure 1-08). However, with the introduction of Forth Bridges Unit (FB) in 2015/16 with a budget of £17.5m, budget levels are down in real terms compared to 2014/15.

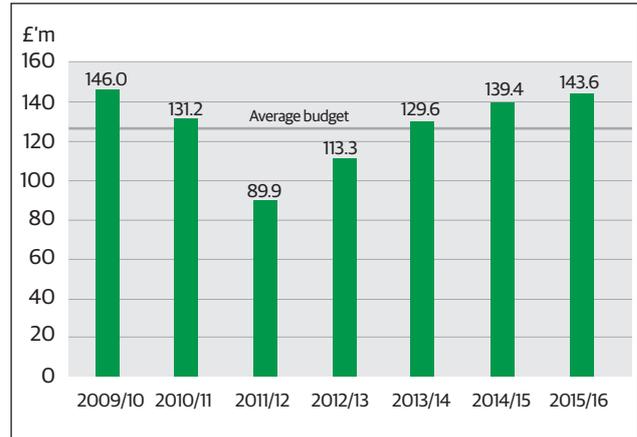


Figure 1-08 - Comparison of budgets (net of CPF) for maintenance and improvements

Spend net of CPF for 2015/16 is £143.8m (2014/15: £134.0m), which is £0.2m greater than budget.

For 2015/16 CPF payments totalled £1.7m on operations priced at base rates totalling £140.1m (see Figure 1-06). The CPF figure for 2014/15 was £5.2m on operations priced at base rates totalling £119.2m.

The reason for the decrease in CPF payments was 3G East Unit contracts coming to an end in August 2014. These contracts attracted a higher CPF adjustment, with rates set at 2006 prices. 4G East Unit rates are set at 2014 prices and CPF for 4G currently reflects deflation, as can be seen in Figure 1-09.

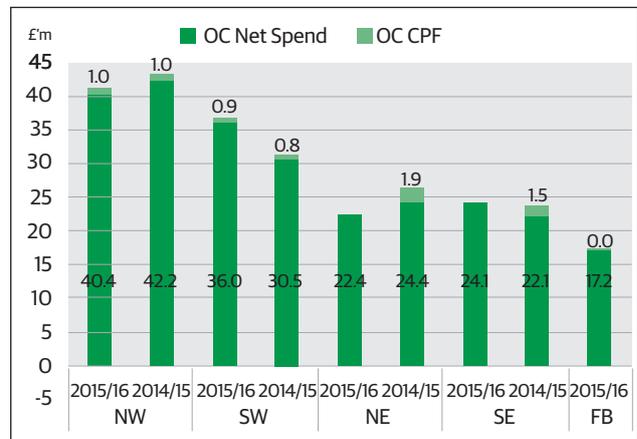


Figure 1-09 - OC spend split by base rates and CPF - all Units

Chapter 1

Overview

Transport Scotland's 4G contracts have generated savings through a competitive procurement process when compared to prices under its previous contracts for like operations. Savings of £5.4m have been delivered during 2015/16, with cumulative savings of £20.3m delivered to date over the life of the 4G contracts.

Spend analysis

Transport Scotland reports a network asset valued at a net £11.2bn for roads and £4.5bn for structures. In maintaining its asset, Transport Scotland spent £145.5m during 2015/16 (2014/15: £139.2m). Figure 1-10 shows how this spend was allocated by asset type during the year.

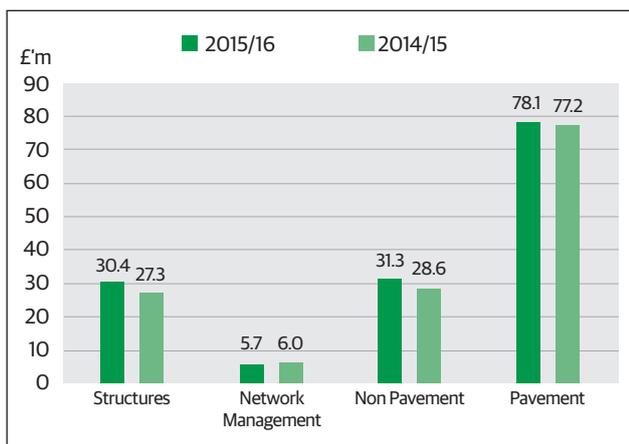


Figure 1-10 - Spend by asset type - all Units

The spend categories identified in Figure 1-10 are detailed below:

- Structures includes bridges, footbridges, underpasses, culverts, retaining walls, sign gantries, high mast lighting and CCTV masts.
- Network management includes core operation activities not directly attributable to structures, non-pavement and pavement assets.
- Non-pavement includes drainage systems, vehicle restraint systems, street lighting, traffic signs and other ancillary assets.
- Pavement includes only carriageways and footways.

Figure 1-11 shows spend by maintenance activity.

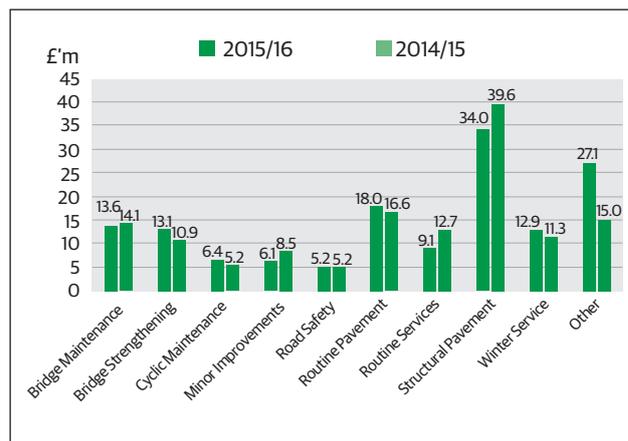


Figure 1-11 - Spend by maintenance activity - all Units

Chapter 2

Management of service

Key points

Network reliability

- The OCs' performance in minimising the delays and disruption to road users was excellent.
- Overall, 99.6% of the network was available to road users in 2015/16.
- In general, the OCs were correctly placing notices in the Scottish Road Works Register (SRWR).

Network inspections

- In general, the OCs completed inspections on time, and problems identified in this report relate mainly to the OCs' performance at recording completed inspections within IRIS.
- Significant improvement was achieved by NE and SE resulting in a good performance by all OCs with respect to safety inspections.
- Poor performance by SW and very poor for NW, NE and SE on detailed inspections. FB has made month-on-month progress since contract commencement in June 2015.
- NW, NE and FB all successfully completed their structures inspections either within or ahead of programme, whereas SW and SE required extensions of time to complete their inspection programmes.

Inventory management

- Good performance by NW and NE with both making considerable progress in inventory validation and condition rating.
- Poor performance by SW and SE. No significant progress was made by SW in inventory validation and condition rating pending resolution of an ongoing claim.
- FB has made progress in inventory validation and condition rating since contract commencement in June 2015.

Traffic management

- FB delivered excellent performance and SW and NE good performance in traffic management. Performance achieved by NW and SE was fair.

Sustainability

- SW and NE delivered good performance while NW and SE delivered fair performance in implementing sustainable practices into their operations. Performance by FB was excellent.

Chapter 2

Management of service

2.1 Network reliability

Network reliability

The delivery of Transport Scotland's investment by the OCs is pivotal to a safe, efficient, reliable and sustainable network.

The OCs are required to minimise the potential disruption and inconvenience to road users caused by essential maintenance by planning works, combining activities, and coordinating with all stakeholders, including statutory undertakers.

2.1.1 Coordinating roadworks

In 2015/16, there were 19,156 roadworks sites across the network, an average of 52 per day (63 per day in 2014/15). Figure 2-01 shows the number of roadworks sites in each Unit during the year.

Unit	Number of roadworks sites
NW	7,274
SW	3,509
NE	5,011
SE	2,997
FB	365

Figure 2-01 - Number of roadworks sites in 2015/16 (source Traffic Scotland Automated Diary Facility)

Various measures were put in place by the OCs to reduce disruption and maintain network availability and safety during roadworks. These included:

- Traffic management measures such as contraflows, use of temporary vehicle restraint systems, lateral safety zones and convoy working
- Advance notice of roadworks using TV, radio and press media campaigns, variable message signs and social media
- Increased stakeholder consultation
- Communication on road closures
- Road closures with agreed diversion routes.

2.1.2 Availability of the network for road users

-all Units ★★★★★

The OCs' performance in minimising the impact of roadworks is measured as a monitoring indicator (MI). This is based on

the length and time of lane closures in each Unit. These road occupation values are used to calculate the overall percentage of the network available to road users. This is related to budget and planned maintenance activities that require network intervention to undertake.

All Units maintained excellent performance in keeping the network open (see Figure 2-02).

Unit	% Available
NW	99.999%
SW	99.997%
NE	99.980%
SE	99.982%
FB	98.112%
Total	99.614%

Figure 2-02 - MI reporting road occupations and percentage of network available to road users

2.1.3 Scottish Road Works Register

The Scottish Road Works Commissioner was established under the Transport (Scotland) Act 2005 to oversee the planning and coordination of works on Scotland's roads by all roads authorities and statutory undertakers.

The SRWR is a database used by all roads authorities and statutory undertakers to register and coordinate all proposed work. It is also used to monitor reinstatement, supervision and road work history. Every public road in Scotland is included in the SRWR. The Scottish Road Works Commissioner is the Keeper of the SRWR.

The OCs have responsibility for:

- checking all trunk road information is accurate
- coordinating the execution of works affecting the trunk roads and monitoring the performance of undertakers in fulfilling the relevant legislative requirements
- registering their own works in accordance with the appropriate legislation.

In general all OCs were found to be issuing notices of roadworks to the SRWR. Inconsistencies were found in some SW and NE

Chapter 2

Management of service

site location descriptions, and some incorrect dates were found in NE and NW data.

The monitoring activity will continue in 2016/17 to ensure road works are being accurately populated onto SRWR.

2.1.4 Abnormal loads.

Abnormal load movement is one of the network management tasks which is delegated to the OCs. Each OC provides an abnormal load routing and coordination service within its Unit and liaises with hauliers and other statutory bodies. This is a reserved matter.

One of the key aspects of the service is assessing the suitability of bridges and other structures on the network to carry heavy loads, as well as the suitability of routes to carry wide or long loads.

In 2015/16, the five OCs approved 598 special order abnormal load applications (in 2014/15, the four OCs approved 428 applications) (see Figure 2-03).

Unit	2015/16
NW	66
SW	132
NE	166
SE	149
FB	85
Total	598

Figure 2-03 - Special order abnormal load applications

2.1.5 High loads

Unlike abnormal load movement, high loads are not specifically covered by legislation.

All OCs continued to undertake assessments, sign reviews and identify mitigation measures at high risk sites, such as low operational rail bridges over trunk roads. Low bridges are defined as having less than 16'6" (5.03metres) clearance and require to be signed with the height of the highest vehicle permitted to pass under them.

Transport Scotland and the OCs provide coordination and route planning advice for high load movements on request.

Transport Scotland has published on its website guidance as well as the "High Load Grid", a collection of advisory routes on the Scottish trunk road and local road network for extremely high loads, in 2 High Load Route categories, 18' (5.7m) & 20' (6.45m) routes.

Since Transport Scotland introduced its over-height vehicle strategy, the number of bridge strike incidents across the network has remained low, with four recorded strikes in 2015.

2.2 Network inspections

Inspections

To deliver reliable journey times, ensure safety of the network and ensure budgets are allocated to areas of most need, the OCs are required to implement inspection regimes.

Weekly safety inspections/patrols are carried out on all routes to identify and repair the most serious defects quickly.

To maintain the safe condition of the trunk road assets, detailed inspections are carried out, typically annually, to identify minor defects. These defects are grouped into schemes, which are prioritised based on need.

In general, the OCs completed inspections on time. Problems identified in this report relate mainly to the OCs' performance at recording completed inspections within IRIS.

2.2.1 Safety inspections and patrols

Figure 2-04 gives the OCs' performance in completing safety inspections on time.

Unit	2015/16	2014/15
NW	98.0%	96.2%
SW	97.1%	98.4%
NE	97.8%	88.3%
SE	98.8%	81.8%
FB	96.4%	N/A

Figure 2-04 - Safety inspection performance

Chapter 2

Management of service

NW – BEAR ★★☆☆☆

BEAR's performance remains good.

Overall, 98.0% of safety inspections and patrols were recorded as being completed on time. This comprised 99.7% of safety inspections and 94.9% of night time safety patrols.

PAG noted issues with some of the safety inspection files which were uploaded into IRIS incorrectly.

SW – Scotland TranServ ★★☆☆☆

Scotland TranServ's performance remains good.

Overall, 97.1% of safety inspections and patrols were recorded as being carried out on time. This included 98.8% of safety inspections, 97.7% of safety patrols and 94.6% of night time safety patrols completed on time.

NE – BEAR ★★☆☆☆

Overall, performance increased significantly from poor to good.

Overall, 97.8% of safety inspections and patrols were recorded as being completed on time. This comprised 99.12% of safety inspections, 97.94% of safety patrols and 96.11% of night time safety patrols completed on time.

In October 2015, a discrepancy was noted between figures reported by the OC and recorded in IRIS. This resulted from the changeover from the four-weekly summer inspections to the two-weekly winter inspections.

SE – Amey ★★☆☆☆

Overall, Amey's performance increased significantly from poor to good.

Overall, 98.8% of safety inspections and patrols were recorded as being completed on time. This comprised 99.70% of safety inspections, 99.42% of safety patrols and 96.86% of night time safety patrols completed on time.

In October 2015, as with NE, a discrepancy was noted between figures reported by the OC and recorded in IRIS. This resulted from the changeover from the four-weekly summer inspections to the two-weekly winter inspections.

FB – Amey ★★☆☆☆

Amey's performance was good.

Overall, 96.4% of safety inspections and patrols were recorded as being completed on time. This comprised of 99.1% of safety inspections, 99.6% of safety patrols and 88.9% of night time safety patrols completed on time.

2.2.2 Detailed inspections – roads

During the reporting period, the OCs identified technical difficulties when uploading detailed inspection figures relating to electrical assets into IRIS. This had a negative impact on the OCs reported performance, particularly in the NE and SE. Pending resolution of these issues the OCs were asked to remove the electrical assets requiring inspection from the total number of inspections during the latter part of the period. As this adjustment was not carried out for the majority of the period, the performance by the OCs in completing detailed inspections in 2015/16, as shown in Figure 2-05, is unadjusted for electrical assets.

Unit	2015/16	2014/15
NW	61.0%	69.0%
SW	75.5%	84.0%
NE	47.5%	N/A
SE	50.3%	N/A
FB	47.2%	N/A

Figure 2-05 – OC performance in completing detailed inspections (excluding electrical inspections)

The method of measurement for performance is based on the percentage of detailed inspections carried out within the required intervals as recorded within IRIS. In general, the OCs completed the inspections on time, and any problems identified in this report relate to the OCs' performance at recording completed inspections within IRIS.

NW – BEAR ★☆☆☆☆

BEAR's performance reduced to very poor with only 61.0% of the required detailed inspections recorded as being carried out. This represents a deterioration in performance from the 69.0% recorded in 2014/15.

A NNC raised in January 2014 remained open throughout the reporting period.

Chapter 2

Management of service

Transport Scotland and PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SW – Scotland TranServ ★★☆☆☆

Overall, the performance by Scotland TranServ reduced to poor with 75.5% of the required detailed inspections within the required intervals being recorded as carried out. This represents a deterioration in performance from the 84.0% recorded in 2014/15.

PAG will work closely with the OC to establish how performance will be improved in 2016/17.

NE – BEAR ★☆☆☆☆

Overall, the performance by BEAR was very poor with only 47.5% of the required detailed inspections recorded as being carried out.

Throughout the period there were issues with discrepancies between OC figures for detailed inspection and those reported through IRIS.

Transport Scotland and PAG will work closely with the OC to establish how performance and reporting will be improved during 2016/17.

SE – Amey ★☆☆☆☆

Overall, the performance by Amey was very poor with only 50.3% of the required detailed inspections recorded as being carried out. Amey started the period very slowly with significant improvements noted from July 2015 onwards.

Throughout the period there were issues with discrepancies between OC figures for detailed inspection and those reported through IRIS.

Transport Scotland and PAG will work closely with the OC to establish how performance and reporting will be improved during 2016/17.

FB – Amey (N/A)

The Forth Bridges contract requires the first full round of detailed inspections to be completed within 12 months of the contract starting with all information uploaded into the

Routine Maintenance and Management function (RMMf) of IRIS. As the Unit is still within the first year of the contract, the annual performance on detailed inspections cannot yet be fully assessed. However, month-on-month progress was monitored by PAG.

At the end of the reporting period, Amey had completed 66% of the required detailed inspections.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

2.2.3 Inspecting structures

Maintaining structures

The OCs are required to inspect structures at regular pre-determined intervals and prepare programmes to manage and maintain them. The OCs must then design, procure and carry out works either directly or through tendered works contracts.

The term 'structures' includes bridges, footbridges, underpasses, culverts, retaining walls, sign gantries, high mast lighting and CCTV masts. Regular inspections are carried out at two- and six-yearly intervals.

The OCs are also required to carry out cyclic maintenance tasks to structures each year.

The OCs have an obligation to inspect all structures within their respective Units. The inspection year generally runs from February to November in each calendar year.

Two types of inspections are routinely undertaken:

- General inspection – visual inspections carried out every two years; and
- Principal inspection – close detailed visual inspection of every structural element carried out every six years.

Other inspections may be carried out on a needs basis. These may include superficial, scour or special inspections, usually following severe weather, sudden or unknown change in condition or following an incident.

Chapter 2

Management of service

Inspections enable the current condition and any defects to be recorded in the Structures Management System (SMS). Based on inspections, each OC develops a programme of prioritised essential maintenance proposals within the available budget. A breakdown of the inspections completed by Unit, and the overall performance of each OC is shown in Figure 2-06.

Unit	Principal Inspections	General Inspections	Completed on time
NW	240	484	100%
SW	299	412	90%
NE	91	156	100%
SE	130	195	93%
FB	24	38	100%
Total	784	1285	96%

Figure 2-06 – OC performance in completing principal and general inspection programmes

NW – BEAR ★★★★★

Performance by BEAR continues to be excellent, with 100% of the principal and general inspection programmes completed on time.

SW – Scotland TranServ ★★☆☆☆

Overall, performance by Scotland TranServ remained fair.

All the general inspections were carried out in accordance with the OC programme. However, a significant number of principal inspections (10%) were not completed on time.

An extension of time was agreed with Transport Scotland. The OC completed the outstanding principal inspections in the extended period. This arose due to staff resource issues.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE – BEAR ★★★★★

BEAR maintained excellent performance, with 100% of the principal and general inspection programmes completed on time.

SE – Amey ★★☆☆☆

Performance by Amey reduced from good to fair.

All general inspections were completed to programme. A NNC was issued as a result of principal inspections not being completed by the contractual deadline. The OC was given an extension of time to complete the outstanding principal inspections. The principal inspection programme was completed in February 2016 and the NNC closed.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★★★★

Performance by Amey was excellent. The OC completed 100% of the principal and general inspection programme on time.

2.3 Inventory management

2.3.1 Routine maintenance and management function (RMMf)

The RMMf is a computer-based system operated by the OCs, which contains the inventory of trunk road assets. The OCs are responsible for recording all works carried out on the network and updating and archiving the inventory as necessary. The accuracy of the inventory is important as data is used to assist and establish budgets and programmes.

NW – BEAR ★★★★★

BEAR's performance has improved from very poor to good.

BEAR made considerable progress with inventory validation and condition rating within the reporting period. A remedial notice opened in the previous reporting period for a number of issues relating to IRIS was closed in May 2015.

SW – Scotland TranServ ★☆☆☆☆

Scotland TranServ's performance was again very poor resulting in a remedial notice being issued, which remains open.

PAG monitoring of inventory validation identified that no progress has been made by the OC over the reporting period pending resolution of an ongoing claim. Although the OC is carrying out a condition rating exercise, progress has only been made on a limited number of specific inventory items.

Chapter 2

Management of service

Transport Scotland and PAG will work closely with the OC to establish how performance will be improved during 2016/17.

NE - BEAR ★★☆☆☆

BEAR's performance has improved from poor to good.

BEAR has made a considerable improvement in inventory validation and condition rating within the reporting period.

SE - Amey ★★☆☆☆

Amey's performance remained poor with no significant progress made in inventory validation and condition rating.

As a result, a remedial notice was issued in September 2015 for poor performance.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB - Amey (N/A)

The contract requires the OC to verify the inventory within the first annual period.

The OC has made good progress in relation to inventory validation, in line with the supplied programme. There was limited progress with condition rating as at 31 March 2016.

2.3.2 Structures management system (SMS)

During 2015/16, the OCs were responsible for managing 5,613 structures on behalf of Transport Scotland. These are recorded in SMS.

Structures range from culverts carrying watercourses under roads to major structures such as A9 Kessock Bridge, M8 Kingston Bridge Complex and A90 Forth Road Bridge.

Of these structures, 1,896 are bridges or footbridges. Small pipes and culverts are not classed as structures and are not subject to the full inspection regimes applied to structures.

A breakdown of the type and number of structures in each Unit, as extracted from SMS, is shown in Figure 2-07.

Unit	Bridges	Foot-bridges	Other Structures
NW	613	63	1,742
SW	502	49	1,179
NE	289	15	319
SE	312	14	414
FB	37	2	63
Total	1,753	143	3,717

Figure 2-07 - Number and type of structures in each Unit (source SMS)

NW - BEAR ★★☆☆☆

BEAR's performance in uploading information and updating the inventory in SMS continues to be good. The OC was slow to upload some documents.

SW - Scotland TranServ ★★☆☆☆

Overall, the OC's performance in uploading information and updating the inventory in SMS improved to fair. The OC did not compile and upload some major bridges reports as required by the contract as a result of staff resource issues. The OC was slow to upload some documents.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★☆☆☆

Overall, BEAR continues its good performance in relation to uploading information and updating the inventory in SMS. The OC did not always update the M90 Friarton Bridge inspection schedule in accordance with the maintenance manual.

SE - Amey ★★☆☆☆

In general, the OC's performance continued to be fair in relation to uploading information and updating the inventory in SMS. While an improvement had been noted, some issues were identified with respect to Damage to Crown Property and routine summarised inspection forms were identified by PAG as not being loaded into IRIS.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

Chapter 2

Management of service

FB – Amey ★★★★★

In general, the OC's performance was good in relation to uploading information and updating the inventory in SMS. Some difficulties were encountered with respect to the accurate programming of PI and GI inspections, due to the time taken to establish and process accurate information on the handover of structures from SE.

2.3.3 Electrical assets

All the OCs are required to inspect, on a five-yearly cycle, all electrical assets across the trunk road network. In addition, the 4G contract requires 20% to be completed each year. Furthermore the 4G contract requires the OCs to verify the accuracy of the inventory within the first six months of the contract.

NW – BEAR ★★★★★

BEAR's performance improved from poor to fair, however, some issues still remain concerning the accuracy of the electrical asset inventory in IRIS.

BEAR condition ratings recorded in IRIS represent only 44.67% of all lighting points (1998/4473) and 37.71% of all traffic signals (112/297) within the Unit.

A total of 17 ORIs were raised relating to electrical assets during the year.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW – Scotland TransServ ★☆☆☆☆

Scotland TransServ's performance reduced from poor to very poor with issues still remaining concerning the accuracy of the electrical asset inventory in IRIS.

The OC carried out inventory condition rating on 9.89% of all lighting points (815/8239) and 2.28% of all traffic signals (13/569) within the Unit.

A number of ORIs were raised relating to electrical assets though these were not all related to inventory issues.

Transport Scotland and PAG will work closely with the OC to further establish how performance will be improved during 2016/17.

NE – BEAR ★★★★★

BEAR's performance improved from poor to fair with issues concerning the accuracy of the electrical asset inventory in IRIS.

BEAR condition ratings recorded in IRIS represent only 44.42% of all lighting points (2,555/5,752) and 33.31% of all traffic signals (554/1,663) within the Unit.

A total of 16 ORIs were raised relating to electrical assets during the year.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SE – Amey ★★★★★

Amey's performance remained poor with issues concerning the accuracy of the electrical asset inventory in IRIS.

The OC carried out Inventory condition rating on 19.96% of all lighting points (746/3,737) and 21.97% of all traffic signals (105/478) within the Unit.

A total of five ORIs were raised relating to electrical assets during the year.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB – Amey ★★★★★

Amey's performance in verifying the accuracy of the electrical asset inventory held within IRIS was good.

The OC carried out Inventory condition rating on 62.27% of all lighting points (345/554) and 73.33% of all traffic signals (11/15) within the Unit.

No ORIs were raised relating to electrical assets during the year.

Chapter 2

Management of service

2.4 Traffic management

NW – BEAR ★★☆☆☆

Overall, BEAR's performance remains fair.

Six ORIs and four hazard notices were raised for non-compliant traffic management at OC sites. Three hazard notices raised for OC's works related to lack of appropriate lateral safety zone.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance improved from fair to good.

One hazard notice was raised for non-compliant traffic management. In addition, two ORIs relating to third party activities were issued.

NE – BEAR ★★☆☆☆

In general, BEAR's performance reduced from excellent to good.

Two ORIs related to third party activities and one hazard notice were raised for non-compliant traffic management.

SE – Amey ★★☆☆☆

Overall, Amey's performance remains fair.

Nine ORIs, one of which related to third party activities, and six hazard notices were raised for traffic management which was non-compliant. A NNC was issued as a result of five traffic management hazard notices raised between October 2015 and November 2015.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★★★★

Overall, Amey's performance was excellent.

A high standard of traffic management was observed in place across the Unit.

2.5 Sustainability

Sustainability monitoring

The Scottish Government has set a target to reduce carbon emissions by 42% by 2020 and by at least 80% by 2050.

Transport Scotland, PAG and the OCs continue to work together to provide a more sustainable service and to assist in achieving these ambitious carbon reduction targets. The CEEQUAL based sustainability monitoring tool developed by PAG continues to be used to determine the OCs performance when planning, designing and completing approved schemes. In addition, a number of site visits and depot inspections were undertaken by PAG.

Waste generation and management and the use of reused, recycled and renewable materials continues to be monitored. The manner in which the quantities of waste and use of recycled materials is recorded and reported was reviewed by both PAG and Transport Scotland with a more consistent approach adopted.

During the period, BEAR and Amey applied for an award under the Term Contract Version of CEEQUAL, the sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and works in public spaces.

BEAR is in discussion with SEPA regarding a proposal to reuse ditching material on site to reduce the volumes of waste going to landfill and transport emissions.

NW – BEAR ★★☆☆☆

BEAR's performance reduced to fair.

PAG carried out site visits and completed scheme sustainability monitoring during the period with six reviews undertaken. On average the OC scored 82% for its sustainability reviews and mitigation implementation.

BEAR had applied most mitigation methods (see Figure 2-08) but issues such as site vehicles and materials/waste on soft verges, sediment deposited into a watercourse and incomplete waste transfer notes were identified.

Chapter 2

Management of service

Several ORIs were issued in the period with five relating to ditch arisings having been deposited on verges, one for lack of a pollution prevention measure and one for no dust suppression technique in use. Following discussions with SEPA, a trial by the OC is in progress on the deposition of ditch arisings.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.



Figure 2-08 - Silt fencing and matting deployed at A830 170 Utha Bridge

SW - Scotland TranServ ★★★★★☆

Scotland TranServ's performance continued to be good.

PAG carried out site visits and completed scheme sustainability monitoring during the period. These identified that Scotland TranServ was implementing relevant mitigation measures and managing schemes in line with legal requirements (see Figure 2-09).

Four reviews of the OC's schemes were undertaken. On average Scotland TranServ scored 97% for its sustainability reviews and mitigation implementation.

An inspection of Polmadie depot was carried out during the reporting period with a number of issues identified in relation to waste storage. However, these were rectified by the OC timeously.



Figure 2-09 - Debris netting at Bargower Rail Bridge on A76

NE - BEAR ★★★★★☆

BEAR's performance was again good.

PAG carried out site visits and completed scheme sustainability monitoring during the period with six reviews undertaken. On average the OC scored 76% for its sustainability reviews and mitigation implementation.

BEAR had applied the vast majority of the proposed mitigation measures. A few issues discovered during PAG inspections included a lack of bunds or plates to cover gullies during surfacing works, missing drip trays, and population of Waste Transfer Notes.

SE - Amey ★★★★★☆

Amey's performance reduced to fair.

PAG carried out site visits and completed scheme sustainability monitoring with six reviews undertaken. On average Amey scored 68% for its sustainability reviews and mitigation implementation.

Chapter 2

Management of service

Amey had applied most of its mitigation measures (see Figure 2-10) with some issues discovered during the PAG site visits including lack of evidence for on-site monitoring of environmental mitigation measures, missing drip trays, dust suppression technique not being used on site and additional operatives not provided to supervise 'out of use' traffic lights and aid pedestrian crossing.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.



Figure 2-10 – Protection in place to prevent overspray from waterproofing materials on M8 J3 bridge parapet

FB - Amey ★★★★★

Amey's performance was excellent.

PAG carried out site visits and completed scheme sustainability monitoring reviews on two sites during the period, both relating to schemes at the South anchorage. Amey scored 100% for all its sustainability reviews and mitigation implementation, with the new Plant/Salt storage shed scheme being a very well-run site from an environmental point of view.

During the period PAG also undertook a number of scheme measurement reviews within the Unit. The scheme files for two schemes were missing waste transfer notes, but these were timeously supplied by the OC and confirmed that all road planings had been taken to the local recycling contractor.

Chapter 3

Delivery of service

Key points

Cyclic maintenance

- Excellent performance in grass cutting by SW with good performance by NW, NE and FB. Fair performance by SE.
- Good performance by NW, SW, SE and FB and fair performance by NE in weed control.
- Fair performance by FB in dealing with drainage issues and good in signs, road markings and road studs. Poor performance by all other OCs in drainage issues and by NW, SW and NE in signs, road markings and road studs. SE performance was fair.
- Structures cyclic maintenance performance by FB was good and in NW, NE and SE was fair. SW was poor.

Reactive maintenance

- While all OCs dealt timeously with lighting outages across the network, the issuing of ORIs, Hazard Notices and NNCs resulted in a range of performances from excellent in FB to poor in SW.
- The OCs, and in particular FB, performed well in repairing safety fences, barriers and fencing apart from SE where performance was poor.
- The OCs, and in particular NW and FB, performed well in repairing category 1 defects. However, there was an increase in the backlog of defects open beyond permanent repair period in NW and SW.
- Excellent performance in incident response by FB and good performance by NW. NE, SW and SE was fair.

Winter

- Winter 2015/16 was the third warmest for the UK since 1910 with Scotland also the wettest since 2010. December 2015 saw between two and four times the monthly average rainfall.
- The overall performance by the OCs in preparing for winter was good, although specific issues of salt usage and salt storage were reported in SW and NE respectively.
- Decision-making and actions to deal with winter conditions were good in NW, SW, NE and SE. FB performance was excellent.
- Excellent performance by all OCs in management of salt stock levels.

Planned maintenance

- SW, NE, SE and FB delivered planned maintenance on roads to an excellent standard; NW was good.
- A fair performance in NW, SW and SE and poor performance in NE on structures was delivered. There were issues of slow progress on a number of schemes in the SW, NE and SE and in NW on repairs to damage to crown property. Performance in FB was excellent.

Works contracts

- For SW, preparation of tender documents was fair and in SE poor. There were no tender documents submitted by NW, NE or FB.
- NW and SW delivered an excellent standard and NE a good standard of supervision on works contracts. No works contracts recorded for SE or FB during the period.

Chapter 3

Delivery of service

3.1 Cyclic maintenance

Cyclic maintenance

The OCs carry out various cyclic maintenance activities on the network in order to keep it operational, safe and tidy. These include operations such as cleaning gullies and catchpits, cutting grass and cleaning road signs.

The OCs are required to update RMMf when they carry out these operations.

Grass cutting

NW – BEAR ★★☆☆☆

Overall, a good performance was maintained by BEAR.

Generally grass was found to be within specification with only a few ORIs raised for areas being beyond the intervention level. These were promptly dealt with by the OC.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance improved from good to excellent.

Grass cutting operations were carried out to the agreed programme. Only one ORI was raised for grass height exceeding maximum specification height during the reporting period.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance remained good.

Throughout the grass cutting season, grass was observed as being within specification, however, the OC was slow to produce its report on the percentage of grassed area maintained as required.

SE – Amey ★★☆☆☆

Performance reduced from good to fair.

The OC's programme for grass cutting was not followed early in the season, particularly on slip roads. Although the majority of the grass cutting was completed to specification, there were some workmanship issues.

An improvement with the adherence to the programme was noted as the season progressed, but workmanship issues remained.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★☆☆☆

Performance was good.

The OC's grass cutting programme was not followed early in the season, however, the performance improved significantly as the summer months progressed.

Weed control

NW – BEAR ★★☆☆☆

A good performance was maintained by BEAR.

Five ORIs were raised for weed growth on central reserves and verges in the summer period, but generally the OC maintained a good overall standard of weed control.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance remained good.

Weed treatment was carried out to the agreed programme, however, issues relating to excessive weed growth were raised with the OC.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from good to fair.

Weed treatment was carried out to programme but was not always successful with some weeds remaining throughout the winter period.

The OC was slow to upload inventory areas, locations and attributes for invasive species into IRIS.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Chapter 3

Delivery of service

SE - Amey ★★★★★☆

Performance remained good.

Some areas remained with excessive weed growth due to the late application of a weed treatment in the season. However, the majority of the network was maintained to a good standard.

FB - Amey ★★★★★☆

Overall performance was good.

Weed control throughout the Unit was good during the growing season with only a few ORIs raised.

Soft landscaping

NW - BEAR ★★★★★☆

Overall, BEAR's performance remained fair.

The OC was slow in closing out long-standing ORIs.

Issues raised for obscured signs, windblown trees/branches on verges and vegetation growth encroaching safety fences were generally dealt with by the OC timeously.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW - Scotland TranServ ★★★★★☆

Scotland TranServ's performance improved from fair to good.

Some issues relating to the regulatory and mandatory signs being obscured by vegetation were raised by PAG.

NE - BEAR ★★★★★☆

Overall, BEAR's performance remained good.

Soft landscaping activities were carried out to a good standard. Long-standing issues relating to obscured signage and street lighting were successfully closed out.

SE - Amey ★★★★★☆

Amey's performance reduced from good to fair.

Some issues concerning vegetation obscuring traffic signs on the network were noted throughout the summer months.

This issue was dealt with during the winter season with the implementation of a tree strimming programme.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★★★★☆

Amey's performance was good.

Soft landscaping issues concerning vegetation obscuring traffic signs, particularly on A823(M), were noted during the summer months. This issue was dealt with during the winter season with the implementation of a tree strimming programme.

Litter picking

Responsibility for litter picking on the trunk road network excluding motorways and special roads rests with the local authorities.

Each OC is required to issue its grass cutting programme to relevant local authorities. This is intended to ensure an integrated approach to cutting grass and litter picking. If litter is not removed prior to grass being cut, it is shredded by grass cutting equipment. Shredding of litter makes removing it more difficult.

If a local authority is deficient in its litter picking duties, the OCs are responsible for contacting the local authority to highlight their concerns.

Sweeping, cleansing and litter

In April 2013, Transport Scotland established a protocol which set out the process the OCs should follow for sweeping carriageway channels where local authorities had failed to undertake their responsibilities. This entails the OC identifying any local authority failings to Transport Scotland who may then order the OC to undertake such work in place of the local authority.

NW - BEAR ★★★★★☆

Overall, BEAR's performance improved to good.

The OC followed the agreed protocol and made good progress in closing historic ORIs.

Chapter 3

Delivery of service

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance remained fair.

The OC continued to follow the protocol with regards to litter and sweeping on routes where the local authorities have the responsibility.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from good to fair.

With the exception of M90, litter clearance and sweeping is the responsibility of the local authorities. The OC continued to communicate issues regarding litter collection and channel sweeping on routes with the respective local authorities, but was slow to carry out channel sweeping on M90, and to programme and undertake sweeping on other prioritised routes ordered by Transport Scotland.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SE – Amey ★★☆☆☆

Amey's performance remained fair.

Detritus build-up on hard shoulders continued to be an issue, however, the OC invested in new plant to improve sweeping operations.

Litter accumulation was a common occurrence on a number of routes, particularly within lay-bys, however, the OC followed the agreed protocol with local authorities.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★☆☆☆

Amey's performance was generally good.

Some issues were observed with channel sweeping, where a build-up of silt in the channels was obscuring line markings and promoting weed growth.

Drainage, gullies and ironworks

NW – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from fair to poor.

A NNC was issued in May 2015 for management of flooding defects and remained open throughout the period.

PAG carried out regular reviews of flooding defects in IRIS which revealed defects being either incorrectly classified or recorded in IRIS. Issues with correlation of information held within the RMMf and Management of Incidents databases were raised.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SW – Scotland TranServ ★★☆☆☆

Scotland TranServ's performance remained poor.

A number of issues relating to the management of flooding defects were noted. These included failure to upload and/or submit flood reports within the contractual timescales. Some defects were found to be incorrectly recorded.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from fair to poor.

A NNC issued in July 2015 for the management of flooding defects remained open throughout the period.

The OC was slow to close out other drainage issues such as choked gullies and grips identified by PAG.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SE – Amey ★★☆☆☆

Amey's performance reduced from fair to poor.

A NNC issued in January 2015 for failure to provide flooding reports - including photographic evidence - and not uploading

Chapter 3

Delivery of service

the reports to RMMf was closed in November 2015 following continued improvement by the OC in this area.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB – Amey ★★☆☆☆

Amey's performance was fair.

The OC identified areas of poor drainage and subsequently carried out detailed investigations of the affected sections.

The OC has prepared a drainage strategy to rank drainage problems and prioritise repair works.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Signing, signals, road markings and studs

NW – BEAR ★★☆☆☆

Overall, BEAR's performance remained poor.

A NNC issued in January 2014 for road markings and road studs was superseded by the remedial notice raised in October 2015 and remained open throughout the period.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance remained poor.

A number of ORIs were raised for issues including damaged and/or missing regulatory signs and incorrectly classified road marking defects.

Road marking renewal was delayed on a number of routes due to weather conditions resulting in defects not being repaired within the contractual timescale.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from fair to poor.

Sign replacement, road marking and road stud renewal were all observed, however, issues completing the works within contractual timescales were noted.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SE – Amey ★★☆☆☆

Amey performance remained fair.

ORIs were raised for incorrectly classified road marking defects.

In addition, some road markings and road studs were not replaced timeously following resurfacing works.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★☆☆☆

Overall performance was good.

Minor issues with missing panels on customer care signs were rectified timeously.

Structures

Maintenance of Structures

OCs are required to carry out cyclic maintenance to structures to keep them in optimum operating condition and deal with minor and recurring maintenance issues. These activities include clearing vegetation, cleaning movement joints and construction gaps, checking and cleaning bearings and bearing ledges, checking parapets and their mesh infills and connections to safety fences. Cyclic maintenance of structures is required to be carried out twice each year.

NW – BEAR ★★☆☆☆

Overall, BEAR's performance continued to be fair.

A NNC was issued in September 2015 for a number of cyclic maintenance related activities which were found to be

Chapter 3

Delivery of service

deficient. The OC subsequently completed the outstanding works and provided additional staff training resulting in the NNC being closed in February 2016.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW - Scotland TranServ ★★☆☆☆

Performance by Scotland TranServ reduced from fair to poor.

A NNC was issued in September 2015 for a number of cyclic maintenance related activities which were found to be deficient.

The OC did not complete all of the necessary actions to allow closure of the NNC.

PAG will work closely with the OC to establish how performance will be improved during 2016/17.

NE - BEAR ★★☆☆☆

Performance by BEAR continued to be fair.

A NNC was issued in September 2015 for a number of cyclic maintenance related activities which were found to be deficient. The OC subsequently completed the outstanding works and provided additional staff training resulting in the NNC being closed in January 2016.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SE - Amey ★★☆☆☆

Performance by Amey remained fair.

A NNC was issued in September 2015 for a number of cyclic maintenance related activities which were found to be deficient, including non-recording of defects within appropriate time scales, ensuring activities are undertaken within pre-determined intervals and cleaning/removal of debris including vegetation. The OC subsequently completed the outstanding works resulting in the NNC being closed in February 2016.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★☆☆☆

Performance by Amey was good.

The OC completed 95% of the spring programme before starting and completing the autumn programme. PAG monitoring noted that the OC had not completed several elements of cyclic maintenance. As a result, the OC returned to site to carry out the missed work at a number of locations. In addition, the OC's maintenance records did not accurately reflect the work carried out.

3.2 Reactive maintenance

Lighting

NW - BEAR ★★☆☆☆

BEAR performance has deteriorated from excellent to fair.

Although the MI result remained excellent, multiple ORIs remained open for several months and a hazard notice was raised in February 2016 for exposed wiring.

BEAR has commenced a rolling programme of upgrades to sustainable LED lanterns with 40% (1170/4400) of the network completed within 2015/16.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

SW - Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance reduced from fair to poor.

Long-standing issues relating to lighting on M8 and on A78 at Largs resulted in two separate NNCs being issued in May 2015. The A78 NNC was closed in July 2015.

Scotland TranServ has commenced a rolling programme of upgrades to sustainable LED lanterns with 4% (548/12600) of the network completed within 2015/16.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

Chapter 3

Delivery of service

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from good to fair.

A review of the maintenance regime for the street lighting system on a section of the A92 revealed that although the required routine inspections testing and repairs were generally being carried out within the contract timescales, the OC was slow in closing out other lighting defects identified by PAG during the period.

BEAR has commenced a rolling programme of upgrades to sustainable LED lanterns, with 13% (768/5850) of the network completed within 2015/16.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

SE – Amey ★★☆☆☆

Overall, performance was good. A MI result of 94% was achieved.

Amey has commenced a rolling programme of upgrades to sustainable LED lanterns with 11% (418/3900) of the network completed within 2015/16.

FB – Amey ★★★★★

Overall, performance was excellent.

The number of non-operational lamps within the Unit has been adversely affected by the ongoing Forth Crossing Bridge Constructors works which has temporarily prohibited access by the OC to carry out repairs.

Safety fences, barriers and fencing

NW – BEAR ★★☆☆☆

BEAR performance remained fair.

OC performance in the identification and recording of category 1 safety fence defects resulted in several ORIs being raised by PAG for defects not recorded in IRIS.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance remained fair.

PAG raised 17 ORIs regarding failures to record repairs to damaged safety barriers and boundary fences.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE – BEAR ★★☆☆☆

Overall, BEAR's performance reduced from good to fair.

Despite a good performance in addressing issues relating to safety fences, barriers and fences, the overall performance was fair due to the OC's failure to close out long-standing issues identified by PAG.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

SE – Amey ★★☆☆☆

Amey's performance was poor throughout the period as a result of failure to complete defect repairs on time.

A number of safety fences were left without repair beyond the contractual period. The OC recognised the issue and obtained additional resources, including a new fencing rig, to help reduce the backlog of repairs.

A remedial notice was issued during the period for failure to complete a deferred permanent repair on the bridge parapet at A720 Water of Leith within contractual timescales.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB – Amey ★★★★★

Amey's performance was good.

In the majority of instances, damaged safety barriers were identified and repaired within contractual timescales by the OC.

Chapter 3

Delivery of service

3.2.1 Category 1 defects

Category 1 defects

Category 1 defects are the most serious defects, generally safety related which, once identified by the OC, should be made safe within 24 hours or quicker for certain defects, and permanently repaired within 28 days. Details of all category 1 defects are recorded in RMMf along with details and dates of all temporary and permanent repairs.

Damaged bridge parapets identified as category 1 defects are made safe using temporary safety barriers. However, these repairs can take longer due to the need to obtain or fabricate parts and use sector scheme trained and registered contractors. The contract permits 56 days.

Unit	2014/15	2015/16
NW	95%	96%
SW	94%	92%
NE	95%	91%
SE	93%	95%
FB	N/A	95%

Figure 3-01 - OC performance in repairing category 1 defects

NW - BEAR ★★☆☆☆

BEAR maintained a good performance throughout the year, achieving a PI figure of 95% (see Figure 3-01).

The number of category 1 defects open beyond the contractual repair period of 28 days fluctuated throughout the period.

SW - Scotland TranServ ★★☆☆☆

Scotland TranServ's performance remained fair. A reduced PI performance of 92% resulted in a plan of action being agreed (see Figure 3-01).

The backlog of category 1 defects open beyond the contractual repair period of 28 days increased during the middle part of the reporting period.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★☆☆☆

Overall performance by BEAR remained fair throughout the reporting period, maintaining a low backlog of repairs open beyond the 28 day permanent repair period. A figure of 92% was achieved (see Figure 3-01).

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SE - Amey ★★☆☆☆

Overall, performance in SE remained fair, achieving a PI of 95% (see Figure 3-01).

PAG issued a NNC in May 2015 in relation to surfacing on A68. The NNC was closed in August 2015.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★☆☆☆

Amey's performance was good, achieving a PI of 95% (see Figure 3-01).

Defect and backlog levels were low throughout the period.

3.2.2 Incident response

Incident response

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

Incidents include:

- debris removal
- overturned lorries
- road traffic accidents/breakdowns
- landslips
- flooding
- serious carriageway defects
- bridge/gantry strikes
- spillages
- severe weather.

The OCs are required to respond to incidents as quickly as possible and within specific timescales depending on the type of road.

Chapter 3

Delivery of service

Trunk road incident support service (TRISS)

TRISS operates on trunk road network routes where the potential for major delays due to breakdowns or other incidents have been identified.

The overall aims of TRISS are to:

- clear up incidents quickly
- offer assistance to broken down vehicles
- reduce congestion
- free up police time.

TRISS vehicles are specially adapted and equipped high-roofed vans. They are operated by trained staff working for the OCs. The target time for TRISS to get to an incident is 20 minutes.

Incident response

In addition to TRISS, each OC is responsible for responding to incidents across the entire Unit. Specific contractual timescales are set for the OCs to respond, and a monthly PI is used to measure whether response times are achieved. Figure 3-02 shows each OC's performance in dealing with incidents.

Overall the total number of incidents attended by the OCs decreased from the previous year by 17.49%.

In October 2015, it was noted that inaccurate/incomplete incident response records had been entered by the OCs into IRIS. Adequate measures were put in place to address the problem.

In general, the OCs attended incidents on time and any problems identified in this report relate solely to the OC's performance at recording attendance with IRIS.

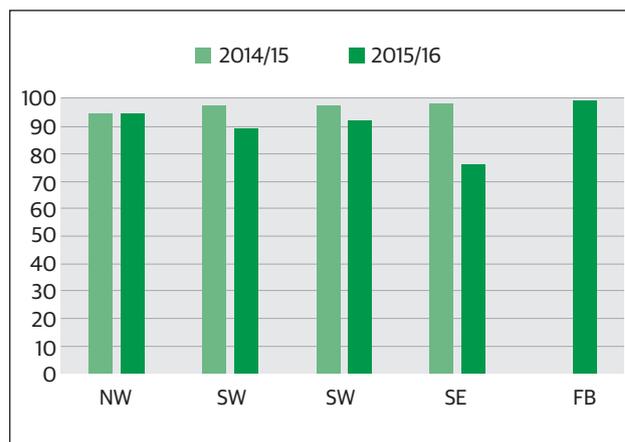


Figure 3-02 - OC performance in dealing with incidents

NW - BEAR ★★☆☆☆

Overall, BEAR's performance remained good with a PI figure of 95% achieved.

An ORI was raised in June 2015 for the OC not removing temporary signage from A85 following a flooding incident.

SW - Scotland TranServ ★★☆☆☆

Scotland TranServ's performance reduced from good to fair with the PI figure reducing from 97.5% to 89%.

Scotland TranServ's PI figure decreased in October and November 2015, which had an impact on the overall performance.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★☆☆☆

BEAR's overall performance reduced from excellent to fair with the PI decreasing to 92%.

A further reduction in the PI figure was noted towards the end of 2015 and also early in 2016.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Chapter 3

Delivery of service

SE - Amey ★★☆☆☆

Amey's overall performance reduced from excellent to fair with the PI decreasing to 76%.

It has been noted that OC performance in the second half of the reporting period, with the exclusion of March 2016, significantly improved.

The OC reacted promptly to a specific issue reported by PAG by raising an internal non-conformance and taking actions to address the problem.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★★★★

Overall, Amey's performance was excellent with a PI figure of 99% achieved.

Amey did not supply PI figures on time for November 2015, due to the emergency situation on the Forth Road Bridge. The information was however provided retrospectively.

On 4 December 2015, the Forth Road Bridge was closed to all traffic following the discovery of cracks in the Truss End Link (see section 3.3.3 Structures).

Hazard notices

Hazard notices are issued to OCs immediately when PAG identifies hazardous defects/situations, whether these are the responsibility of OCs or third parties.

Hazard notices found on the network can include:

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

A total of 57 hazard notices were issued by PAG during 2015/16 (see Figure 3-03).

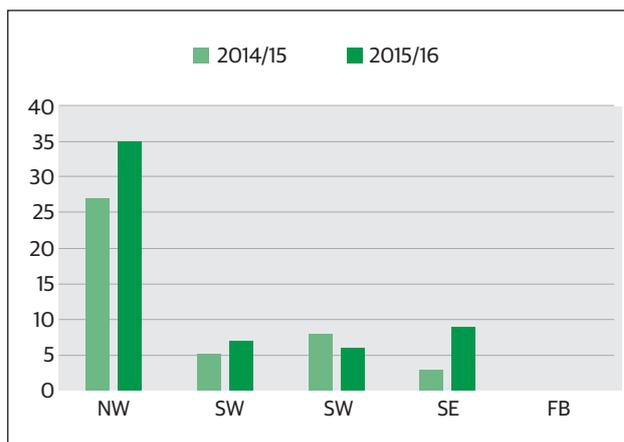


Figure 3-03 - Number of hazard notices issued

3.2.3 Winter

Winter treatments

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

In addition, when forecasts change significantly or surface conditions become unexpectedly icy, reactive treatments are undertaken. The response times for these reactive treatments are measured by a PI.

The OCs decide which treatments are necessary to comply with the contract. They are also required to keep records of the work planned and undertaken.

Winter service

The OCs are required to provide dedicated service 24 hours a day, seven days a week throughout the winter period. The objective is to keep the network free from ice and snow as far as is reasonably practicable, hence reducing risks to road users.

Winter weather conditions

Met Office records report that winter 2015/16 was the third warmest for the UK since 1910, behind the winters of 1989 and 2007, with Scotland also the wettest since 2010. December

Chapter 3

Delivery of service

saw between two and four times the monthly average rainfall. Storms Frank, Gertrude and Henry all resulted in isolated flooding events, principally in NE, largely caused by runoff from adjacent land.

Winter service Improvements

Pre-winter exercises - all Units

Prior to the start of winter, Transport Scotland and PAG organised and facilitated one-day events to test the delivery and resilience of current OC procedures through an unfolding series of hypothetical scenarios. The principal objective was to improve delivery and share best practice, and involved representatives from Transport Scotland, PAG and OCs.

Performance assessment

PAG assessed the OCs' performance for the following areas over the 2015/16 winter period:

- winter readiness
- winter decision-making and actions
- winter service Pls
- management of salt stocks
- road closures.

Winter readiness

Winter preparedness audits were carried out in all four Units prior to the start of the winter season.

The audits concluded that the OCs were prepared for winter, as required by the contract.

NW - BEAR ★★☆☆☆

Performance by BEAR was again excellent.

PAG attended a joint winter readiness audit at the OC offices in October 2015. No findings were raised, with ten observations noted. PAG carried out depot checks throughout the winter service period to confirm full compliance.

SW - Scotland TranServ ★★☆☆☆

Performance by Scotland TranServ reduced to fair.

One finding was raised regarding failure to carry out dry runs for all routes on the Unit prior to October 2015. The finding was actioned timeously by the OC.

In addition, a remedial notice was issued in March 2016 for the use of dry salt without prior consent from Transport Scotland.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★☆☆☆

BEAR's performance reduced to fair as a result of a NNC being raised for salt storage.

A joint winter preparedness audit carried out prior to the start of the winter season concluded that BEAR was prepared for winter as required by the contract with no findings raised.

A NNC issued in September 2015 was closed in February 2016 and subsequently replaced by a remedial notice for the OC's failure to meet a series of extended deadlines relating to the construction of reserve salt storage facilities. The remedial notice was closed in March 2016.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

SE - Amey ★★★★★

Performance by Amey improved to excellent.

No findings were raised at the PAG winter preparedness audit. Sufficient salt stocks and appropriate plant and equipment were confirmed as being in place for the start of the winter season.

FB - Amey ★★☆☆☆

Amey delivered a fair performance throughout the period.

No findings were raised at the PAG winter preparedness audit. Amey commenced winter maintenance operations in October 2015, but a NNC was raised during the period for failure to have an acceptable winter service plan approved. The NNC was closed at the end of the current reporting period.

The OC expended time and effort to provide an operational depot at Inverkeithing. Flooding reports led to the development of an alternative site at Rosyth.

Chapter 3

Delivery of service

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Winter decision-making

Transport Scotland and the OCs held regular weekly teleconference calls to support winter decision-making. At these calls the OCs reported on the winter service undertaken during the preceding week and reviewed the weather forecasts for the following week with Transport Scotland to assess the winter service preparations. When severe weather was forecast, the frequency increased to daily teleconference calls, with the addition of the Met Office and Police Scotland to support strategic winter decision-making and network resilience.

NW – BEAR ★★☆☆☆

Performance by BEAR remained good.

Two winter maintenance performance reviews were carried out during the reporting period, one pertaining to OC control room monitoring and the other to A82 Glencoe. A number of issues raised by PAG were addressed by the OC.

In general, routes were observed to be clear of snow and ice during PAG inspections. However, issues were raised relating to incomplete snow clearance from lay-bys and footways.

SW – Scotland TranServ ★★☆☆☆

Overall performance by Scotland TranServ improved from fair to good.

One winter performance review was carried out by PAG, focusing on the road closure of A76 with no significant issues raised.

SW introduced route-based forecasting which resulted in a significant reduction in salt spread during 2015/16.

NE – BEAR ★★☆☆☆

Overall performance by BEAR was again good.

A review of the OC's winter decision-making and performance on A96 near Tyrebagger identified no major issues.

SE – Amey ★★☆☆☆

Overall performance by Amey remained good.

Two winter monitoring reviews were carried out, both following winter weather related accidents on A7 and A1. Issues of communication during an A7 review and partial effectiveness of precautionary treatments during an A1 review were identified by PAG.

FB – Amey ★★☆☆☆

Overall performance by Amey was excellent.

Routes were observed to be clear of snow and ice during PAG inspections.

Winter Service PI

To measure performance in undertaking winter duties, the OCs report their performance monthly using one PI that incorporates the following three activities:

- Unplanned treatment response times
- Planned treatment times
- Successful electronic data logger downloads.

The PI is calculated as the arithmetic average of the three activities (see Figure 3-04).



Figure 3-04 – Winter performance (PI 11)

Chapter 3

Delivery of service

NW – BEAR ★★★★★

BEAR's performance remained excellent with a PI result of 99%.

SW – Scotland TranServ ★★☆☆☆

Scotland TranServ's performance remained fair, with a PI result of 94%.

PAG will continue to monitor this activity closely during 2016/17.

NE – BEAR ★★★★★

BEAR's performance improved to excellent, with a PI result of 99%.

SE – Amey ★★★★★

Amey's performance improved to excellent, with a PI result of 99%.

FB – Amey ★★★★★

Amey's performance was excellent, with a PI result of 100%.

Management of salt stocks levels – all Units ★★★★★

There were no recorded issues with the management of salt stock levels during the period, with all OCs proactive in maintaining salt stock levels and liaising regularly with Transport Scotland.

NW – BEAR

There were no recorded issues with the management of salt stock levels during the period.

SW – Scotland TranServ

There were no recorded issues with the management of salt stock levels during the period. The lack of a salt barn at Polmadie is an outstanding issue, however, this is outwith the OC's control and responsibility.

NE – BEAR

There were no recorded issues with the management of salt stock levels during the period.

SE – Amey

The OC shared the salt stock at its Burghmuir Depot with the Forth Bridges Unit for the first half of the winter service period, but there were sufficient quantities of salt stored to

accommodate this arrangement. There were no issues of insufficient salt quantities throughout the period.

FB – Amey

The OC shared a salt storage facility with the SE Unit during the first half of the winter service period. During February 2016, the OC opened a new salt storage area and depot in Rosyth and maintained a sufficient stock of salt throughout the remainder of the period.

Winter related road closures (N/A)

NW – BEAR, SW – Scotland TranServ, NE – BEAR & FB - Amey

There were no winter-related road closures over the contractual timescale of four hours.

SE – Amey

Extreme weather events results in five winter related road incidents during the winter service period, which resulted in two road closures for longer than four hours.

3.3 Planned maintenance

Planned maintenance

Work flowing from inspections together with other priority remedial works already identified feed into the one and three year programmes of planned maintenance needs, which are updated annually. This maintenance work is programmed based on the budgets available to each OC.

Planned maintenance schemes are vital to maintain assets in good serviceable condition and require careful planning, prioritisation and coordination.

Planned maintenance is carried out to maintain the asset value of the network.

These operations are carried out by the OC for scheme values up to £350k. Larger schemes are procured using works contracts (see section 3.4).

Chapter 3

Delivery of service

3.3.1 Statements of intent audit

Statements of Intent (SOIs) and Value for Money (VfM) assessments are required for all routine maintenance, strategic road safety and minor improvement schemes with a value of more than £10k, and for structures schemes valued at more than £50k. There is an enhanced process for Structural Maintenance schemes which requires more detailed SOIs and VfM assessments along with an annual process with milestone submissions throughout each annual period.

NW – BEAR & SW – Scotland TranServ ★★★★★

Both SW and NW achieved their action plans goals to become compliant with the contract milestones by September 2015, and both OCs have produced some high quality SI submissions.

NE – BEAR & SE – Amey ★★★★★☆

NE and SE, while compliant with the contract milestones by the end of the year, could improve their respective delivery programmes.

FB – Amey N/A

FB is currently working through an action plan to become compliant with the 4G contract timescales.

3.3.2 Roads

Maintaining roads

This typically includes

- reconstruction and resurfacing of carriageways
- application of surface dressing and anti-skid surfacing
- upgrading safety fencing
- replacing road markings and studs.

NW – BEAR ★★★★★☆

BEAR's performance continued to be good.

Works undertaken included crack and seat, carriageway reconstructions, overlays, inlays, resurfacing (TS2010) (see Figure 3-05), application of anti-skid surfacing and replacement of road markings and road studs.

PAG observed during site inspections that health and safety protocols were being adhered to and supervision was being

carried out by experienced personnel. Scheme files and site records reviewed by PAG were of a high standard with traffic management and workmanship both assessed to be good.

Remedial works have been limited this year, an improvement on previous years.

Subsequent to works carried out in November 2015, surface course premature failure was identified by PAG at A9 Slochd in February 2016.



Figure 3-05 – Resurfacing on A82 East of Dalrigh in NW

SW – Scotland TranServ ★★★★★

Scotland TranServ's performance improved to excellent.

Works undertaken included resurfacing, crack and seat, overlays, inlays, application of anti-skid surfacing and replacement of road markings, road studs, gantry refurbishment, bridge joint replacements, and site investigations (see Figure 3-06).

Over 6km of central reserve safety barrier was replaced on M8 from J15-12.

During site inspections PAG observed that traffic management was consistently to a good standard with contra-flow implemented on the major routes. Site health and safety protocols, supervision, record keeping and workmanship were all found to be good.

TS2010 has been successfully installed at various sites across the Unit.

Chapter 3

Delivery of service



Figure 3-06 – Resurfacing on A77 Bankfield Roundabout in SW

One of the health and safety improvements was the trial introduction of safety gates at site entrances.

NE - BEAR ★★★★★

BEAR's performance improved to excellent.

Good quality workmanship from experienced supply chain resources was noted during the construction of schemes. Operations carried out included resurfacing, filter drains, red chip replacement and road markings.

At sites visited and post completion reviews, BEAR supervision, record keeping and documentation were of a good standard. Traffic management was compliant with Chapter 8 requirements.

A number of innovative operations, including improved road marking, providing increased levels of retro-reflectivity, luminance and skid resistance were introduced.

Cold applied road markings were used, providing better resistance to wear on high stress sites on roundabouts. TS2010 surface course with 6mm and 10mm aggregates and hot rolled surface course was successfully used on numerous surface courses. Extensive concrete joint repairs were completed at various locations prior to overlaying the concrete panels with a thin surface course.

SE - Amey ★★★★★

Amey's performance improved to excellent.

Experienced supply chain resources delivered both good

workmanship and quality records as observed during site inspections. This was also reflected at post completion reviews.

Health and safety procedures were found to be of good standard, with all operatives recording wearing of appropriate PPE for the operations. Traffic Management was compliant with Chapter 8 requirements, and Traffic Management layouts were recorded receiving regular checks for compliance. Supervision was adequate during site inspections by PAG.

Innovative operations noted included the installation of solar road studs and application of 'lockcoat' binder to surface dressing as part of a trial. TS2010 thin surface course with 10mm aggregates was successfully used on numerous surface courses and hot rolled asphalt surface courses laid.

FB - Amey ★★★★★

Amey's performance was excellent.

In the first year of the contract, there was only a limited amount of planned works carried out. Works undertaken included resurfacing and patching on A90 and M90 slip roads.

Experienced resources from supply chains delivered good quality workmanship, with a reasonable quality of records being observed by PAG during site inspections and post-completion reviews.

3.3.3 Structures

Maintaining structures

The typically includes:

- re-waterproofing of bridge decks
- resurfacing of bridge decks
- replacement of deck joints
- concrete repairs
- repainting of steelwork
- repair and replacement of parapets
- repair of scour damage at watercourses.

NW - BEAR ★★★★★☆

BEAR's performance remained fair.

Scour works continued to be high priority. Site works progressed well with a total of 26 out of 30 schemes delivered.

Chapter 3

Delivery of service

Replacement bridges at A830 Utha and A830 Garbh were successfully constructed to programme and budget, using temporary diversions at both locations ensuring continuous traffic flow.

BEAR successfully completed the design and installation of replacement cast iron lifting equipment for the sluice gates at Grade A listed A9 Mound Sluices.

The OC did not issue SOI and VfM assessments for all works, as required by the contract.

Several repairs to damage to crown property were not completed within the contractual timescale, and Transport Scotland was not kept fully informed regarding the delays. It is recognised that some bespoke components can take longer to design/manufacture and can delay completion of the permanent repair.

BEAR fully utilised the Bridges budget.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW – Scotland TranServ ★★☆☆☆

Overall, Scotland TranServ's performance continued to be fair.

Delivery was hindered by resourcing issues throughout the period.

There were a number of delays in commencing planned 2015/16 works, with slippage into 2016/17 resulting in the OC's 2015/16 Bridges budget being reduced.

The OC supervised the successful completion of the construction of M8 Hillington Footbridge.

The OC was slow to complete a communications strategy in advance of works at A898 Erskine Bridge and to carry out ground investigations and deliver the design report for A77 Carlock Wall.

A significant number of repairs to damage to crown property were not completed within the contractual timescale. It is recognised that some bespoke components can take longer

to design/manufacture and can delay completion of the permanent repair.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE – BEAR ★★☆☆☆

BEAR's performance continues to be poor with delivery hindered by resourcing issues throughout the period.

The OC was requested on a number of occasions to expedite scour assessments but took considerable time to carry out the work.

A number of the OC's documents were issued late during the period. The OC issued Statement of Intent and Value for Money assessments for some schemes after construction work was completed.

As a result of delays to planned schemes the OC brought forward deck refurbishments including waterproofing and installation of new parapets which were successfully completed.

The OC carried out deck investigations on M90 Friarton Bridge in order to identify the extent of future works.

The OC fully utilised its Bridges budget.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SE – Amey ★★☆☆☆

Amey's performance was again fair, with resourcing issues causing delays to the programme.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

FB – Amey ★★★★★

Amey's performance was excellent.

The OCs handling of the emergency closure in December 2015 was exemplary, including its ability to mobilise and call on multi-discipline providers to undertake the emergency truss

Chapter 3

Delivery of service

end-link interim repairs within a three-week period, during the winter weather and in a period of several severe weather storm events. This allowed the bridge to be re-opened to over 90% of users. Communications, cross-stakeholder communication, management of the travel disruption via SIDRs and effective real-time information to the public was as effective as it could be within a rapidly changing situation. This was especially apparent at the start, until a multi-modal travel plan was introduced by Transport Scotland and the OC within four days of the incident. The repairs were carried out as a three phase approach; Phase 1 being emergency repairs to enable traffic to use the bridge, Phase 2 a temporary support system and Phase 3 the permanent repair.

Expenditure was slightly ahead of programme until the Truss End Link emergency resulted in a requirement for additional resources.

3.4 Works contracts

Works contracts

Schemes with an estimated value between £350k and £5m are generally put out to tender as works contracts. The OCs manage the procurement of works contracts through design to construction on behalf of Transport Scotland.

Schemes of a value greater than £5m are generally managed by Transport Scotland's Major Transport Infrastructure Projects Directorate team and are outside the OCs' responsibilities.

Tender Documents

Prior to contractors being invited to tender for works contracts, the OCs submit draft tender documents to PAG for review (see Figure 3-07). PAG undertakes a high level review of all draft tender documents submitted and a detailed review of at least 25% of tender documents received each year.

NW – BEAR (N/A)

No tender documents were issued to PAG for review.

SW – Scotland TranServ ★★☆☆☆

Performance by Scotland TranServ reduced to fair. Two sets of draft tender documents were received by PAG

for review. These were for A75 Lay-by to Cardoness Castle and M8 Kingston Bridge South Approaches (Cope & Parapet Refurbishment).

A number of inconsistencies and omissions in the OC's draft documents for the M8 Kingston Bridge tender were addressed.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

NE – BEAR (N/A)

No tender documents were issued to PAG for review.

SE – Amey ★★☆☆☆

Amey's performance was poor.

One set of tender documents was received by PAG for review for A7 265 Old Tweed Bridge. The documents required to be revised and resubmitted by the OC to allow the tender document certificate to be signed by PAG.

PAG will work closely with the OC to establish how performance will be improved during 2016/17.

FB – Amey (N/A)

No tender documents were issued to PAG for review.

Unit	Number received 2015/16	Number received 2014/15
NW	0	1
SW	2	2
NE	0	1
SE	1	0
FB	0	N/A
Total	3	4

Figure 3-07 – Number of tender documents received by PAG

Chapter 3

Delivery of service

Supervision

NW - BEAR ★★★★★

The performance of BEAR remained excellent. One works contract, A82 Glen Gloy carriageway realignment, was delivered by Breedon Aggregates Ltd. The works were instigated as a result of a landslip in November 2011. The road realignment is designed to reduce the probability of future landslips affecting the trunk road. Construction commenced in March 2015 and was completed in June 2015 within budget.

SW - Scotland TranServ ★★★★★

Scotland TranServ performance remained excellent.

There was one works contract this year, Hillington Footbridge, a £2.5m design and build scheme. Construction started in January 2015 and was opened to the public in September 2015 (see Figure 3-08).

The construction phase was extended for three months due to concrete for the substructure being outwith specification. Scotland TranServ, in its supervisory role, both identified the issue and managed the rectification on behalf of Transport Scotland.



Figure 3-08 - Hillington Footbridge replacement on M8 in SW

NE - BEAR ★★★★★☆

A works contract with a tender value of £1.9m was awarded to Breedon Aggregates for reconstruction of A95 Main Street Aberlour. Works commenced in mid-May 2015 and the on-site BEAR Engineers engaged with the community and local businesses regarding the ongoing operations.

Good records and documentation were recorded. The operations were delayed by the presence of a 109-year old water main and were completed in late 2016.

SE - Amey (N/A)

No works contracts were recorded during the period.

FB - Amey (N/A)

No works contracts were recorded during the period.

Chapter 4

Quality of service

Key points

Quality management

- NW, NE and SW maintained accreditation to BS EN ISO 9001:2008 quality management systems (QMS), SE achieved accreditation and FB is progressing to achieve accreditation.
- A detailed investigation identified a number of quality management system process failures in NE and NW, for which BEAR implemented an improvement plan.

Health and safety management

- FB delivered an excellent performance for Health and Safety, NE and SW were good, NW and SE were fair.
- Reportable accidents increased for OCs excluding FB who recorded no RIDDORs in 2015/16.
- OCs achieved or maintained accreditation to BS OHSAS 18001: 2007 either directly or through their parent companies.

Environmental management

- NE, NW and SE delivered a good performance, SW and FB were fair.
- All Units achieved or maintained accreditation to BS EN 14001: Environmental management systems.

Continuous improvement

- The number of remedial notices has increased year-on-year since the start of the 4G contracts.
- The number of NNCs is similar to last year.

Chapter 4

Quality of service

4.1 Management systems

OC Management systems

The OCs are required to maintain management systems that comply with:

- BS EN ISO 9001 – Quality management systems
- BS EN ISO 14001 – Environmental management systems
- BS OHSAS 18001 – Occupational health and safety systems

Management systems refer to a framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives (see Figure 4-01).

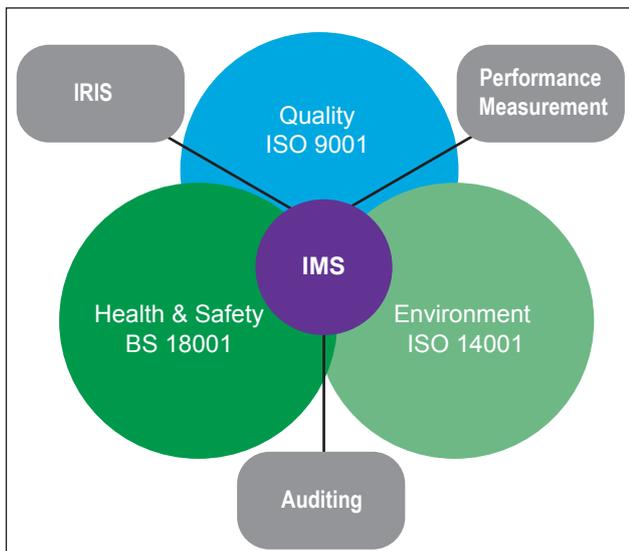


Figure 4-01 – Processes influencing an Integrated Management System (IMS)

Quality management - achieving and maintaining compliance

NE, NW and SW continued to meet the requirements of BS EN ISO 9001:2008.

SE achieved certification for its quality, environmental and occupational health and safety management systems in July 2015 as contractually required.

FB is working towards achieving certification by June 2016.

National Highway Sector Scheme (NHSS) accreditation has been maintained and achieved by NE, NW, SW and SE for NHSS 2B, 12A/B, 12C, 12D and 18. SW and SE also have accreditation for NHSS 2A. FB's certification will include accreditation for NHSS 2A, 2B, 12A/B, 12C, 12D and 18.

Quality management systems - processes

NW- BEAR ★★☆☆☆ & NE- BEAR ★★☆☆☆

As a consequence of allegations made by a third party against BEAR NE, PAG carried out a detailed and thorough independent investigation into various working practices.

The investigation identified a number of quality management system process failures. Further investigation identified that some of these quality management deficiencies existed in BEAR NW.

In January 2016 BEAR submitted a 13-point improvement plan to address the issues raised in the investigation. PAG will audit against this plan during 2016/17.

Quality management - rectifying non-compliance - (PAG and internal)

The OC performance in closing out non-conformances is measured by PI 15 for NW, SW, NE and SE and PI 17 for FB (see Figure 4-02).

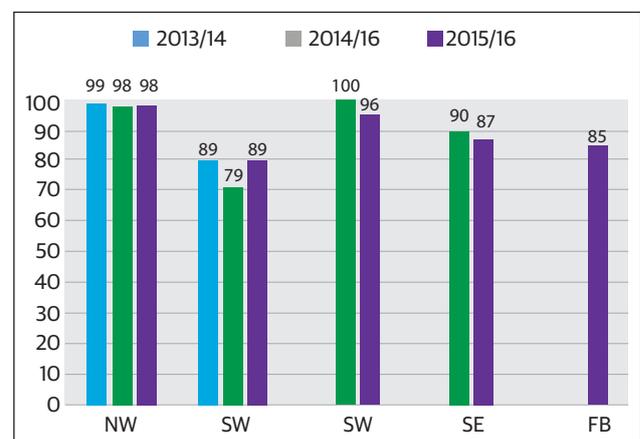


Figure 4-02 – PI 15/PI17: OC performance in closing out non-conformances

Chapter 4

Quality of service

NW – BEAR ★★★★★

BEAR continued to deliver excellent performance for PI 15 closure of non-conformances within required timescales, with an annual result of 98% achieved.

A QMS audit by PAG focusing on control of non-conformances and associated records found the OC to be compliant with the requirements of BS EN ISO 9001:2008 and the contract obligations.

BEAR successfully completed its 2015/16 internal audit programme as scheduled. The programme was monitored by PAG throughout the year.

SW – Scotland TranServ ★★☆☆☆

Scotland TranServ's performance in closing non-conformances within required time-scales improved from very poor to poor with an overall figure of 89% for PI 15. Performance improved most significantly in the second half of the year.

PAG carried out two QMS audits during the year on continuous improvement. The first audit noted issues with closure of non-conformances, lack of performance in a number of PIs and lack of preventive actions to rectify underlying issues. An improved performance was noted in the second audit in December 2015 though PAG again made observations on the length of time the OC was taking to implement corrective and preventive actions, and how issues were being controlled to prevent recurrence during the period of investigation.

The OC successfully completed its 2015/16 internal audit programme. PAG monitoring confirmed that these audits were satisfactory and met the requirements of the contract.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

NE - BEAR ★★★★★

BEAR maintained excellent performance in closing non-conformances within required time-scales with an annual result of 96% achieved for PI 15.

A PAG QMS audit focused on control of non-conformances and associated records. The OC was found to be compliant with

the requirements of BS EN ISO 9001:2008 and the contract obligations.

Throughout the year, PAG monitored BEAR's 2015/16 internal audit programme. The programme was successfully completed on time.

SE - Amey ★★☆☆☆

Amey's performance in closing non-conformances within required time-scales reduced to poor, with an overall average of 87% for PI 15. Performance in the second half of the year was considerably stronger than the first half.

The OC was late in completing its internal audit programme with two audits carried over into the 2016/17 programme. PAG monitoring confirmed that Amey's internal audits were satisfactory and met the requirements of the contract.

A QMS audit identified issues with the updating of the records register with contemporary records, which the OC is rectifying. Improvements were noted with the organisation of the management system on the OC's SharePoint site and transparency in Amey's quality management system arrangements.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB - Amey ★★☆☆☆

Overall a poor performance for closing non-conformances within required time-scales was delivered by Amey with a PI 15 figure of 86%. Performance reduced in August and September 2015, improved during the remaining months and then dipped again in March 2016.

The OC carried out its first internal audits of the management system within the first 13 weeks of the contract as required.

Due to the closure of the Forth Road Bridge in December 2015, the internal audit programme was not maintained throughout December 2015 and January 2016, as most of the Amey staff were unavailable due to the emergency works being carried out on the bridge. The majority of the remaining audits were undertaken in February and March 2016 with four carried over into 2016/17.

Chapter 4

Quality of service

A QMS audit by PAG identified issues with the storage of training records and the lack of training provided for the roles sampled during the audit. This situation would not have been helped by the necessity to divert staff time to assist with issues relating to the FRB closure.

PAG will work closely with the OC to establish how performance will be improved during 2016/17.

Health and safety management

Health and safety

OCs are required to report to the Health and Safety Executive (HSE) any incidents involving deaths and injuries, occupational diseases and dangerous occurrences under the legislation requirements of The Reporting of Injuries, Diseases and Dangerous Occurrences 2013 Regulations (RIDDOR).

Reported RIDDORs to the HSE are shown in Figure 4-03.

Unit	Number of RIDDORS 2015/16	Number of RIDDORS 2014/15	Number of RIDDORS 2013/14
NW	1	1	1
SW	2	0	2
NE	2	N/A	N/A
SE	1	N/A	N/A
FB	0	N/A	N/A

Figure 4-03 – OCs' RIDDOR performance

NW - BEAR

One RIDDOR was reported to the HSE in October 2015 involving a work injury (a back injury) over seven days.

SW - Scotland TranServ

Two RIDDORs were reported to the HSE. The first reported accident occurred in May 2015 involving an operative stacking traffic management signs and trapping their finger in between signs while wearing gloves. The second reported accident in September 2015 occurred as a result of an operative tripping and striking their chest while carried out measurements, which resulted in more than seven days of absence from work.

NE - BEAR

Two RIDDORs were reported to the HSE. The first occurred in May 2015 and concerned an operative undertaking grass cutting operations using a tractor which was struck from behind by a flat-bed lorry carrying heavy metal pipes. The second accident involved an operative carrying out vehicle restraint system operations for removing damaged barrier using a circular saw.

SE - Amey

One RIDDOR was reported to the HSE in September 2015. This entailed an operative twisting their ankle while disembarking from a trailer onto uneven ground.

FB - Amey

No RIDDORs reported for 2015/16.

Health and Safety / Construction Design Management (CDM) Audits

Health and safety audits focusing on BS OHSAS 18001 and contract requirements were carried out during the year. CDM audits were carried out due to the change of legislation being implemented on 1 April 2015 for CDM Regulations 2015. PAG will continue to review OC compliance with their new responsibilities under the CDM 2015 Regulations during 2016/17.

NW - BEAR ★★☆☆☆

BEAR's performance dropped from excellent to fair.

Site visits to Glen Ogle and Comrie identified three findings at the PAG health and safety audit. Findings focused on non-insulated shovels being used near to underground cables at Glen Ogle, some missing or un-tested fire extinguishers in works vehicles and some missing pollution prevention measures.

A CDM audit identified two findings regarding documentation required by the quality management system for risk assessments and method statements being uncontrolled versions. A sample of schemes selected had no evidence of health and safety files being passed to Transport Scotland at the end of the project.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Chapter 4

Quality of service

SW - Scotland TranServ ★★★★★☆

Scotland TranServ's performance continues to be good.

A PAG health and safety site audit at M898 J30 found the OC to be compliant with site health and safety arrangements including traffic management.

The CDM audit identified one finding concerning the use of incorrect hazard identification documentation.

NE - BEAR ★★★★★☆

BEAR's performance reduced from excellent to good.

The PAG health and safety audit involved a review of documentation which identified one finding for missing legislation on the legal register.

The CDM audit identified no findings. BEAR was found to be developing its processes for CDM Regulations 2015 in an appropriate manner.

SE - Amey ★★★★★☆

Amey's performance reduced from excellent to fair.

The PAG health and safety audit identified one finding for the control and update of applicable legal requirements, including demonstrating evidence of evaluation for compliance with applicable legal requirements.

The CDM audit identified two findings concerning lack of evidence of health and safety files being passed to Transport Scotland, and some health and safety files within the selected scheme sample not being available for review.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★★★★★

Amey's performance was excellent.

A PAG health and safety audit identified no findings and Amey was found to be complying with contractual requirements.

A CDM audit identified no findings with Amey undertaking all duties in accordance with CDM Regulations 2015.

Environmental management

Environmental management systems (EMS)

A well-implemented and managed EMS demonstrates a commitment to improving environmental performance and protection. It should fulfil the requirements of wide-reaching environmental legislation, and meet stakeholders' expectations for sustainable development.

The environmental and sustainability briefing note was issued to the OCs by Transport Scotland in September 2015.

During the year EMS audits were completed in all Units by PAG.

NW - BEAR ★★★★★☆

BEAR's performance reduced from excellent to good. One finding was identified during the PAG audit concerning oil storage. During the year the OC provided a number of toolbox talks and presentations relating to environmental training including a guide to spill response.

Overall BEAR's EMS was operating well.

SW - Scotland TranServ ★★★★★☆

Scotland TranServ's performance improved from poor to fair. Two issues were identified during the PAG audit concerning oil storage and training. The OC's environmental assessment process was reviewed and found to be well-established and suitably adapted for specific schemes.

Some progress with long-standing environmental issues related to the underdevelopment of Polmadie depot are still to be resolved.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★★★★☆

BEAR's performance was good. One finding was identified during the PAG audit concerning oil storage. During the year the OC provided a number of toolbox talks and presentations relating to environmental training including a guide to spill response.

Overall BEAR's EMS was operating well.

Chapter 4

Quality of service

SE - Amey ★★☆☆☆

Amey's performance was good. One finding was identified during the PAG audit concerning a number of mitigation measures that were not appropriately implemented on site. During the audit an inspection was undertaken of Bilston depot, which found the depot to be well organised with appropriate environmental controls firmly in place.

Overall Amey's EMS was operating well.

FB - Amey ★★☆☆☆

Amey's performance was fair. Two findings were identified during the PAG audit concerning documentation and training. Amey was seeking to obtain ISO 14001 accreditation within the first contract annual period and its EMS was not yet fully developed at the time of the audit.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

4.2 Continuous improvement

Resolving problems and improving performance

Management systems are required to continually improve the effectiveness and efficiency of an organisation. This is achieved by identifying areas for improvement to the organisation's processes.

The OCs are, therefore, required to regularly monitor and verify their activities through testing, inspecting and auditing. They should then action where necessary to prevent use and recurrence where deficiencies are uncovered.

PAG monitors the OCs' systems and uses an escalation process to ensure issues are resolved (see Figure 4-04).

Where an issue is escalated to either NNC or remedial notice the OC is required to manage the default in accordance with its QMS within the specific timescale.

The OCs should respond positively to these notices, rectify the immediate problems and improve their overall effectiveness.

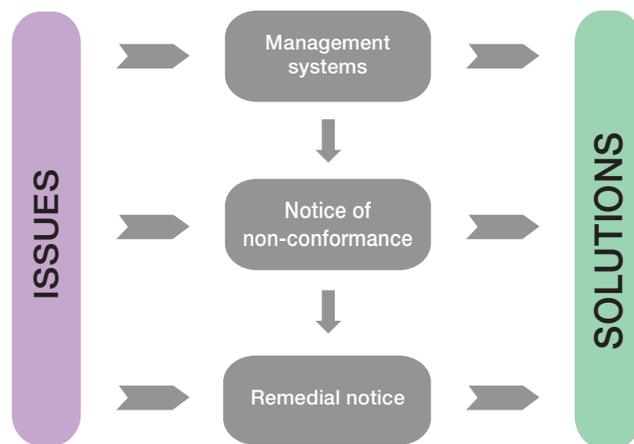


Figure 4-04 - Escalation process

OC default performance

In total, six remedial notices were issued by Transport Scotland, two in SW, two in SE, one in NW and one in NE (Figure 4-05). In addition a remedial notice issued to SW in 2013/14 remains subject to ongoing discussions between Scotland TranServ and Transport Scotland.

The overall number of remedial notices has increased year-on-year since the start of the 4G contracts and the number of NNCs remains similar to last year (Figure 4-06).

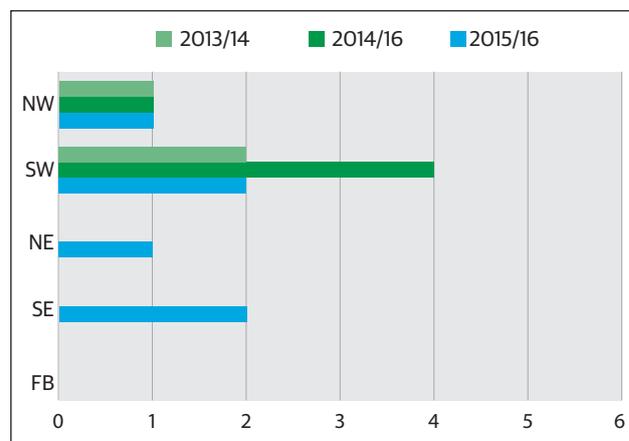


Figure 4-05 - Number of remedial notices issued

Chapter 4

Quality of service

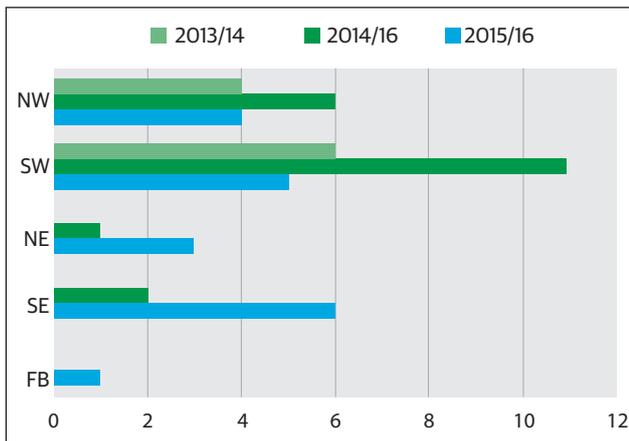


Figure 4-06 – Number of NNCs issued

NW – BEAR ★★☆☆☆

BEAR's performance remained poor with one remedial notice and four NNCs raised. Unresolved long-standing issues with road markings and road studs led to the remedial notice.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SW – Scotland TranServ ★☆☆☆☆

Scotland TranServ's performance continues to be very poor. Five NNCs and two remedial notices were issued. The remedial notices were raised for a lack of progress in undertaking the inventory validation and recording the inventory condition, and for using dry salt when wetted salt was contractually required in winter maintenance operations. Some improvement in closing out these issues was noted during the year.

Transport Scotland and PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

NE – BEAR ★★☆☆☆

BEAR's performance reduced to poor with one remedial notice and three NNCs raised. The remedial notice related to lack of progress on establishing a salt store to contractual requirements at the Errol depot.

PAG will work closely with the OC to establish how performance will be improved during 2016/17.

SE – Amey ★☆☆☆☆

Amey's performance reduced to very poor with two remedial notices and six NNCs being issued. The remedial notices were raised for lack of progress in undertaking repairs on A720 and lack of progress in undertaking the inventory validation, recording the inventory condition and carrying out a node review.

Transport Scotland and PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

FB – Amey ★★☆☆☆

Amey's performance was good. No remedial notices were raised during the reporting period and one NNC was raised.

Performance measurement

Performance measurement

The OCs' performance in the management and maintenance of the network is measured by a set of 20 PIs in the West, 22 PIs in the East, 38 PIs in FB and 21 MIs in all Units except for FB which has 23 MIs.

The performance measurement indicators agreed with the Scottish Ministers are calculated using standard methods of measurement developed by PAG.

Summary of performance measurement

PAG monitors all performance indicators throughout the year and works with the OCs to address any poor performance.

Transport Scotland and PAG set thresholds for the performance indicators, which are reviewed annually to help drive continuous improvement.

Descriptions of the PIs can be found in the contract. These are summarised in Figure O4-07 and are cross-referenced within this report where appropriate.

Chapter 4

Quality of service

	Unit			PI Name
	NW/SW	NE/SE	FB	
PI Number	0	0	0	Overall Performance Indicator
	1	1	1	RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations)
	2	2	2	Accident Frequency Rate
	3	3	3a	Repair of Category 1 Defects
			3b	Repair of Category 1 Defects Forth Road Bridge
	4	4	4	Incident Response
	5	5	5	Safety Inspections and Patrols
	6	6	6	Detailed Inspections
	7	7	7	Maintenance
	8	8	8	Structures Principal Inspections
	9	9	9	Structures General Inspections
			10	Forth Road bridge inspections
			11	Queensferry Crossing Inspections
	10	10	12a	Structures maintenance
			12b	Structures Maintenance Forth Bridge
	11	11	13	Winter Service treatments
	12	12	14	Actual spend against profile
	13	13	15	Works Contracts cost estimates
	14	14	16	Works Contracts out turn cost
	15	15	17	Closure of Non-Conformances
	16	16	18	Submission of reports
	17	17	19	Planning applications
	18	18	20	Communications response
	19	19	21	Carbon emissions
		20	22	Grassed area
	21	23a	Recording Inventory Condition Rating	
		23b	Recording Inventory Condition Rating Forth Bridge	
		23c	Recording Inventory Condition Rating Queensferry Crossing	
		24	Community Engagements and Community Benefits	
		25	Queensferry crossing Structural Health Monitoring System Report	

Figure 4-07- List of PIs

Chapter 4

Quality of service

PI Number	Unit			PI Name
	NW/SW	NE/SE	FB	
PI Number			26	Queensferry Crossing Supervisory Control and Data Acquisition System Maintenance
			27a	Access Systems inspection -Forth Bridge
			27b	Access Systems maintenance and testing -Forth Bridge
			28a	Access Systems inspection - Queensferry Crossing
			28b	Access Systems maintenance and testing - Queensferry Crossing
			29	Programmed Special Inspections -Forth Bridge
			30	Internal audits
			31	Scheme Closure in CCMf

Figure 4-07- List of PIs (Continued)

Performance measurement - continual improvement

None of the OCs reported PI 19 in 2015/16 due to ongoing discussions between the OC and Transport Scotland on methods for reporting the PI.

The performance measurement indicators not referenced elsewhere in this report can be categorised as reporting and communications (PIs 16 and 18) and dealing with planning applications (PI 17). All OCs exceeded the threshold target for these PIs.

NW – BEAR

In comparison to 2014/15, the performance of BEAR reduced in 2015/16. Figure 4-08 summarises performance against each benchmark PI; adjacent to this is the same PI results for 2014/15 (see Figure 4-09).

SW – Scotland TranServ

In comparison to 2014/15, the performance of Scotland TranServ improved slightly in 2015/16. Figure 4-10 summarises performance against each benchmark PI; adjacent to this is the same PI results for 2014/15 (see Figure 4-11).

NE – BEAR

In comparison to 2014/15, the performance of BEAR dropped in 2015/16. In addition to PI 19, PI 20 (grassed area) and 21 (recording inventory condition rating) were not reported during the annual period. The OC stated it had not developed

a procedure for recording the grassed area for PI 20 during the grass cutting season. The procedure has now been developed and PI 20 will be reported during 2016/17.

The OC has also stated that it is not possible to measure PI 21 until the inventory validation work is complete. Figure 4-12 summarises performance against each benchmark PI; adjacent to this is the same PI results for 2014/15 (see Figure 4-13).

SE – Amey

In comparison to 2014/15, the performance of Amey dropped in 2015/16. Figure 4-14 summarises performance against each benchmark PI; adjacent to this is the same PI results for 2014/15 (see Figure 4-15).

FB – Amey

Eleven PIs were not measured during the annual period. Of these, six PIs (11, 23c, 25, 26, 28a and 28b) relate to the Queensferry Crossing and are not yet applicable.

The other five PIs were: PI (00) Overall, PI 2 accident frequency rate (where a benchmark is to be set in June 2016), PI 21 measurement of carbon emissions (which is due to be submitted in June 2016), PI 22 grassed area (where the OC stated during the grass cutting season it had to develop auditable sections), PI 23b recording inventory condition rating (where the OC states the inventory data is still being collected). Figure 4-16 summarises performance against each benchmark PI. As the Forth Bridges contract started on 01 June 2015 there was no prior PI data for comparison.

Chapter 4

Quality of service

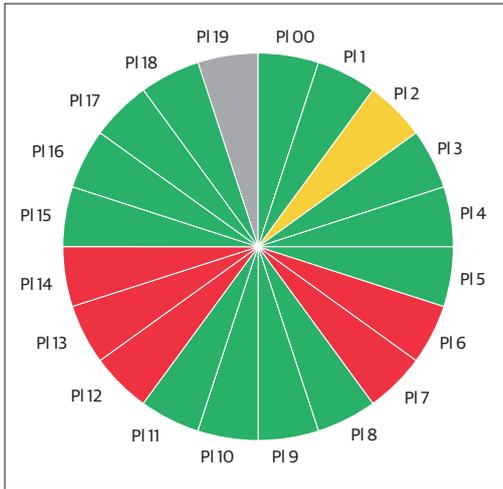


Figure 4-08 – PI summary for NW 2015/16

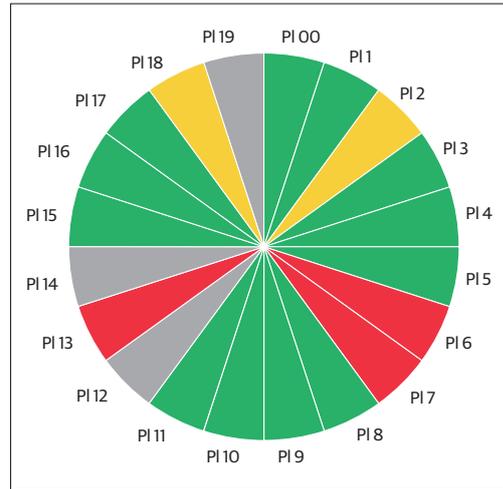


Figure 4-09 – PI summary for NW 2014/15

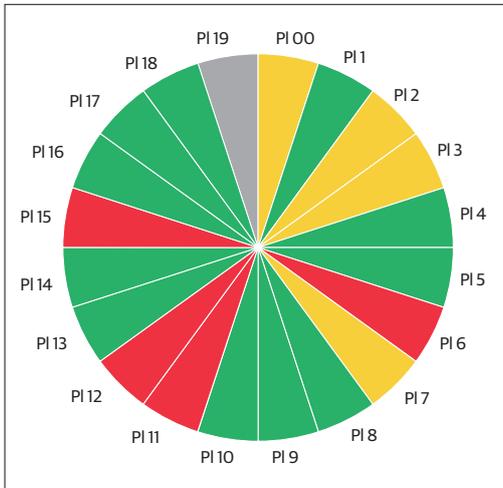


Figure 4-10 – PI summary for SW 2015/16

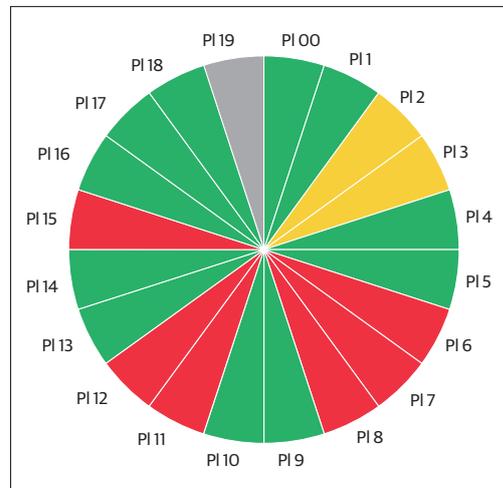
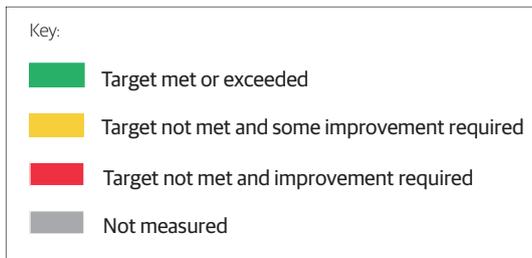


Figure 4-11 – PI summary for SW 2014/15



Chapter 4

Quality of service

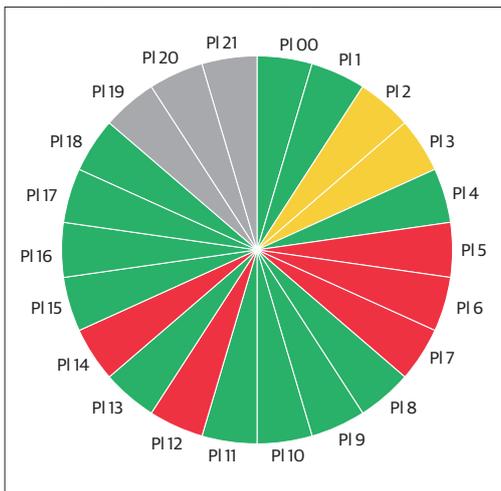


Figure 4-12 – PI summary for NE 2015/16

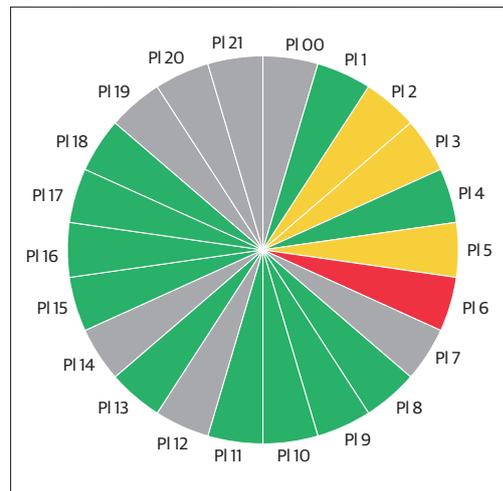


Figure 4-13 – PI summary for NE 2014/15

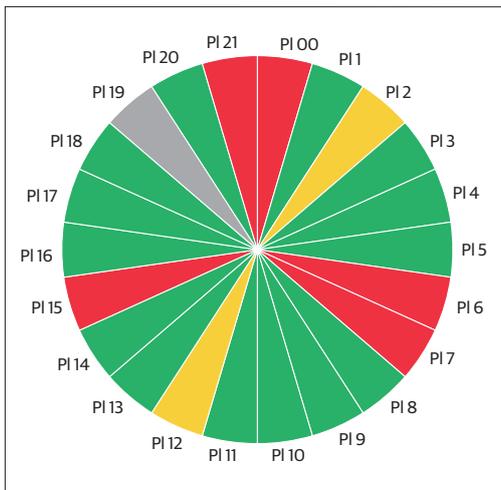


Figure 4-14 – PI summary for SE 2015/16

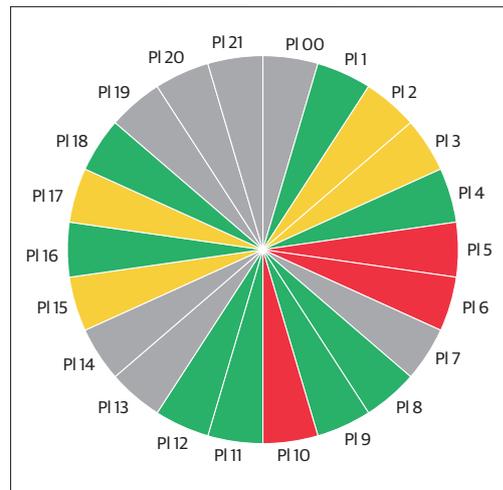


Figure 4-15 – PI summary for SE 2014/15

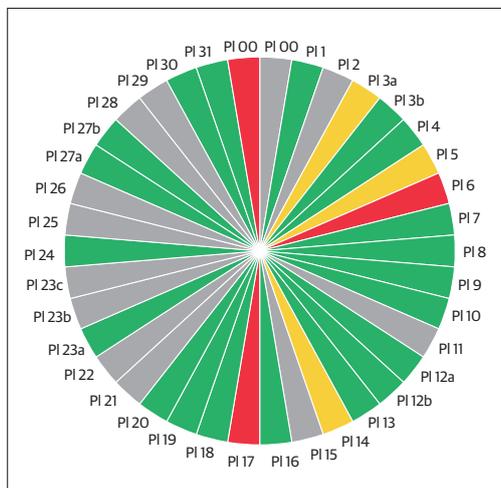
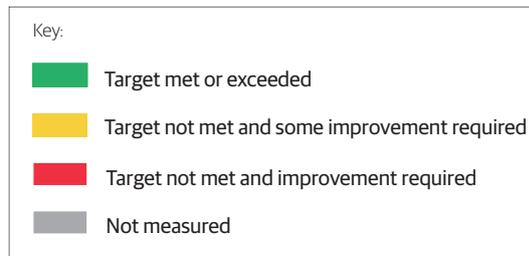


Figure 4-16 – PI summary for FB 2014/15



Chapter 5

Value of service

Key points

Financial spend

- OC spend was in line with budget, although there were minor differences between spend and budget at budget level category.
- OC performance in managing the budget was good in NW, NE and FB, and fair in SW and SE. All OCs had issues with monthly profiling of spend.
- The OCs' performance in managing the bid/order process was good, except in NW where performance was fair.

Financial management

- OC performance in submitting financial information, such as works contractor invoices and expenditure profiles, was excellent in NE, SE and FB, good in NW and fair in SW.
- OC performance with general financial management was excellent in NE and SE, good in NW and FB and fair in SW.

Commercial matters

- OCs operated effective measurement processes, although there were issues with provision of records in all Units.
- Performance in dealing with claims was good in FB. Performance was fair in SE and poor in NW, SW and NE, with the OCs failing to fully comply with the claim notification process.

Chapter 5

Value of service

5.1 Financial Spend

5.1.1 Budget, orders and spend

PAG monitors and reports on the inter-relationship of budget, orders and spend to assist Transport Scotland in its financial management. How this fits into the overall process is shown in Figure 5-01.

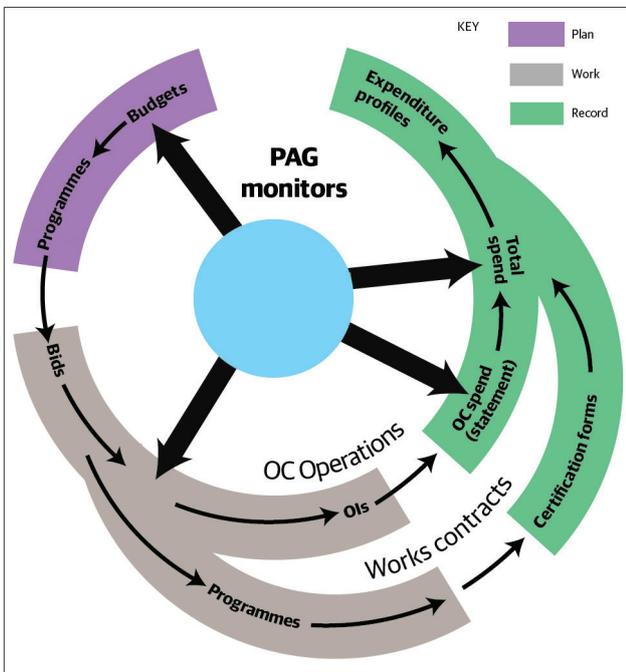


Figure 5-01 - Financial monitoring process

Budgetary control

Budgetary control by the OCs is a key management responsibility. It is essential that the OCs exercise good budgetary control regardless of funding levels, as there may be little scope to revise programmes if there are any significant increases in scheme costs, particularly towards year end. This risk has been recognised by Transport Scotland and is included within the PAG audit and monitoring programme.

The OCs have responsibility for delivering a programme of maintenance covering five budget categories. These are routine maintenance (RM), structural maintenance (SM), structures (STR), minor improvements (MI) and strategic road safety (SRS).

A comparison of spend against budget for 2015/16 is shown in Figure 5-02.

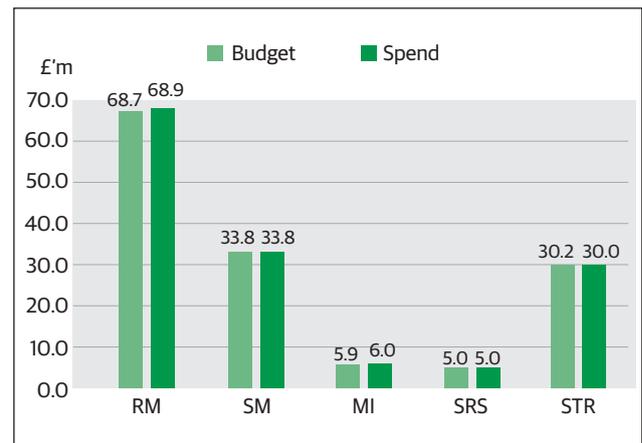


Figure 5-02 - Spend v Budget (excluding CPF) - all Units

Spend overall was in line with budget with some minor differences at budget category level (Figure 5-02).

NW - BEAR ★★☆☆☆

Overall performance improved to good. Spend in NW was in line with budget. Figure 5-03 shows how the OC managed its budget at budget category level.

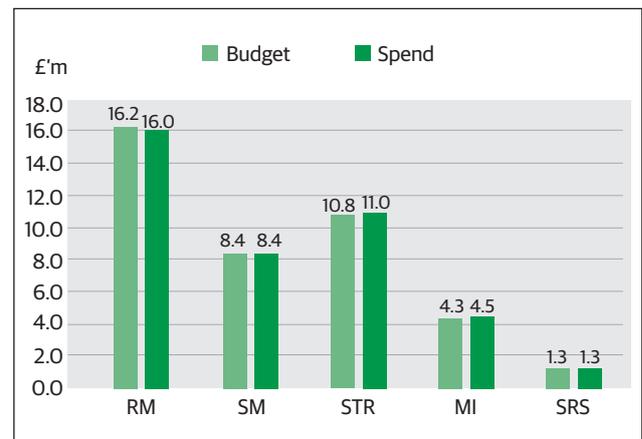


Figure 5-03 - NW Budget v Spend (excluding CPF)

Figure 5-03 highlights budget under spend against routine maintenance (RM) at £271k (2%) and over spend against structures (STR) at £234k (2%).

Chapter 5

Value of service

One area where the OC requires to improve is in the provision of accurate expenditure profiles.

SW - Scotland TranServ ★★☆☆☆

Overall performance continued to be fair with budget over spent by £920k (3%). Figure 5-04 shows how the OC managed its budget at budget category level. This highlights the overspend relating to routine maintenance (RM) where spend was more than budget by £1.1m (7%).

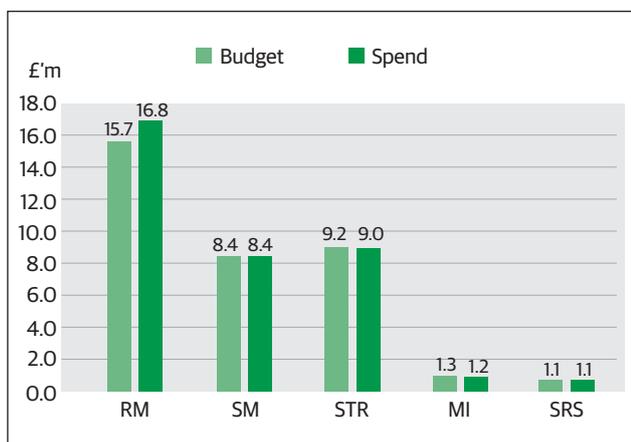


Figure 5-04 - SW Budget v Spend (excluding CPF)

One area where the OC requires to improve is in the provision of accurate expenditure profiles.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★☆☆☆

Overall, performance remained good with budget over spent by £190k (1%). Figure 5-05 shows how the OC managed its budget at budget category level.

One area where the OC requires to improve is in the provision of accurate expenditure profiles.

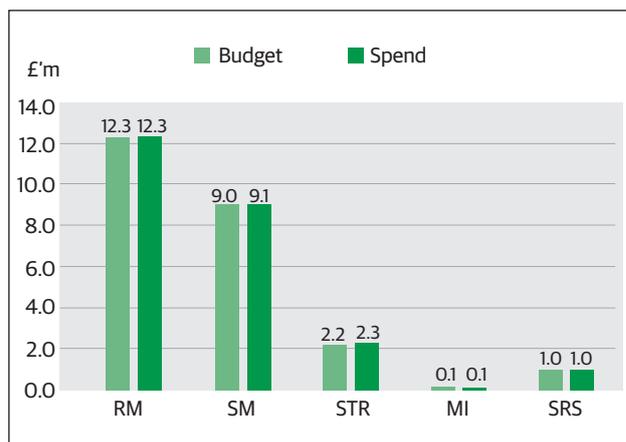


Figure 5-05 - NE Budget v Spend (excluding CPF)

SE - Amey ★★☆☆☆

Performance dropped to fair with budget under spent by £695k (3%). Figure 5-06 shows how the OC managed its budget at budget category level.

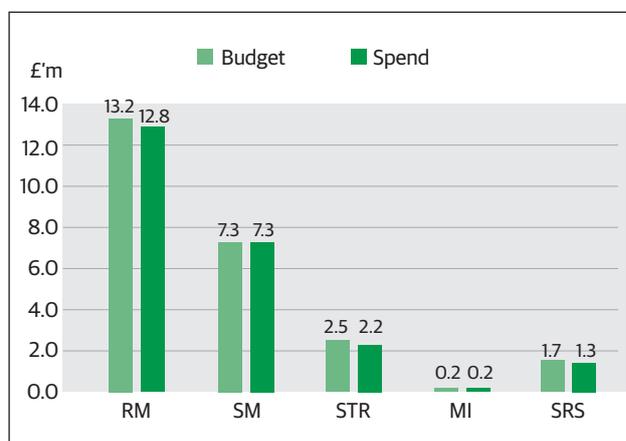


Figure 5-06 - SE Budget v Spend (excluding CPF)

Figure 5-06 highlights how the under spend was mainly attributable to routine maintenance (RM) £392k (3%) and structures (STR) £305k (12%).

One area where the OC requires to improve is in the provision of accurate expenditure profiles.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

Chapter 5

Value of service

FB – Amey ★★★★★☆

Performance was good with budget under spent by £296k (2%). Figure 5-07 shows how the OC managed its budget at budget category level.

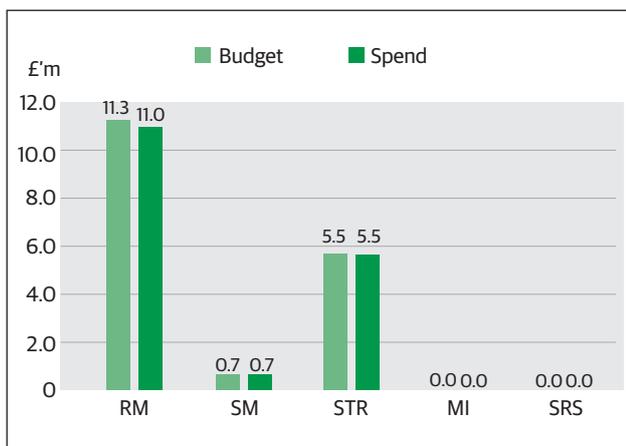


Figure 5-07 – FB Budget v Spend (excluding CPF)

Figure 5-07 highlights how the under spend was mainly attributable to routine maintenance £251k (2%). One area where the OC requires to improve is in the provision of accurate expenditure profiles.

Orders v spend

The responsibility to ensure that the value of orders issued by Transport Scotland matches its annual budgets and subsequent spend rests with the OCs.

Pressures on this process are inevitable due to operational demands changing, and work already bid and ordered not proceeding. These changes may have a significant impact on the financial outturn if not managed through the contractual requirements for submitting revised bids. This process should ensure ordered work does not exceed budget.

PAG monitored the OCs’ financial management performance throughout the year to review whether spend for each scheme exceeded order value. PAG also reported on the relationship between budget, order value and spend for operations.

NW – BEAR ★★★★★☆

BEAR’s performance improved to fair. A NNC raised for spend exceeding orders during 2014/15 was closed after BEAR carried out actions to remedy the non-conformance.

While some issues still remain with spend exceeding orders, these were not as significant as in the previous year.

PAG will continue to monitor this activity closely to establish how performance will be improved in 2016/17.

SW – Scotland TranServ ★★★★★☆

Overall, performance remained good, with only minor issues with spend exceeding orders.

NE – BEAR ★★★★★☆

Overall, performance remained good, with only minor issues with spend exceeding orders.

SE – Amey ★★★★★☆

Overall, performance remained good, with only minor issues with spend exceeding orders.

FB – Amey ★★★★★☆

Overall, performance was good, with only minor issues with spend exceeding orders.

5.2 Financial management

5.2.1 Submission of financial information

NW – BEAR ★★★★★☆

Overall performance remained good. As in the previous year there continued to be some late submissions of financial records, such as works contractor invoices and expenditure profiles.

SW – Scotland TranServ ★★★★★☆

Performance dropped from excellent to fair. Scotland TranServ failed to include within its statement submission claims for additional payments, resulting in the issue of a NNC in October 2015. This was closed in May 2016.

Chapter 5

Value of service

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★★★★

Overall performance remained excellent.

SE - Amey ★★★★★

Performance remained excellent with all financial submissions being received within contractual timescales.

FB - Amey ★★★★★

Performance was excellent with all financial submissions being received within contractual timescales.

5.2.2 General financial management

NW - BEAR ★★★★★☆

BEAR's performance improved to good, although there was slow progress in closing out issues schemes within CCMf.

SW - Scotland TranServ ★★★★★☆

Overall, Scotland TranServ's performance reduced from good to fair. A NNC issued in December 2015 for failure to progress a materially financial issue was closed in April 2016 after providing financial information required to close matters.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

NE - BEAR ★★★★★

Overall BEAR's performance improved to excellent.

SE - Amey ★★★★★☆

Performance remained good, although there were some minor issues in closing out schemes.

FB - Amey ★★★★★☆

Performance was good, although there were some minor issues in closing out schemes.

5.3 Commercial matters

PAG continued to monitor the OCs' measurement processes. Issues raised were discussed and resolved through regular meetings. Where appropriate, monies were deducted from the OCs for failure to substantiate values claimed.

5.3.1 Measurement issues

Measurement process

PAG carries out detailed reviews on OC spend through a process of site visits and reviews of measurement records held at the OCs' central offices. Given the volume of work undertaken by the OCs, PAG's work is carried out on a sample basis with 10% (by value) of operations reviewed. Operations covered include patching, drainage, pavement reconstruction, waterproofing bridge decks and the like. The aim of these reviews is to ensure the OCs' measurement processes are robust and accurately record amounts due through their monthly statements.

NW - BEAR ★★★★★☆

Overall performance remained good. However, as in the previous year, some issues were noted with measurement records on occasion not being made available at time of review to support amounts charged. Where appropriate, amounts were withheld from payment until records were made available.

PAG investigation into allegations made by a third party against BEAR identified an overpayment of £200k, representing 0.6% of ordered operations paid to OC in 2015/16. See also section 4.1 of the report for further comments on this investigation.

SW - Scotland TranServ ★★★★★☆

Overall performance remained good. However, as in the previous year, some issues were noted with measurement records on occasion not being made available at time of review to support amounts charged. Where appropriate, amounts were withheld from payment until records were made available. In addition, some issues were noted with OC review comments. The OC was also slow to provide comments to PAG reviews.

Chapter 5

Value of service

NE - BEAR ★★☆☆☆

Overall performance remained good. However, as in the previous year, some issues were noted with measurement records on occasion not being made available at time of review to support amounts charged. Where appropriate, amounts were withheld from payment until records were made available. The OC was also slow to provide comments to PAG reviews.

PAG investigation into allegations made by a third party against BEAR identified an overpayment of £55k, representing 0.3% of ordered operations paid to OC in 2015/16. See also section 4.1 of the report for further comments on this investigation. The OC was also slow to provide comments to PAG reviews.

SE - Amey ★★☆☆☆

Amey's performance overall remained good. However, as in the previous year, some issues were noted with measurement records on occasion not being made available at time of review to support amounts charged. Where appropriate, amounts were withheld from payment until records were made available.

FB - Amey ★★☆☆☆

Amey's performance overall was good. However, some issues were noted with measurement records on occasion not being made available at time of review to support amounts charged.

5.3.2 Claims

Claims

Given the wide-ranging requirements of the 4G contracts, it is inevitable that issues will arise around claims for additional cost and contract interpretation.

Transport Scotland has made key changes to its term maintenance contracts to ensure claims are resolved within a reasonable timeframe. The OCs are required to meet timescales for claim notification and to provide detailed supporting information to Transport Scotland.

NW - BEAR ★★☆☆☆

Overall performance dropped to poor.

A number of claims arose during the year with BEAR repeatedly failing to comply with the claim notification process and

budgetary requirements.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

SW - Scotland TranServ ★★☆☆☆

Overall performance remained poor.

A number of claims arose during the year. Scotland TranServ made some improvements to comply with the claim notification process, although failed to comply with budgetary management obligations.

PAG will continue to work closely with the OC to establish how performance will be improved during 2016/17.

NE - BEAR ★★☆☆☆

BEAR's performance overall was poor.

A number of claims arose during the year with the OC repeatedly failing to comply with the claim notifications and budgetary requirements.

PAG will work closely with the OC to establish how performance will be improved during 2016/17.

SE - Amey ★★☆☆☆

Overall performance reduced from good to fair.

One claim, originating in 2014/15, was ongoing into 2015/16. Amey complied with the claim notification process, although failed to comply with budgetary requirements.

PAG will monitor this activity closely to establish how performance will be improved in 2016/17.

FB - Amey ★★☆☆☆

Amey's performance overall was good.

One claim issue arose during the period. Amey complied with the claim notification process, although failed to comply fully with the budgetary requirements.

Frequently asked questions

What is the Performance Audit Group (PAG)?

CH2M, working in association with PricewaterhouseCoopers, Aecom and TRL, was re-appointed through competitive tendering by Transport Scotland for a third seven-year term from December 2009. CH2M and PricewaterhouseCoopers monitor performance on the four Units. Aecom's role in PAG is primarily to monitor the M6 DBFO project.

What is PAG's role?

PAG audits, monitors and reports on the financial, technical and performance aspects of the OCs to a plan agreed with Transport Scotland. PAG also reviews payment requests from the OCs and carries out inter-Unit comparisons and value for money investigations at the request of Transport Scotland. PAG can escalate the auditing and monitoring of the OCs if performance issues are identified.

PAG assisted Transport Scotland in the development of the fourth generation trunk road maintenance contracts.

What is a trunk road?

The primary transport functions for the national strategic transport network are defined as

- Linking major urban centres and areas of population change
- Providing links to international gateways, airports, ports and borders
- Linking remoter communities
- Linking key tourist areas
- Facilitating freight routes
- Linking areas of economic activity and regeneration areas of national significance.

All motorways and some A-roads are designated as trunk roads

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 the local non-trunk road network.

What is Transport Scotland?

Transport Scotland is the Scottish Government's national transport agency responsible for helping to deliver the Government's capital investment programme and overseeing the safe and efficient running of Scotland's trunk roads.

What are Transport Scotland's responsibilities for trunk roads?

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

What are OCs?

The OCs are responsible for delivering the management and maintenance of the trunk road network in each Unit, working under contract to Transport Scotland.

What are the OCs' main tasks?

The OCs oversee, coordinate and undertake cyclic and routine maintenance, winter service and emergency response.

In addition, they undertake bridges and structural road maintenance, bridge strengthening and replacement, safety and condition inspections, 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, including scheme preparation
- carry out surveys, inspections and investigations
- manage and supervise operations and works contracts
- manage their allocated budgets
- report to Transport Scotland.

Frequently asked questions

What work is not done by the OCs?

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

These include:

- Maintenance of M74/A74(M) from J12 to the English border, which is the responsibility of Autolink under the terms of the M6 DBFO project.
- Maintenance of M77 PPP project, which is the responsibility of Connect.
- Maintenance of M80 DBFO project is the responsibility of Highway Management (Scotland) Ltd.
- Maintenance of M8 M73 M74 Motorway Improvements Project DBFO is the responsibility of the Scottish Roads Partnership (SRP) consortium.
- Maintenance of AWPR – Balmeddie-Tipperty NPD Project is the responsibility of the Aberdeen Roads Partnership.
- Maintenance of Traffic Scotland electrical 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 an assessment of these other maintenance organisations.

Where can I find out more about the management and maintenance of the M6 DBFO, M77 DBFO, M8 M73 M74, AWPR – B-T and M80 DBFO 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

For M8/M73/M74, contact:

Scottish Roads Partnership
Hermiston House, Unit B
M8 Central Business Park
Greenhouse Road
Newhouse
Motherwell
ML1 5FL

For M80, contact:

Highways Management (Scotland) Ltd
c/o Bilfinger Project Investments Europe
Pavilion 2
Buchanan Park
Stepps
Glasgow
G33 6HZ

For AWPR, contact:

AWPR Project Office
New Mains of Ury
Stonehaven
Aberdeen
AB39 3QA

Glossary of Terms

3G contracts

Third generation contracts which were tendered in two phases. NW and SW were tendered first and finished on 31 March 2013. NE and SE finished on 15 August 2014.

4G contracts

Fourth generation contracts which were tendered in two phases. NW and SW were tendered first and commenced on 1 April 2013. NE and SE commenced on 16 August 2014. Subsequently FB was also introduced on 1 June 2015.

Automated diary facility

The Automated Diary Facility (ADF) is a web-based roadworks diary provided by Traffic Scotland as part of the Scottish Minister's Term Contract for Management and Maintenance of the Scottish Trunk Road Network. The ADF provides the ability for the OC to input and edit planned roadworks traffic management, lane closures, lane occupations and events likely to cause traffic delays.

Abnormal load

An item which, when loaded on the carrying vehicle, exceeds critical weight or size parameters given in legislation and cannot be broken down into smaller components (also referred to as Abnormal Indivisible Load).

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.

CEEQUAL

An evidence-based sustainability assessment, rating and awards scheme for civil engineering, infrastructure, landscaping and the public realm, indicating the achievement of high environmental and social performance.

Contract control and management function (CCMf)

A computer-based financial management system supplied by Transport Scotland and operated by the OCs. The system gives everyone working on the OC contracts, including Transport Scotland and PAG, relevant 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 2015 and 31 March 2016.

Integrated road information system (IRIS)

The road information system provided by Transport Scotland and used by the OCs in 4G, which includes the functionality of CCMf, RMMf, SMS and data on the physical characteristics, condition of the trunk road network and accidents.

Monitoring indicators and Performance indicators

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 3,134km long and varies from urban motorways to rural single carriageways (see Figure 1). In addition, a total of 198km of motorway is covered by the M6 DBFO, M77 DBFO, M8/M73/M74 DBFO, M80 DBFO and AWPR projects.

Notice of non-conformance (NNC)

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

Glossary of Terms

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.

Pavement

Spend related to carriageways and footways.

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 contract 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 function (RMMf)

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.

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 9001:2008 and the sector scheme document.

Spend

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

Statements of intent (SOI)

These are reports prepared by the OCs to support their bids to carry out work on the network. The SOIs include scheme justification, possible options, cost estimates and recommended treatment.

Structures management system (SMS)

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

Sustainability

Sustainability in trunk road maintenance and improvement allows for an enhanced network consistent with social needs, permitting environmental stewardship, improving safety, promoting efficiency and meeting the mobility requirements of current and future generations.

Traffic Scotland

Traffic Scotland enables the collection and distribution of real-time traffic information relating to incidents and events currently taking place on the Scottish trunk road network.

TS2010

A specification for a new quieter and more durable road surfacing material.

Unit

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

Works contracts

Schemes usually with a value of more than £350k and below £5m, which the OCs design, procure through competitive tender and supervise on site.

Abbreviations

3G	Third generation	NW	North West
4G	Fourth generation	OC	Operating Company
ADF	Automated diary facility	OHSAS	Occupational health and safety assessment series
BS	British Standard	ORI	Observation resulting from inspection
CCMF	Contract control and management function	PAG	Performance audit group
CEEQUAL	Civil engineering environmental quality assessment and award scheme	PI	Performance indicators
CPF	Contract price fluctuation	QMS	Quality management system
DBFO	Design, build, finance and operate contract	RIDDOR	Reporting of injuries, diseases and dangerous occurrences regulations
EMS	Environmental management system	RMMF	Routine maintenance management function
EN	European standard of the CEN	SE	South East
FB	Forth Bridges	SEPA	Scottish Environment Protection Agency
H&S	Health and safety	SIDR	Standard Incident Diversion Route
HSE	Health and safety executive	SMS	Structures management system
IRIS	Integrated road information system	SOI	Statement of Intent
ISO	International Standards Organisation	SRWR	Scottish Road Works Register
LED	Light emitting diode	SW	South West
MI	Monitoring indicators	TRISS	Trunk road incident support service
NE	North East		
NNC	Notice of non-conformance		

Useful websites

PAG

www.performanceauditgroup.co.uk

CH2M

www.ch2m.com

PricewaterhouseCoopers

www.pwc.co.uk

Aecom

www.aecom.com

Transport Scotland

www.transportscotland.gov.uk

Traffic Scotland

www.trafficscotland.org

Scottish Road Works Commissioner

www.roadworksscotland.gov.uk

Scottish Government

www.scotland.gov.uk

Scottish Parliament

www.scottish.parliament.uk

Amey

www.amey.co.uk/

BEAR

www.bearscot.com

Scotland TransServ

www.scotlandtranserv.co.uk

PAGplus
CH2M

City Park, 368 Alexandra Parade
Glasgow, G31 3AU
tel +44 (0) 141 552 2000
www.performance.auditgroup.co.uk
www.ch2m.com

CH2M has prepared this report in accordance with the instructions of its client for public distribution.
Any other persons who use any information contained herein do so at their own risk.

CH2M
certifications

BS EN ISO 9001: 2008
BS EN ISO 14001: 2004
OHSAS 18001: 2007