



PAG Team

Performance Audit Group's Annual Report 2020/21

Performance Audit Group
Transport Scotland

Turner & Townsend



ScotlandTranServ
A Balfour Beatty Mouchel Joint Venture

making the **difference**

Foreword



Richie Hales
Director
Turner & Townsend
November 2021

This is the Performance Audit Group's (PAG) annual report on the management and maintenance of Scotland's trunk road network for 2020/21.

PAG's role is to audit, monitor and report on the performance of the Operating Companies (OCs), and this report summarises the extensive work carried out by the PAG multi-disciplinary team throughout the year.

Delivering value for the road users and taxpayers is at the heart of our approach in delivering the PAG service and we are extremely proud to be supporting Transport Scotland on this key service.

Along with our partners, Waterman Group and PWC, we continue to work closely with Transport Scotland and the OCs to raise standards and provide a safe and reliable network. Our collective focus is to deliver:

- Quality of Service for Trunk Road Customers
- Asset Enhancement and Continuous Improvement of Service
- Value for Money and collectively deliver sustainable value to all stakeholders

Our approach to the commission is driving improvements through collaboration, independent constructive challenge and continuous improvement with the focus on outcomes being at the forefront of all decisions.

This year has also brought 2 additional areas of note:

- The success of the rapid implementation of Covid-19 secure operating procedures to allow the OCs, PAG and Transport Scotland to maintain the roads network during the pandemic.
- The effective and efficient de-mobilisation and mobilisation of the South region OCs which was delivered without disruption in service.

We are taking great pride in playing our part in delivering a great road user experience and we trust you find our latest report clear, comprehensive and informative.

Facts and Figures

Overview



Total length of road
3,118 km



Total number of structures
5,655

Renewing



710km of new road surfacing lane



6km of filter drain constructed



24km of safety fence installed/renewed



9km of filter stone replaced



316 road lights upgraded to LED



321 structures schemes delivered



2.0km of carriageway drainage constructed/renewed

Facts and Figures

Maintaining



23,907

Category 1 defects identified and repaired

This included:



13,277

potholes



2,076

items of electrical defects



2,895

items of debris removed



1,542

road signs/road marking defects



2,207

items of broken or blocked drainage



898

safety fence defects

Facts and Figures

Maintaining



£106.3m

spent on road pavement surfacing and deeper inlay schemes.



£15.6m

spent on renewal/replacement of various non-pavement trunk road assets (safety barriers, drainage schemes, road markings and signage).



£63.6m

spent on maintenance of bridges and structures (such as renewing waterproofing layers to protect the structure, renewing worn expansion joints).



£6.2m

spent on network cyclic maintenance including 92,260 gullies, 67,776 Manholes and Catchpits, 121,790 Traffic signs, and 32 million m² of grass.



£3.0m

spent on landscaping and vegetation maintenance including tree felling, branch removal, scrub and vegetation clearance.



£0.9m

spent on structures cyclic maintenance including cleaning drainage, bridge joints, clearing vegetation and graffiti, checking safety fences.

Operating



100,778 tonnes

of salt spread in winter season



7,116 incidents

incidents responded to on the trunk road network

Executive Summary

2020/21 was a very challenging year for Operating Companies (OC). The Covid-19 pandemic and the resultant restrictions on working practices in the first three months of the annual period (March to June 2020) resulted in many planned operations not being undertaken until later in the year with only essential safety related operations in that initial three-month lockdown period. This impacted on a number of areas of cyclic maintenance and planned maintenance schemes with a knock-on effect to a number of contractual Performance Indicators which, as a result, cannot be taken as representative of the OCs performance.

Three of the 4th Generation Term Maintenance (4G) Contracts (SW, SE and Forth Bridge) also came to an end in August 2020 and were replaced by two new Network Management Contracts (NMC SW and SE). Despite coming in the midst of the pandemic the changeover from 4G to NMC contracts went well.

Despite the restrictions imposed due to Covid-19, PAG was still able to audit, monitor and report on the performance of the Operating Companies in a number of areas and to provide representative ratings on performance [**Excellent** / **Good** / **Fair** / **Poor**]. Throughout this report, ratings are based either on empirical bandings of contractual Performance Indicator (PI) percentages, or as a rating on the Quality of operations observation. The bandings between ratings vary depending on area on delivery, although in general terms below 90% is considered Poor.

A key part of the PAG contract is to work with Operating Companies if areas are identified to be in need of improvement. Audit and monitoring programmes are prepared based on areas of delivery risk identified via the PAG Risk Register. Reports are written, with input from the Operating Company (OC), on performance. If required, PAG will make recommendations for actions that can be taken for improvement. If performance is noted to not meet the contractual specification, then PAG works with the Operating Companies by raising Notices of Non-Conformance which can then be monitored through to closure in the OC's Quality Management System. If any area continues to fall below the required standard, then Transport Scotland may raise a Remedial Notice. Financial deductions may also be applied if appropriate.

Executive Summary

Finance

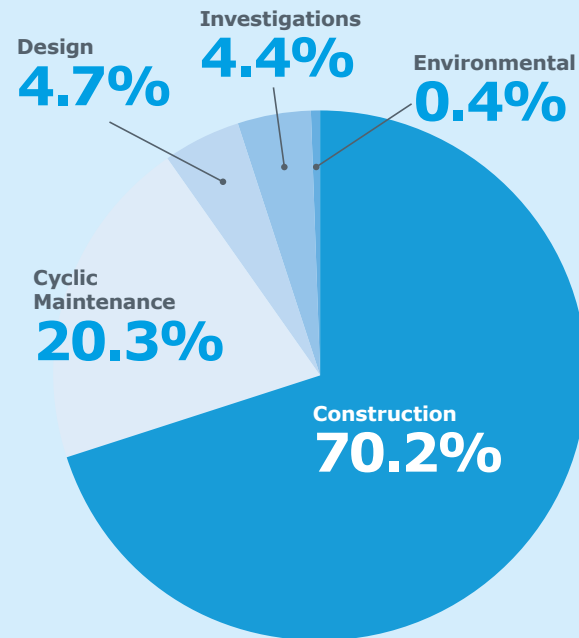
The budget for **2020/21**

was **£261.2m**

up **£41.2m**

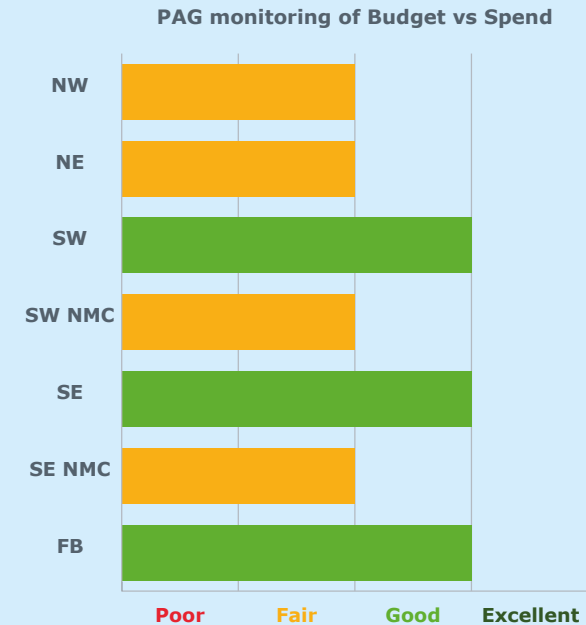
from the previous year (£220.0m)

Budget spend split was:



Budgetary Control

PAG monitoring of budget v spend across the annual period is shown below.



Executive Summary

Network Maintenance

Overall PAG found the Operating Companies broadly performed well in 2020/21:



Technical Performance Quality Ratings

97 contract Technical Performance Quality Ratings:

- 14 were Excellent**
- 45 were Good**
- 28 were Fair**
- 10 were Poor**



Contract Performance Quality Ratings

101 contract Performance Indicators:

- 50 were Excellent**
- 28 were Good**
- 10 were Fair**
- 15 were Poor**



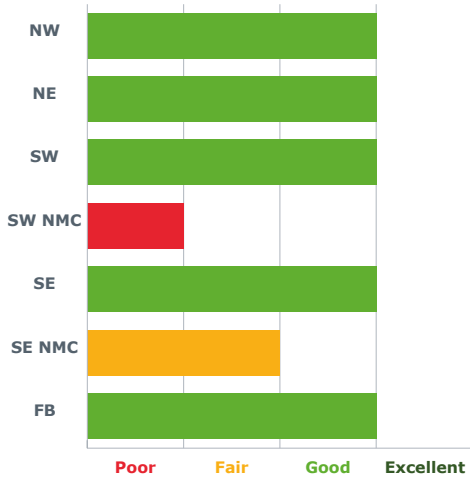
Financial Performance Quality Ratings

65 contract Financial Performance Quality Ratings:

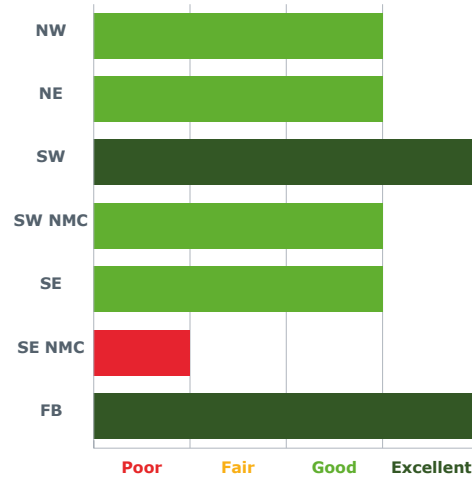
- 7 were Excellent**
- 27 were Good**
- 24 were Fair**
- 7 were Poor**

Executive Summary

Individual unit performance in a range of key areas is summarised below:

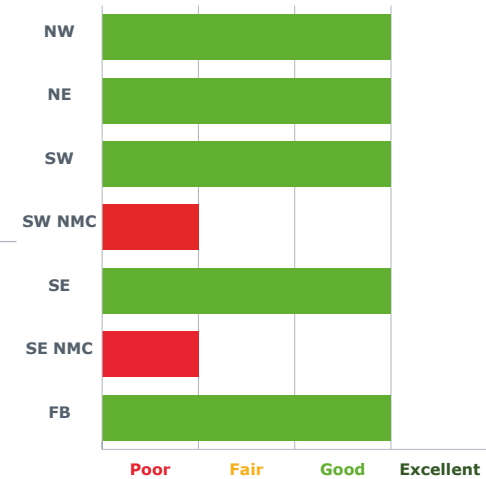


Safety Inspections:
Generally undertaken on time across all units with the PI showing a Good performance in all units except SE NMC and SW NMC which were Fair and Poor respectively.

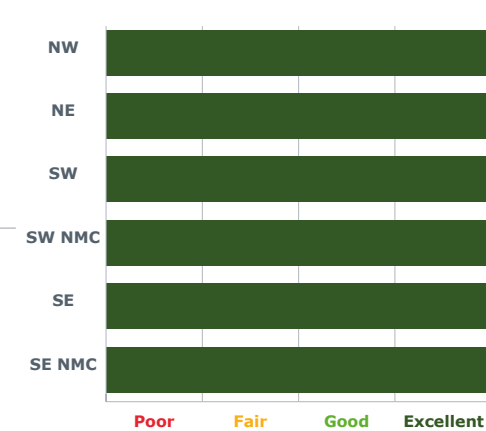


PAG monitoring the quality of performance in identifying Category 1 defects found an Excellent performance in FB and SW units with Good performance in all other units except SE NMC which was Poor.

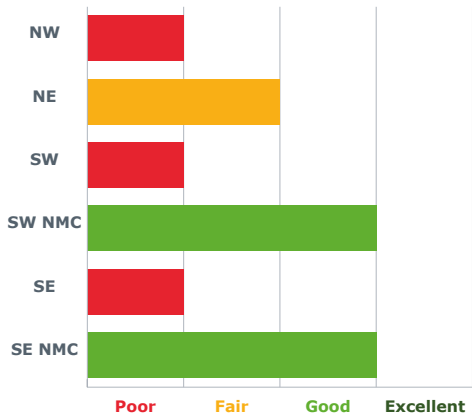
Repair of Category 1 defects:
Once identified, to undertake a permanent repair within contractual timescales was Good in all units except SW NMC and SE NMC where it was Poor.



Health and Safety:
Found on site to be Excellent in all units, although issues were found in the uploading of records to the asset database.

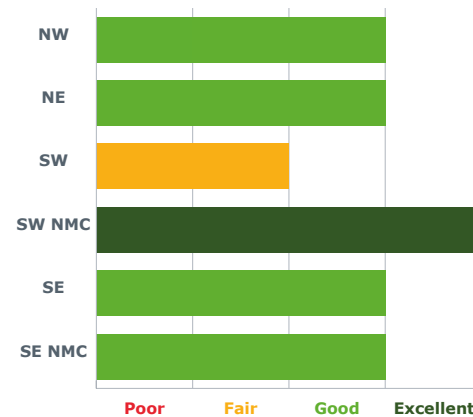


Executive Summary



Detailed Inspections:

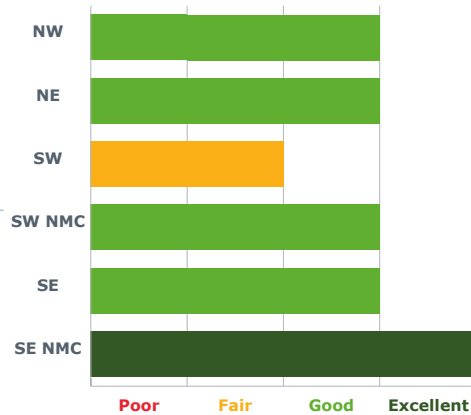
PAG review of the quality of Detailed Inspections found a Good performance in SW NMC and SE NMC, a Fair performance in NE, and Poor performance in SW 4G, SE 4G and NW. A number of Remedial Notices have been raised in this area.



Network Cyclic Maintenance:

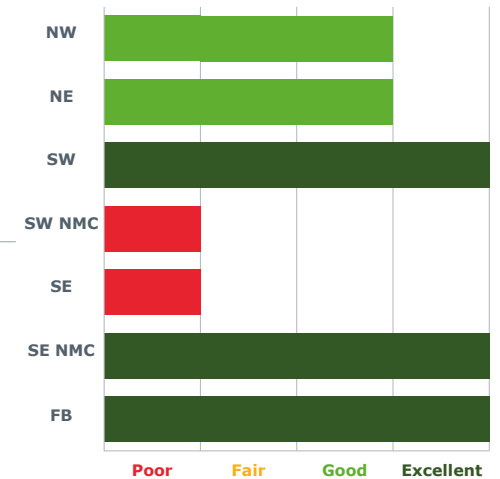
Monitoring exercises undertaken on site by PAG on a variety of Cyclic Maintenance activities found overall quality of performance to be Excellent in SW NMC unit, Good in NW, NE, SE 4G and SE NMC units, and Fair in SW 4G

Maintenance Schemes:
PAG carried out site visits on a variety of maintenance operations and found the quality of maintenance to be Excellent in SE NMC, Good in NW, NE, SE 4G and SW NMC. It was Fair in SW 4G

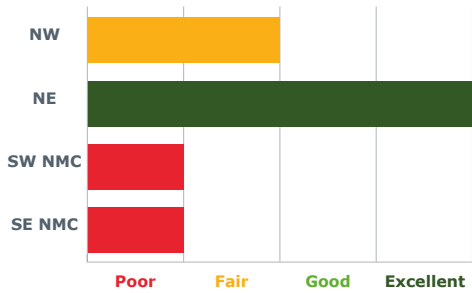


Structure Principal and General Inspections:

The Performance Indicator measuring achievement of inspections within contractual timescales was generally Excellent or Good.

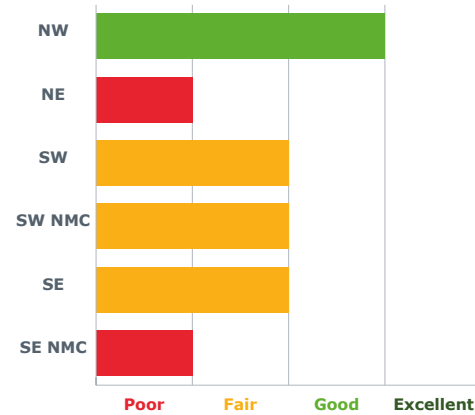


Executive Summary



Structure Cyclic Maintenance:

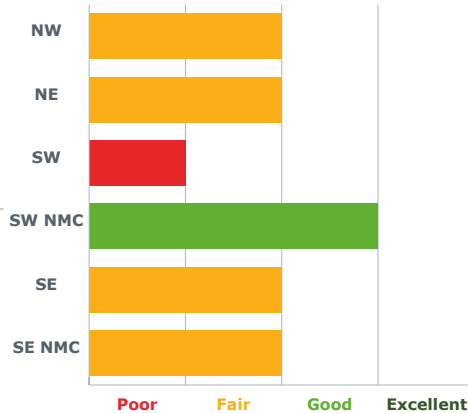
The PI measuring performance in undertaking maintenance against programme found an Excellent performance in NE 4G, Fair in NW 4G, and Poor in SW NMC and SE NMC.



Incident Response:

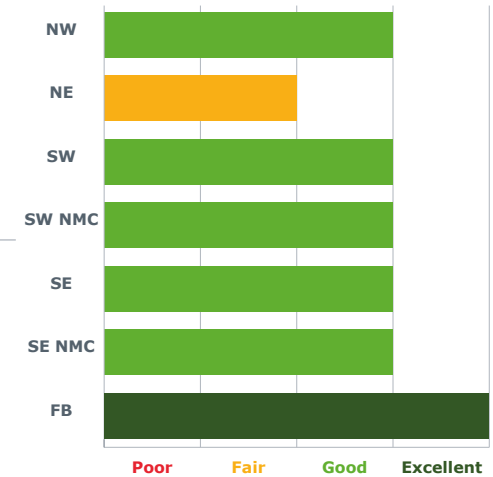
PAG reviews of the quality of Incident Response was Good in the NW unit, Fair in SE 4G, SW 4G and SW NMC, and Poor in NE and SE NMC. Issues were generally around the provision of records and not general response times.

PAG reviews of the **quality of Structures Cyclic Maintenance operations** found a Fair performance in all units except SW 4G which was Poor and SW NMC which was Good. A number of Notices of Non-Conformance were raised in relation to this area of delivery which have subsequently been resolved with improved performance noted.

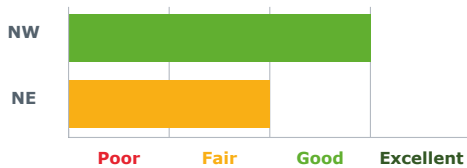


Performance Indicator for achieving contractual Incident Response times

Excellent in FB, Good in all other units except NE which was Fair.

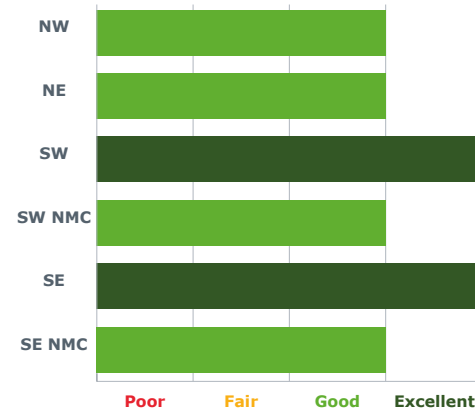


Executive Summary



Customer Care

Due to the change of contract in the south units, PAG only undertook audits of performance in the quality of Customer Care requirements in the NW and NE units which found a Good performance in NW unit while NE performance was Fair.

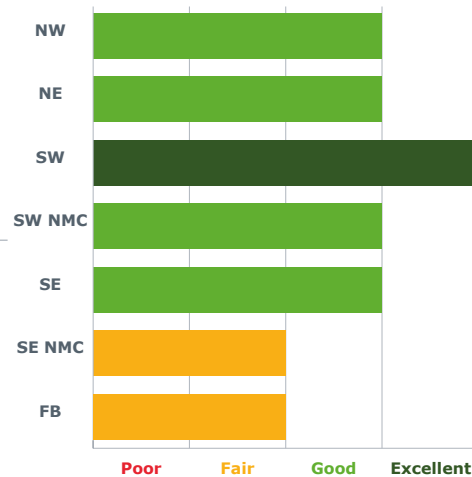


Environmental and Sustainability:

An overall Excellent to Good performance was noted in all units in audits of environmental management systems and environmental performance on site. High percentages were also generally noted in recycling of waste materials.

Winter Service:

PAG reviews of the quality of daily treatment planning and records found performance to be Excellent in SW 4G, Good in NW, NE, SE 4G and SW NMC, and Fair in FB and SE NMC units. The Performance Indicator measuring Winter Service Treatments found an Excellent to Good performance.



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Introduction

The Performance Audit Group (PAG) contract undertakes auditing and monitoring of Operating Company (OC) performance to check compliance in delivering Transport Scotland's (TS) term contracts for management and maintenance of the Scottish trunk road network.

In the 2020/21 annual period three of the 4th Generation Term Maintenance Contracts (SW, SE and Forth Bridge) came to an end in August 2020 and were replaced by the new Network Management Contracts (NMC). The SW unit was a direct replacement, while SE and FB were combined into a new expanded SE unit.

As a result, in the 2020/21 annual period there were a total of seven Term Maintenance contracts operated by three companies:

- **4G NW unit – BEAR Scotland Ltd.** (April 2020 – March 2021)
- **4G NE unit – BEAR Scotland Ltd.** (April 2020 – March 2021)
- **4G SW unit – Scotland TranServ** (April – August 2020)
- **NMC SW – Amey OW Limited** (August 2020 - March 2021)
- **4G SE unit – Amey Plc.** (April – August 2020)
- **4G FB unit** (Forth Bridges) – Amey Plc. (April – August 2020)
- **NMC SE – BEAR Scotland Ltd.** (August 2020 - March 2021)

Report Structure

This report has been structured around the objectives of Transport Scotland's 'Scottish Trunk Road Network Asset Management Strategy – November 2018'. A separate chapter covers each objective. The areas of contract delivery included in each chapter aligns with mapping included in the NMC contract for Performance Indicators.

The Performance Audit Group contract is included in the Network Asset Management Strategy as forming a central part in monitoring performance of Operating Companies which in turn is part of the strategy to achieving these objectives.

Performance Ratings

PAG utilises a risk-based approach to assessing contract performance. A risk register, populated with the key risks to delivery, is updated quarterly to keep it focussed on current issues. Audit and monitoring programmes are developed from this register and core activities, subject to amendment as the year progresses depending on changing circumstances.

From the results of PAG reporting OCs are given ratings from Excellent (full compliance with contractual requirements), to Good, Fair and Poor. PAG guidance sets out performance requirements required to achieve each rating. Although it varies from measure to measure the requirement broadly requires 100% to achieve Excellent, above 95% to attain a Good rating, whilst below 90% is rated as Poor.

Introduction

These are colour coded in the tables throughout this report:



There are two key areas in which these ratings are applied:

- **Performance Indicators:** the term maintenance contracts contain Performance Indicators (PI) which are generally numerical percentages measured via either data entered into the Integrated Roads Information System (IRIS), or from data held by the OCs. These are generally quantitative in nature based on programme completion with no inherent measure of the quality of operations. The bandings between Excellent/Good/Fair/Poor for the various Performance Indicators vary depending on the PI in question.
- **Quality of Operations:** The audit and monitoring programmes undertaken by PAG focus on the quality of operations with ratings based on performance observed.

In both these areas a high standard of performance is required to achieve the higher bandings. Ratings in each section throughout the report are an average of all aspects of an Operating Company's performance throughout the annual period. Ratings are amalgamated from individual reviews of operations undertaken by PAG, for any areas in which a Notice of Non-Conformance or Remedial Notice is raised, and for Operating Company response to areas highlighted by PAG in which quality could be improved.

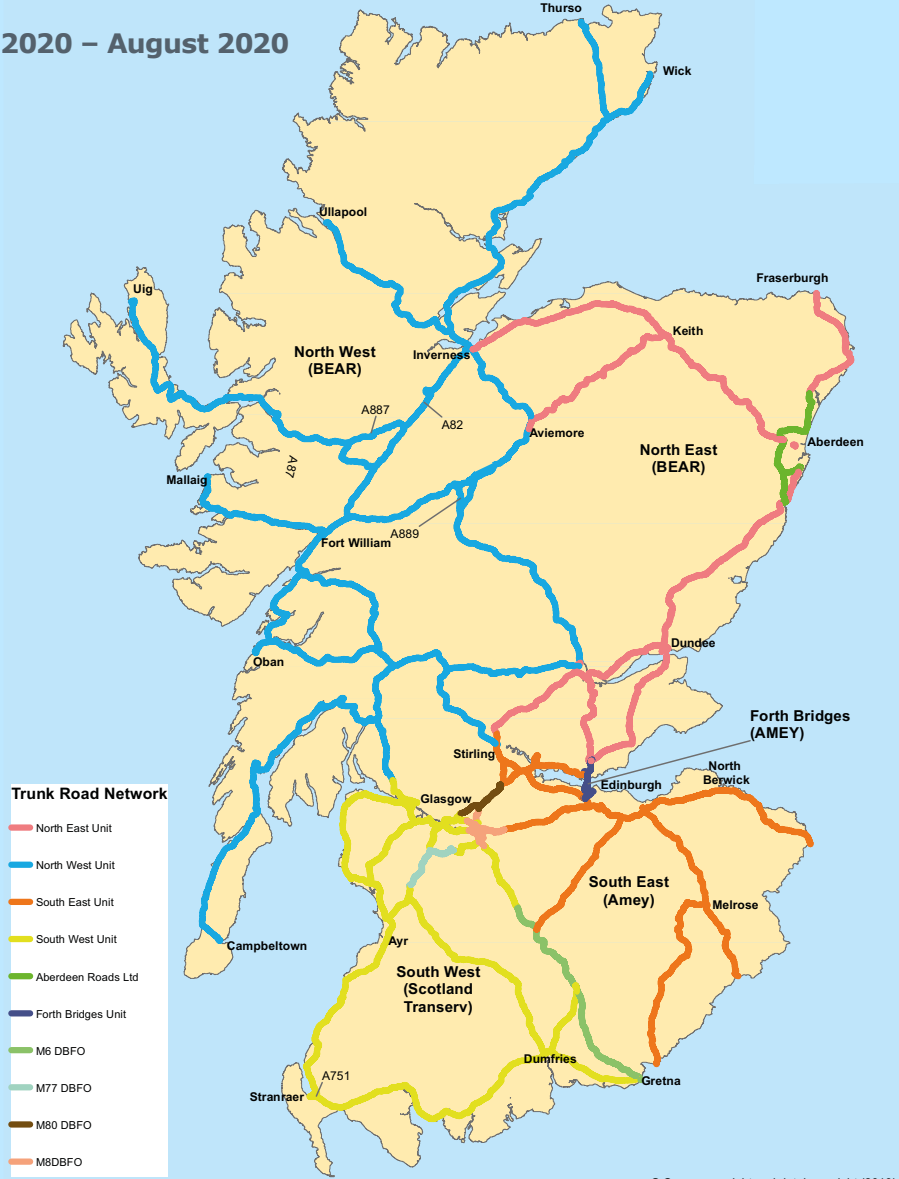
Covid-19 Impacts

It is acknowledged that 2020/21 was a challenging year for Operating Companies with the impact of Covid-19 on operations. During the months of April to June 2020 only essential safety related works were being undertaken. From July 2020 onwards safe working measures were put in place to allow staff to return to other operations with programmes put in place to catch up with the backlogs which had built up in cyclic and inspection activities. Unfortunately, this had the knock-on effect on a number of Performance Indicators showing poor results which were not reflective of the Operating Companies actual performance throughout this period. This has been referred to throughout this report wherever it is appropriate.

In addition to this, with the three term maintenance contracts ending in SW, SE and Forth Bridge and replaced by the two new NMC contracts, it should be noted that the Covid-19 lockdown period had a knock-on effect to a number of the Performance Indicators (PI) for the new NMC Contracts. As many of the PIs are calculated by the date a maintenance or inspection was last done for each asset, and many of these dates were impacted by the Covid-19 lockdown period in the months prior to the commencement of the NMC contracts, the calculated PI percentage figure may show a poor performance which is not representative of the NMC OC.

Scottish Trunk Road Map

April 2020 – August 2020



August 2020 – March 2021



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The extent of the trunk road network is shown in this map, therefore Orkney and Shetland are not included.

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The extent of the trunk road network is shown in this map, therefore Orkney and Shetland are not included.

Safety

“ To provide a road network that is safe for all users, seeking to continually reduce risk and casualties.

Safety/Routine Monitoring Inspections

Operating Companies (OC) undertake Safety/Routine Monitoring Inspections principally to identify and make safe Category 1 defects. The Performance Indicator (PI) measuring compliance in undertaking these inspections to contractual timescales is shown in Figure 1 & Figure 2.

Figure 1 shows the monthly Performance Indicator for each unit over the annual period, Figure 2 provides the average PI over the annual period.

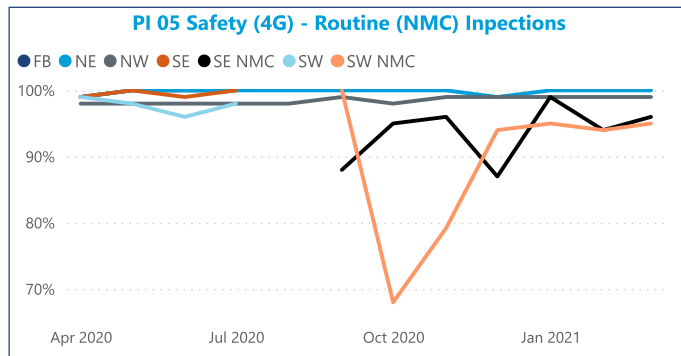


Figure 1

PI	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 05 - Safety Inspections and Patrols	99.8%	99.8%	98.5%	99.5%	93.6%	97.8%	89.3%

Figure 2

An NNC was issued to SW NMC unit for poor performance which remained open at the end of the annual period.

PAG also undertakes further monitoring as a check on the quality of Safety/Routine Monitoring Inspections via route tours, with reflective ratings based on the percentage of Category 1 defects identified by PAG which had not been recorded by Operating Companies. PAG raises Observations Resulting from Inspection (ORIs) if issues on non-compliance are noted (Figure 3).

PAG route tours generally found the ratio of Cat 1s noted to have been missed by Operating Companies ranging from 0.9% in the 4G SW unit to 11.4% in the SE NMC unit.

There were no Cat 1 ORIs noted in the 4G FB unit.

The higher percentage of Cat 1 defects missed in the SE NMC unit was noted mainly due to road sign Cat 1 defects not being picked up by Safety Inspectors, resulting in an overall Poor rating for performance in the Quality of Safety/Routine Monitoring Inspections (Figure 4). This has subsequently been resolved following PAG monitoring via further training to the Safety Inspectors. Performance in other units was Good/Excellent.

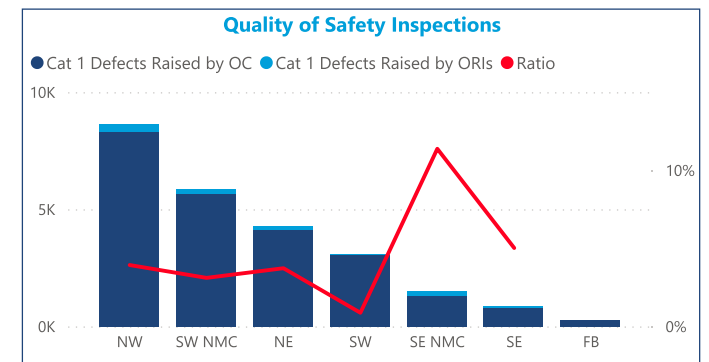


Figure 3

Quality of Inspections	FB	NE	NW	SE	SE NMC	SW	SW NMC
Safety Inspections (4G) & Routine Monitoring Inspections (NMC)	Good	Good	Good	Good	Poor	Good	Good

Figure 4

Safety

Figure 5 shows the number of Cat 1 ORIs raised by PAG by category. It can be seen from the overall totals that 'signs, road markings and studs' has the greatest number followed by 'potholes' then 'drainage' although the proportions of each of these top three categories varies between units.

Defect Category	NE	NW	SE	SE NMC	SW	SW NMC	Total
Signs, road markings and studs	81	170	17	58	17	29	372
Potholes (and other c/way)	39	90	11	64	1	108	313
Drainage, gullies and ironwork	21	34	13	32	2	17	119
Soft landscaping	5	26				1	32
Sweeping, cleaning and litter	6			15		3	24
Safety fences, barriers and fences	1	10				10	21
Weed control	1	2	1		7		11
Electrical and lighting		1				8	9
Miscellaneous	3	2		1		1	7
Footways	1	1				2	4
Grass cutting	1			1			2
Structures Parapets		2					2
Traffic management						2	2
RMMf/ IRIS		1					1
Structures graffiti			1				1
Structures joints						1	1
CDM / H&S							
Structures miscellaneous							
Sustainability monitoring							
Winter service							
Total	159	339	43	171	27	182	921

Figure 5: Total number of ORIs raised by category

The number of ORIs raised by PAG is 49% less than in the 2019/20 annual period, although this will have been impacted by the Covid-19 restrictions from March to June 2020. There were no ORIs raised in FB unit.

A measure of the percentage of lighting units on the network which are operational in each month is provided via the Well Lit Network 4G Monitoring Indicator (MI) 01, and NMC Performance Indicator (PI) 11: see Figure 6 which provides average values over the annual period. MI 13(4G)/MI 12(NMC) measures the OCs performance in responding to ORIs raised by PAG.

PI-MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 01 (4G) - PI 11 (NMC) - Well lit network	79.8%	95.3%	93.1%	96.0%	99.1%	93.5%	99.4%
MI 13 (4G) - MI 12 (NMC) - Resulting from Inspections and Hazard Notices	100.0%	100.0%	99.8%	100.0%	93.0%	83.0%	93.9%

Figure 6

Repair of Cat 1 Defects

Repair timescales for Cat 1 defects, once identified and entered into the asset management system (IRIS), are measured via PI 03. Figure 7 shows the monthly Performance Indicator for repair of identified Category 1 defects within contractual timescales whilst Figure 8 provides the average value over the annual period. Note an additional Performance Indicator (PI 02) was introduced in NMC to measure performance on repair of Cat 1 bridge parapets.

Safety

All 4G units generally maintained a Good performance throughout the annual period. Performance in SW and SE NMC units was initially Poor with Notices of Non-Conformance (NNCs) raised in December 2020, both of which remained open at the end of the annual period. Performance in both units improved towards the end of the annual period as can be seen in Figure 7.

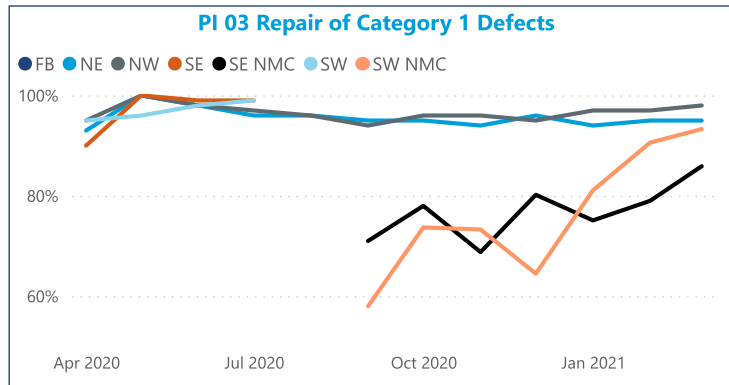


Figure 7

PI	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 02 (NMC) - Repair of Structures Category 1 Safety Defects					70.0%		17.9%
PI 03 and PI 03a - Repair of Category 1 Defects	99.3%	95.6%	96.6%	97.0%	76.9%	97.0%	76.4%
PI 03b - Repair of Category 1 Defects - Forth Road Bridge	100.0%						

Figure 8

PAG also monitors the number of defects in the backlog, i.e. defects which have gone beyond their contractual repair timescale without repair.

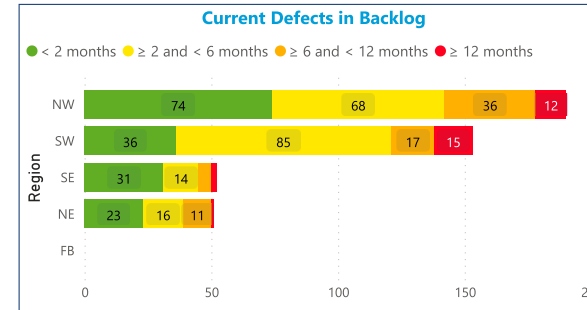


Figure 9: Defect Backlog April 2020

Figure 10 shows the backlog position in August 2020 at the end date of the 4G SW, SE and FB contracts showing 4G SW and SE units had performed well in closing out a significant number of Defects prior to termination.

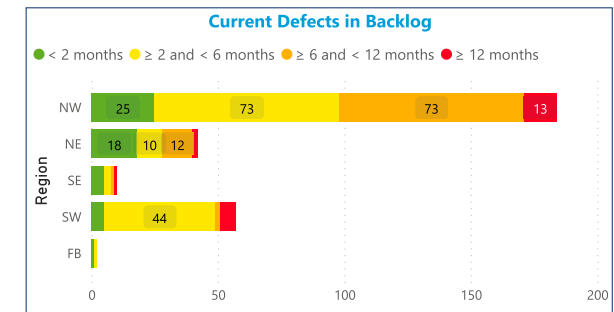


Figure 10: Defect Backlog August 2020 (at the end of the 4G SW, SE and FB contracts)

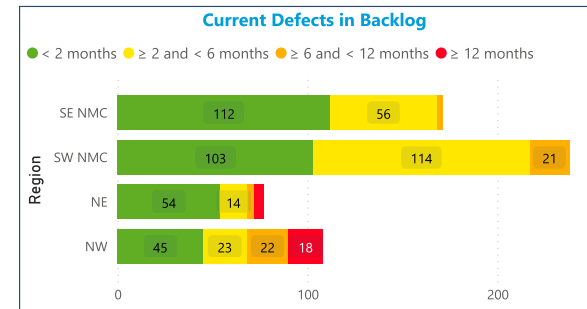


Figure 11: Defect Backlog March 2021

Figure 9 & Figure 11 show the number of defects in the backlog at the start and end of the annual period.

NW unit was issued with an NNC due to a high number of defects in the backlog which was subsequently closed as this number reduced.

Hazard Notices

PAG has the facility to issue Hazard Notices where it observes a hazardous situation on the network. During the reporting period PAG had issued a total of 15 Hazard Notices. Typically, the OCs ensured Hazard Notices were responded to within the contractual timeframes. The most common cause of Hazard Notices was in relation to unsafe iron work, with a number of hazards in the north units relating to animal carcasses. Note there were no Hazard Notices raised in the 4G SW/SE/FB units or in the SE NMC unit.

Hazard Notices	FB	NE	NW	SE	NMC SE	SW	NMC SW
Hazard Notices		6	7				2

Figure 12

Winter Service

Operating Companies provide winter services to prevent snow and ice from forming and remaining on the trunk road throughout the winter period. Performance in providing winter service is measured via PI 11/13 in 4G and MI 22 in NMC (Figure 13) which is a combined measure incorporating planned winter salt treatment operations being carried out in the timescales planned, unplanned treatment call-out response times and, in the 4G measure only, data logger download achievement. Achievement was consistently high across all 4G units and the SW NMC unit. Performance in SE NMC was low due to a very small number of unplanned call-out treatments not meeting contractual timescales, although 99% of planned precautionary treatments undertaken were within contractual timescales.

Three new Performance Indicators were introduced for NMC. PI 12 measures Winter Treatments efficiency (Figure 14), the lower the number indicating fewer unplanned treatments, PI 13 measures the accuracy of OCs forecasts for frost on the road, and PI 21 measures if the volume of salt spread in each treatment is compliant with the contractual volumes required for each route (Figure 13).

Performance Indicators	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 11 (4G)/ PI 13 (FB)/ MI 22 (NMC) - Winter Service treatments	100.0%	99.6%	99.6%	100.0%	74.30%	100.0%	99.80%
PI 13 (NMC) Weather Forecast Accuracy					-0.7%		-24.2%
PI 21 (NMC) Salt Spread					97.5%		99.7%

Figure 13

PI	SE NMC	SW NMC
PI 12 (NMC) - Winter Treatments Efficiency	0.1	0.9

Figure 14

PAG undertakes an audit of Winter Preparedness at the start of the winter period, along with various reviews each month of performance in delivering the winter service throughout the winter period. Ratings for the overall quality of winter service provision is set out in Figure 15. Overall the winter service provided was Excellent/Good in most units with a number of minor issues noted in 4G FB and SE NMC units reducing the rating slightly.

Quality of Winter Service	FB	NE	NW	SE	SE NMC	SW	SW NMC
Winter Service	Orange	Green	Green	Green	Orange	Dark Green	Green

Figure 15

Incident Response

Operating Companies have requirements to ensure the trunk road network is kept free flowing as far as possible. Part of their remit is to provide Incident Response services to assist in removing or alleviating any incident that is causing disruption to the network and to minimise or eliminate any risk associated with such incidents. Performance measures PI 04 (4G) and

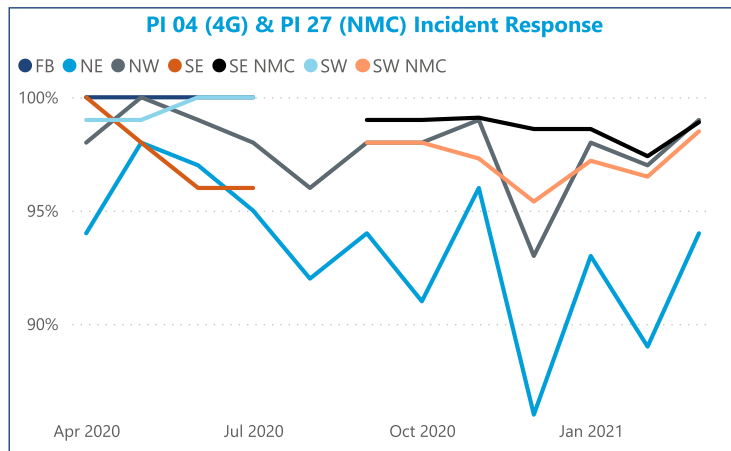


Figure 16

PI	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 04 (4G) & PI 27 (NMC) - Incident Response	100.0%	93.3%	97.8%	97.5%	98.7%	99.5%	97.3%

Figure 17

PI 27 (NMC) (Figure 16) measures the response time from notification to attendance at site. Figure 17 shows the average PI over the annual period.

PAG may be asked to review specific incidents and performance around such incidents to provide a rating on the Quality of Incident Response operations (Figure 18). In the 2020/21 annual period PAG undertook a desktop monitoring exercise on the population of IRIS with records of flooding incidents which found a Fair to Poor performance.

Recommendations were made for OCs to improve processes in populating the required records.

Quality of Incident Response	FB	NE	NW	SE	SE NMC	SW	SW NMC
Quality of Incident Response	Grey	Red	Green	Yellow	Red	Yellow	Yellow

Figure 18

Contractors Health & Safety and CDM

PAG undertook 70 visits to the sites of road and bridge schemes over the course of the annual period. An overview of on-site Health & Safety performance is noted for each site visited. PAG also undertakes an audit each year of CDM and general Health and Safety performance. Overall performance in this area is set out Figure 19. Whilst performance on site was generally Excellent, issues were found in audit and monitoring exercises on incomplete records.

Quality of Health and Safety	FB	NE	NW	SE	SE NMC	SW	SW NMC
Health and Safety	Grey	Green	Green	Green	Green	Green	Green

Figure 19

Condition

“ To measure and maintain our trunk road assets in a condition that meets the needs of our users but which is also affordable.

Detailed Inspections

Operating Companies are contractually required to undertake Detailed/ Comprehensive Inspections, a walked inspection of all assets on the network, generally annually, although certain assets have differing periods. This inspection is intended in general to identify and record in IRIS Category 2 Defects as well as inventory condition rating.

Performance Indicators in the contract measure compliance in undertaking these inspections within the timescales required. Undertaking this work was impacted in the 2020/21 annual period by restrictions on working practices due to the Covid-19 pandemic. As a result the Performance Indicators produced by the IRIS database cannot be taken as indicative of actual performance in the annual period so have been excluded from this report.

Once Covid-19 restrictions were relaxed to allow this type of maintenance work to continue, PAG undertook monitoring exercises and audits on the ground to check on the quality of Detailed Inspections and Inventory Condition Rating (Figure 20).

Quality of Inspections	FB	NE	NW	SE	SE NMC	SW	SW NMC
Comprehensive Inspections (NMC) & Detailed Inspections (4G)							

Figure 20

At the start of the annual period there was a Remedial Notice, raised in 2015 in the SW unit for Inventory Validation, which remained open at termination of the Contract for which financial deductions are being considered for the final settlement.

In NW and NE units Remedial Notices relating to population of Condition Ratings raised in 2018 remained open at the end of the 2020/21 annual period. NW unit was issued with a Remedial Notice in 2019 for poor performance as reflected in the Detailed Inspection PI 06 figures which remained open at the end of the 2020/21 annual period. Improvement programmes in the NE and NW were delayed due to Covid-19 and have been extended into 2021/22 annual period.

NE and NW both received Remedial Notices in relation to inspections of Road Markings raised in 2019. Discussions were ongoing but not resolved in the 2020/21 annual period and the notices remain open.

These aspects of contract delivery remain high in the PAG Risk Register and will subsequently remain in ongoing PAG audit and monitoring programmes. Surveys and interim work have been undertaken by the OCs.

Condition

Cyclic Maintenance

Cyclic Maintenance is undertaken on a range of asset types including, amongst other elements, cleaning of drainage, cleaning of sign faces, grass cutting and weed control. Performance is measured via a contractual Performance Indicator which measures the number of assets recorded as having cyclic maintenance undertaken within contractual timescales.

Undertaking this work was also impacted in the 2020/21 annual period by restrictions on working practices due to the Covid-19 pandemic. Due to this the Performance Indicators produced by the IRIS database cannot be taken as indicative of actual performance in the annual period as items will have fallen out of specification during the lockdown period so have been excluded from this report. It is noted that 4G NW and NE units had programmes in place to clear the Covid-19 related backlog of work by November 2020. The 4G SW/SE/FB units did not have the opportunity to recover their programmes due to their contracts coming to an end in August 2020.

4G SW unit had a Remedial Notice open from the previous annual period in relation to cyclic maintenance of drainage assets which remained open at termination of the contract.

Network Maintenance	FB	NE	NW	SE	SE NMC	SW	SW NMC
Cyclic Maintenance							

Figure 21

Once Covid-19 restrictions were relaxed to allow this type of maintenance activity to recommence PAG was able to undertake on the ground monitoring on the quality of work done against the contract requirements (Figure 21). A range of performance was noted from Excellent to Poor in differing inventory categories with overall performance as noted in Figure 21.

Maintenance Schemes

A key aspect of visits to roadwork sites is to assess if standards of workmanship, the supervision provided, and records kept of works done are to the required standards.

Network Maintenance	FB	NE	NW	SE	NMC SE	SW	NMC SW
Network Maintenance Schemes							

Figure 22

A variety of different sites are visited including but not limited to operations such as carriageway resurfacing, drainage improvement, VRS replacement schemes and landscaping works. Figure 22 shows the overall performance. Issues were noted in the 4G SW, SE and NE units with electrical maintenance, and in VRS maintenance in the NW and NE units for which NNCs were issued. An Excellent performance was noted in the SE NMC unit whilst the SW NMC was Good.

Condition

Case Study: BEAR NW

A82 Altrua Wall Strengthening

At the A82N Altrua Wall, north of Letter Finlay, a retaining wall strengthening scheme was completed in winter 2021 at a value of £150,000. The existing masonry wall supporting the A82 carriageway from below was assessed to be providing insufficient capacity. The wall had previously been strengthened with gabion buttressing,

To strengthen the wall fully, the design detailed a sequential excavation of existing fill material at the front of the wall to drill 14m length soil nails (total 20 nails in three rows) through the masonry wall and into fractured rock and sequentially removing the failed gabion buttress. A reinforced concrete skin was constructed in front of the existing masonry wall before the soil nail ends were capped. Improvements were made to drainage with new filter drain installed at base of the retaining wall.



As part of the improvement works safety barrier was also installed over the wall providing protection to road users.

The strengthened wall now is capable of resisting full traffic loading and provide compliant vehicle containment. Improved drainage prevents erosion of material which had once threatened to undermine the carriageway.

Structure Principal and General Inspections

Operating Companies are required to undertake inspection of all bridges and other structures on the trunk road network at regular intervals. There are several structures outwith the trunk road boundary which are also inspected. General Inspections (GI) are to be undertaken every 2 years with a Principal inspection (PI) every 6 years. The contractual Performance Indicator for Principal Inspection (Figure 23) and General Inspections (Figure 24) is a measure of achievement of inspections against programme. Figure 25 shows the average PI over the annual period.

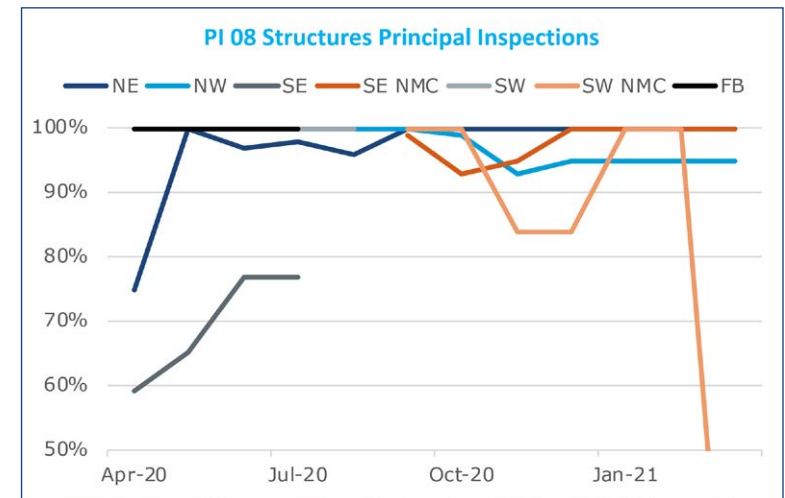


Figure 23

Condition

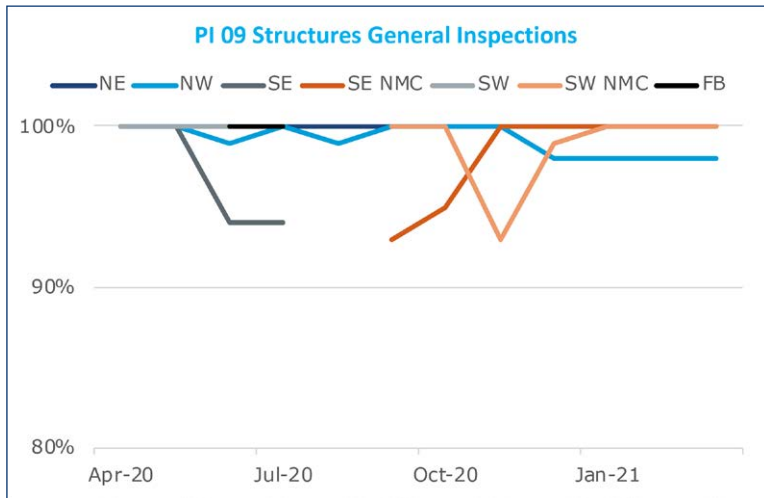


Figure 24

In SW NMC, although they started off the contract with a good performance in Principal Inspections, this dipped from Nov 2020 onwards (Figure 23). An NNC was being prepared at the end of the annual period.

Quality of Inspections	FB	NE	NW	SE	SE NMC	SW	SW NMC
Principal and General Inspections							

Figure 26

PAG generally undertakes reviews of the Principal and General Inspection reports produced by Operating Companies to assess Quality, however these were not undertaken this year due to a combination of Covid-19 impacts and additional reviews required for the new NMC contracts. SE NMC received an NNC for undertaking inspections with personnel who were not BICS accredited.

PI	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 08 - Structures Principal Inspections	100.0%	97.2%	97.7%	69.5%	98.1%	100.0%	88.6%
PI 09 - Structures General Inspections	100.0%	100.0%	99.2%	97.0%	98.3%	100.0%	98.4%

Figure 25

Performance was generally Good to Excellent across most units. The Poor performance in Principal Inspections in SE 4G result from taking a different approach in the first month of Covid-19 lockdown (April 2020) when it did not undertake any Principal Inspections. Amey were in the process of recovering this when the contract came to an end.

Resilience and Prosperity

“ To provide consistent, predictable and reliable journeys for the movement of people and goods, and to minimise disruption caused by roadworks, unplanned incidents and severe weather conditions

Journey Time Reliability

Operating Companies have requirements to ensure roadworks do not cause undue disruption on the network. There is a dedicated role within the contract, the Journey Time Reliability Coordinator (JTRC), to liaise with Local Authorities, Police Scotland and other Operational Partners to coordinate roadworks for minimal disruption. Performance measurement is covered partially by Monitoring Indicator 03 (Figure 28), supplemented by audits undertaken by PAG, reviews of particular incidents that fall into this category and monthly monitoring of traffic management installations on the network as noted from PAG route inspections. Audits of NE 4G found an Excellent performance with NW 4G and SW and SE NMC Good. However, SW and SE NMC units were issued with NNCs around the provision of personnel in the JTRC role which were subsequently closed. Traffic Management installations noted in PAG route tours were generally Excellent or Good.



Figure 27

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 03 - Traffic disruption caused by un-programmed work	12,839	761,416	2,346,308	74,664	357,149	853,585	22,344,019

Figure 28

Disruption Risk Management

The Operating Companies have various requirements centred around their Disruption Risk Management Plan. This umbrella plan incorporates various other plans such as severe weather plans, landslide plans, various incident response plans and a register of risk sites. Figure 29 reflects performance which generally found a variety of issues in the management in this part of the contract. PAG raised Non-Conformances in these areas to assist in resolution.



Figure 29

Resilience and Prosperity

Structures Cyclic Maintenance

Cyclic maintenance is undertaken on all structures bi-annually, and additionally where required, to keep structural elements clean and in good working order. The spring cycle of maintenance was impacted the Covid-19 restrictions however the autumn cycle was able to progress. As a result, the Performance Indicators in Figure 30 are averaged over October 2020 to March 2021 to be representative of performance. This PI measures performance against programme for undertaking cyclic maintenance.

Performance Indicators	NE	NW	SE NMC	SW NMC
PI 10 - Structures maintenance	100.0%	94.2%	67.3%	67.2%

Figure 30

Figure 31 gives the overall average rating for reviews undertaken by PAG on the Quality of structures cyclic maintenance. Reviews of the NW, NE, SW NMC and SE NMC units found a Fair performance with SW NMC responding well to issues raised. Notices of Non-Conformance were issued to SW NMC, SE NMC and to SE 4G for issues relating to structures cyclic maintenance, whilst Remedial Notices issued in 2019 to SW and SE remained open at termination of those contracts.

PAG continues to monitor closely this area of contract delivery to work with OCs to identify areas requiring improvement.

Structures Maintenance	FB	NE	NW	SE	NMC SE	SW	NMC SW
Cyclic Maintenance		Yellow	Yellow	Yellow	Yellow	Red	Green
Risk Programmes		Red	Green				
Structures Investigations	Red	Green	Yellow	Yellow	Green	Yellow	Green
Structures Maintenance Schemes		Green	Green	Yellow			Green

Figure 31

In addition to Cyclic Maintenance PAG also reviews OC performance in relation to various maintenance schemes via site visits. The Quality of operations found in these visits was found to range from Fair to Good (Figure 31).

In the Risk Programmes aspect of structures maintenance OCs identify, investigate, monitor and, if required, undertake maintenance on structures which are potentially at risk of developing certain defined issues, such as scour, half-joint supports or post-tensioned elements. Reviews were undertaken in the NW and NE units in relation to management of post tensioned structures which found a Fair performance in NW and Poor in NE. NE was subsequently issued with an NNC which remained open at the end of the annual period despite an improvement in delivery.

Structures Investigations shows the results of various reviews undertaken by PAG of differing aspects of structures maintenance requirements. In the 2020/21 annual period PAG reviewed various aspects of operations and maintenance and record storage (Figure 31).

Resilience and Prosperity

Case Study: BEAR NE

A90 Glencarse Overbridge

This two-span overbridge connecting the villages of St Madoes and Glencarse, just east of Perth, was struck by the arm of a tracked excavator being transported on a low loader on 31st October 2019. The impact caused severe damage and deformation to two of the five steel beams forming the composite steel-concrete bridge deck as well as damage to the bearings, deck concrete and a ducted water main in the verge.

Following a period of options appraisal, competitive tendering and design, the main site works commenced in August 2020. Taziker was appointed as the main subcontractor for the repair. The works involved the insitu cutting out and replacement of the web and bottom flange of the two damaged primary members over the eastbound A90, as well as bearing replacement, steel blasting and repainting, concrete repairs and groundworks.



View of repaired beams from A90 carriageway level



Temporary works and propping for beam replacement

To maximise the occupation of the trunk road network and local authority road space, BEAR also undertook a refurbishment of the top side of the deck including concrete repairs, waterproofing, new asphaltic plug joints and resurfacing.

The main repair was completed in late September 2020 with topside deck refurbishment works concluding around the start of December.

Customer Care and Travel Information

“ To provide customers with up-to-date, reliable travel information and support the level of satisfaction in trunk road services.

Customer Care

In reviewing the performance of Operating Companies in providing customer care PAG undertakes audits against contractual requirements for responding to and interacting with members of the public. This may also include requirements around providing travel information that assist the

Quality of Customer Care and Travel Information	FB	NE	NW	SE	SE NMC	SW	SW NMC
Customer Care and Travel Information							

Figure 32

public in journey making decisions. Figure 32 gives the PAG ratings for performance in this area. A Fair performance was noted in the NE with a Good performance in NW. No reviews were undertaken in the outgoing 4G contracts or the new NMC contracts which will be reviewed in the next annual period.

There is also a Performance Indicator (Figure 33) that measure this aspect of contract delivery.

PI	NE	NW	SE	SE NMC	SW	SW NMC
PI 18 (4G) - Communications Response & PI 18 (NMC) Correspondence and Call Response Time Compliance	100.0%	100.0%	91.8%	98.9%	100.0%	97.9%

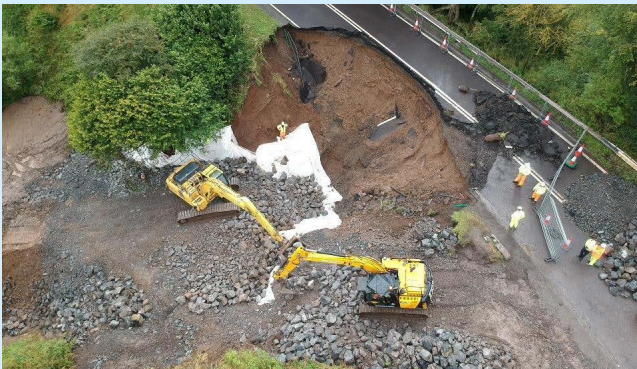
Figure 33

Resilience and Prosperity

Case Study: BEAR SE

A68 Fala Embankment Repair

Overnight on Tuesday 11 August 2020 severe weather with high intensity rainfall resulted in watercourses and drainage systems on the A68 being inundated. This resulted in the water overtopping and infiltrating the existing embankment at A68 Fala Tunnel. The flow of water led to the embankment failing and washing out, leaving a deep crater resulting in the closure of the A68 trunk road.



One of the key elements of the repair was to understand what caused the failure of the embankment and develop a solution in a timeous fashion. BEAR's Geotechnical experts attended site to carry out the initial investigation and inspection works.



An emergency process developed following previous emergencies of a similar nature was introduced.

This allowed both our geotechnical design engineer and the independent checker to work together on site to ensure the repair works were completed as quickly as possible whilst ensuring a compliant design.

The solution implemented involved the excavation of any soft exposed material and reinstatement of compacted layers using a granular rock fill. The reinstatement was also hindered by fibre optic cables that had been exposed by the washout. These had to be temporarily diverted.

Additional drainage was installed to provide further resilience to the area. This also included the provision of an upgraded Vehicle Restraint System through the bend location. BEAR worked closely with the local supply chain to ensure the availability of materials throughout the works including extended opening hours of the supply quarry. The carriageway opened to traffic in less than four weeks from the initial extensive failure.

Accessibility and Integration

“ To provide a network that is accessible to all users, with improved connectivity, and to ensure that traffic moves freely and quickly across Scotland.

Barriers to Accessibility

PAG undertakes audits against the contractual requirements on identifying and removing barriers to accessibility on the network. This is either the construction of new items of infrastructure that aid the use of the network for disabled users, pedestrians, cyclists and equestrian, or the removal of infrastructure that is obstructive to these user groups. A Good performance was noted in the SW NMC with a Fair Performance in the SE NMC. Audits in the north units were delayed until May 2021 as our audit programme was impacted by OC staff on furlough due to Covid-19 in the first few months of the annual period.

Quality of Barriers to Accessibility	FB	NE	NW	SE	SE NMC	SW	SW NMC
Barriers to Accessibility							

Figure 34

Dealing with the Planning Applications which affect the trunk road network is part of this aspect of accessibility and integration. There is a PI (Figure 35) which demonstrates performance in this area.

Performance Indicators	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 17/ PI 19 (FB) - Planning Applications	100.0%	99.5%	100.0%	93.8%	90.6%	100.0%	100.0%

Figure 35

Network Availability

Operating Companies will inevitably need to close parts of the network to undertake maintenance operations. MI 02 (Figure 36) provides a measure (in lane/km/hours in 4G and percentage in NMC) of the network availability.

MI	FB	NE	NW	SE	SW
MI 02 (4G) - Network availability	0.04	0.01	0.01	0.02	0.01

MI	SE NMC	SW NMC
MI 02 (NMC) - Network availability	99%	98%

Figure 36

Value for Money and Innovation

“ To make economic and efficient use of available resources for road maintenance and foster innovation in all aspects of work.

Financial Management of Programmes

Financial Overview

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

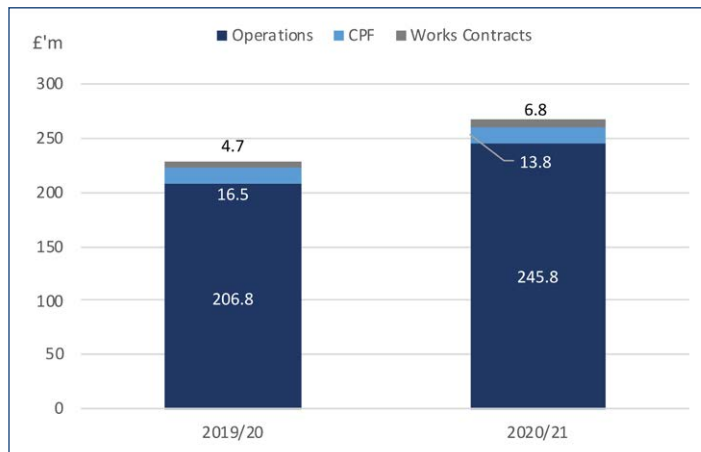


Figure 37: Spend v Budget (excluding CPF) all Units

A comparison of spend figures for 2020/21 and 2019/20 is shown in Figure 37. Total spend for 2020/21 is £266.3m (2018/19: £228.1m).

The budget for 2020/21 of £261.2m (net of CPF), which is an increase of £41.2m (18.7%) from the previous year (see Figure 38).

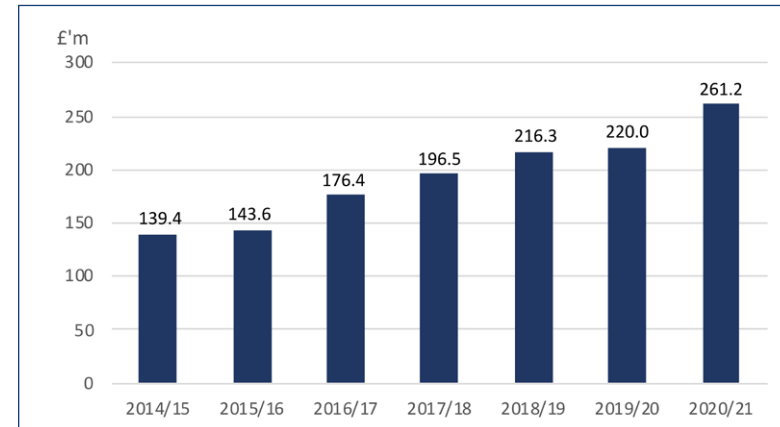


Figure 38: Comparison of budgets (net of CPF) for maintenance and improvements

Spend net of CPF for 2020/21 is £252.6m (2019/20: £211.6m), which is £8.6m less than budget.

For 2020/21, CPF payments totalled £13.8m (5.6%) on operations priced at base rates totalling £245.7m. The CPF figure for 2019/20 was £16.5m (8.0%) on operations priced at base rates totalling £206.8m. The reason for the reduction in CPF as a percentage of operations priced at base rates compared to the previous financial period is due the Network Maintenance Contracts which started on 16 August 2020. This decrease will be compensated for by an increase in the base rates for Network Maintenance Contracts which are set at September 2019 prices.

Value for Money and Innovation

Spend Analysis

Transport Scotland reports a network asset valued at a net £14.03bn for roads and £6.61bn for structures. In maintaining its asset, Transport Scotland spent £266.3m during 2020/21 (2019/20: £228.1m). Figure 39 shows how this spend was allocated by asset type and operational activity during the year, whilst Figure 40 giving a breakdown by the differing types of activity. Note that in Figure 40 the heading 'Other' is mostly comprised of cyclic maintenance activities.

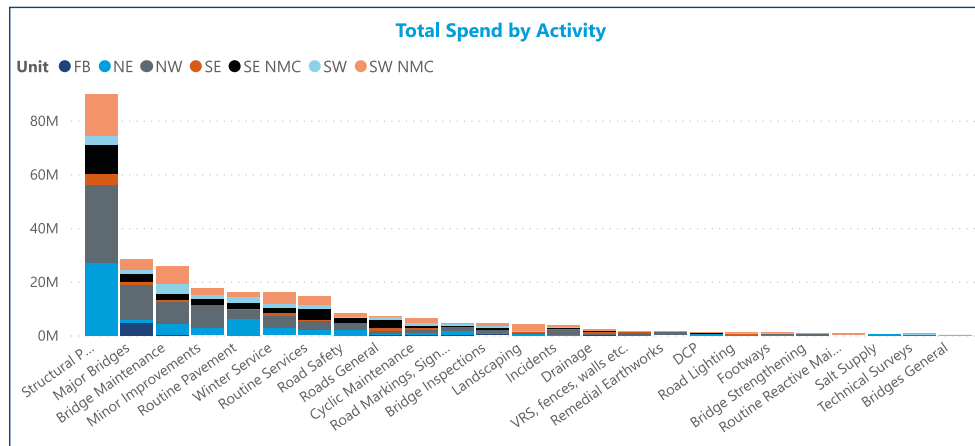


Figure 39

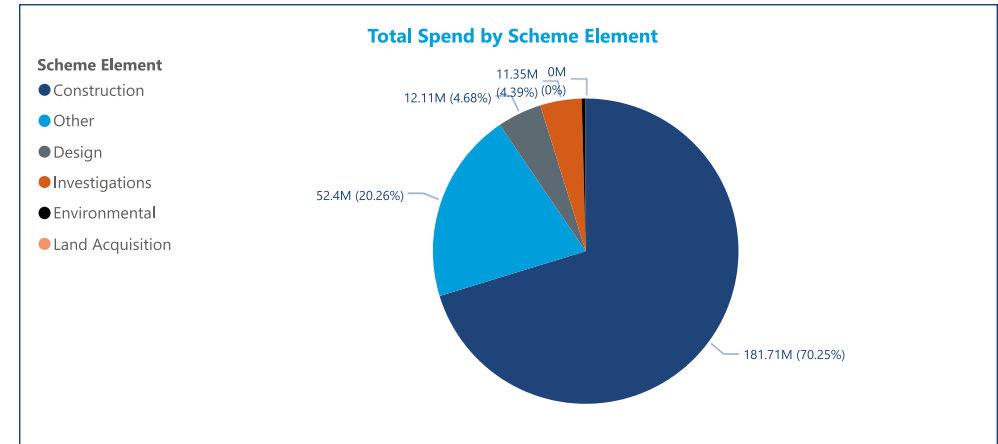


Figure 40

Budget, Spend and Programmes

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 41.

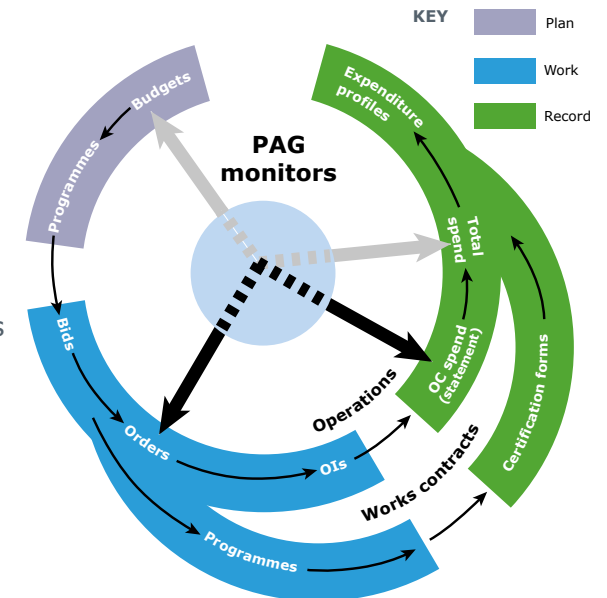


Figure 41: Financial monitoring process

Value for Money and Innovation

Budgetary Control

Budgetary control by the OCs is an important management responsibility. It is important 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 2020/21 is shown in Figure 42.

2020/21 brought a significant challenge for Transport Scotland and its Operating Companies. Covid-19 impacted on scheme delivery at the start of the financial year with maintenance activities restricted to essential works under Core Operations such as Category 1 defect repairs and winter maintenance. The OCs were able to recommence Ordered Operations from June 2020 and there were also budget increases in May 2020 for all Units with a further increase in July 2020 for the North Units. There were also budget changes towards the year end some included budget reductions.

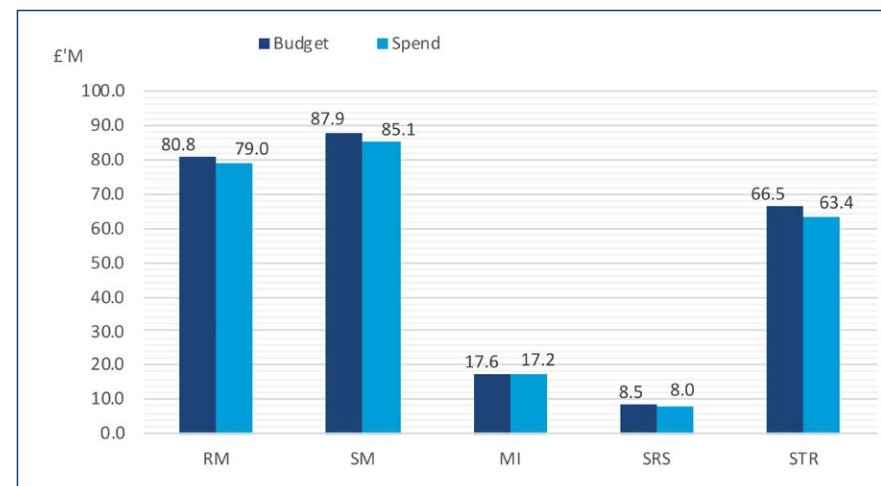


Figure 42: Spend v Budget (excluding CPF) all Units

The OCs were able to mobilise resources following lock down and spend picked up significantly after that. As a comparison, cumulative spend for 2020/21 exceeded that of 2019/20 by July 2020 and continued to exceed the level of 2019/20 by a third from September 2020 onwards. Spend (excluding CPF) overall was less than budget by £8.6m and primarily related to SM, STR and RM with under spends of £3.1m (5%), £2.8m (3%) and £1.8 (2%). The North Units were the main contributors to the under spend. Comments on individual Unit performance is noted below.

Value for Money and Innovation

NW unit

Net spend of £75.5m was £3.7m (5%) less than budget. Progress against programme was noted as Fair throughout the period. Figure 43 shows how the OC managed its budget at budget category level. Areas where budget was not spent under routine maintenance include drainage (£343k), patching (£254k) and footways and cycle paths (£128k).

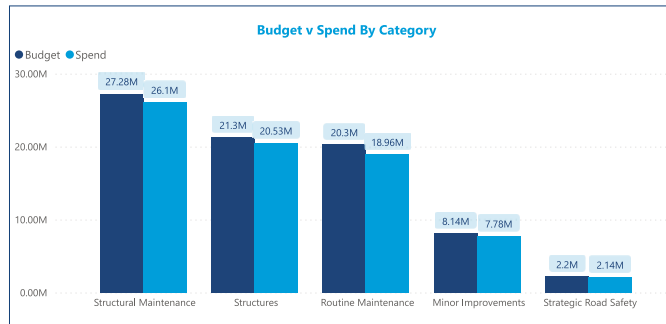


Figure 43: NW Budget v Spend (excluding CPF)

Structural maintenance was under spent against resurfacing (£1.1m). Structures was under spent against bridges and culverts >2m span (£603k).

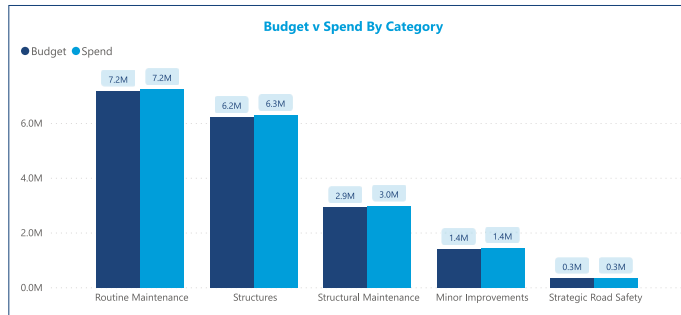


Figure 44: SW Budget v Spend (excluding CPF)

the OC managed its budget at budget category level. Areas where budget was not spent under routine maintenance include drainage (£343k), patching (£254k) and footways and cycle paths (£128k).

SW unit

Net spend of £18.3m was £0.2m (1%) less than budget. Figure 44 shows how the OC managed its budget at budget category level.

SW NMC

Net spend of £51.1m was £0.7m (1%) less than budget. Progress against programme was noted as Fair throughout the period. Figure 45 shows how the OC managed its budget at budget category level. Areas where budget was not spent under routine maintenance include drainage (£773k), general expenditure (£351k) drainage (£153k), patching (£187k), landscaping and remedial earthworks (£180k). Structural maintenance was under spent against resurfacing (£1.1m).

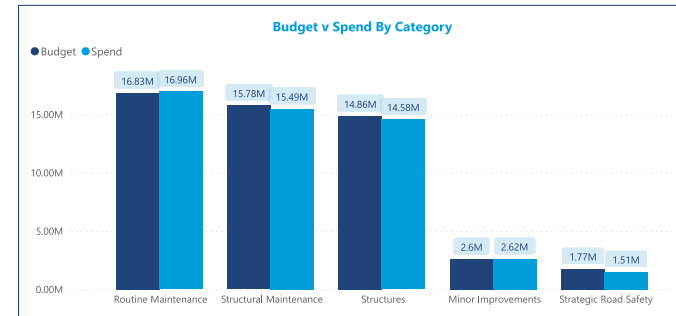


Figure 45: SW NMC Budget v Spend (excluding CPF)

patching (£187k), landscaping and remedial earthworks (£180k). Structural maintenance was under spent against resurfacing (£1.1m).

NE unit

Net spend of £51.0m was £3.4m (6%) less than budget. Progress against programme was noted as Fair throughout the period. Figure 46 shows how the OC managed its budget at budget category level.

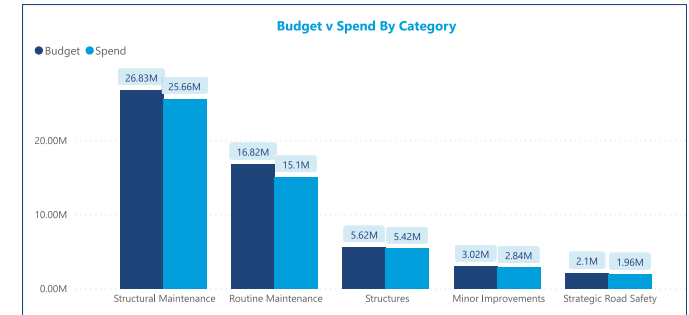


Figure 46: NE Budget v Spend (excluding CPF)

Value for Money and Innovation

Areas where budget was not spent under routine maintenance include drainage (£773k), general expenditure (£351k) drainage (£153k), patching (£187k), landscaping and remedial earthworks (£180k). Structural maintenance was under spent against resurfacing (£1.1m).

SE unit

Net spend of £11.4m was in line with budget. Figure 47 shows how the OC managed its budget at budget category level.

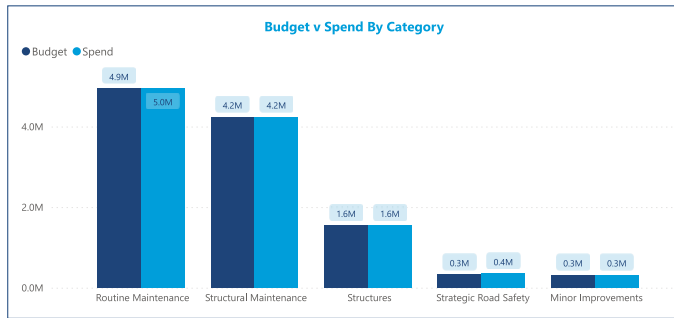


Figure 47: SE Budget v Spend (excluding CPF)

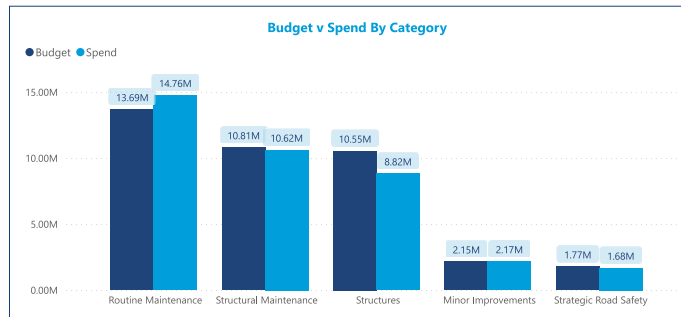


Figure 48: SE NMC Budget v Spend (excluding CPF)

shows how the OC managed its budget at budget category level. Structures was under spent against major bridges (£1.2m). Routine maintenance over spend related primarily to winter services (£760k).

FB unit

Net spend of £7.2m was £0.2m (2%) less than budget. Figure 49 shows how the OC managed its budget at budget category level.

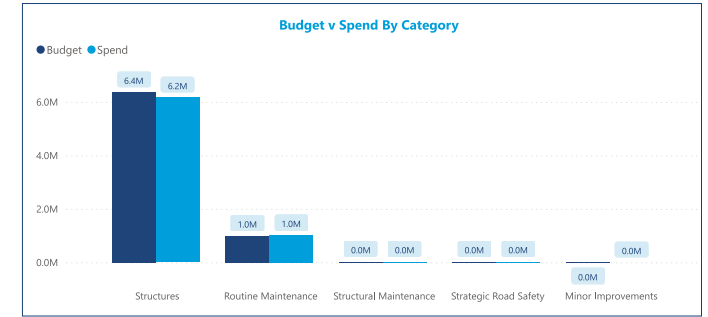


Figure 49: FB Budget v Spend (excluding CPF)

All units

Figure 50 reflects OC performance in spending its budget throughout the period, with comments on individual Unit performance noted above. PAG will continue to monitor this aspect of contract budgetary control.

Category	FB	NE	NW	SE	SE NMC	SW	SW NMC
Budget v Spend							

Figure 50: Budget, Spend and Programmes Rating

PI 12 (14 FB), see Figure 51, measures the monthly accuracy of spend vs profile.

Performance Indicators	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 12/ PI 14 (FB) - Actual spend against profile	94.8%	80.6%	83.5%	100.0%		81.0%	

Figure 51: Spend v Profile Performance Indicator

Value for Money and Innovation

Financial Management of Schemes

PAG monitors various aspects of OC performance in financial management of schemes with ratings given throughout the year. Figure 52 gives the average rating in each of these areas with further description given below.

Financial Management of Schemes	FB	NE	NW	SE	SE NMC	SW	SW NMC
Bids	Good	Fair	Fair	Good	Fair	Good	Fair
Expenditure Profiling	Good	Good	Fair	Good	Fair	Good	Poor
Order v Spend	Good	Fair	Poor	Fair	Fair	Fair	Fair
Part B and C items	Good	Fair	Fair	Good	Good	Good	Good
Scheme Completion	Fair	Good	Poor	Poor	Good	Good	Fair
Statements	Good	Good	Fair	Good	Good	Fair	Good
Works Contract Invoices	Good	Fair	Fair	Fair	Good	Fair	Good

Figure 52

Bids

Overall performance in FB, SE and SW units was Good where generally schemes were completed for at least one month before revised bids were submitted adjusting for over or under spends. Performance in NE, NW, SE NMC and SW NMC units was Fair, with schemes completed for at least two months with no revised bids submitted adjusting for over or under spends. An NNC was issued in 2019/20 to NE unit for poor performance, which remained open at the end of the annual period. Monthly meetings with the OC have taken place to monitor progress being made in resolving this ongoing issue.

Order v Spend

Performance in closing out schemes varied within the units. Performance was Good in FB unit with spend occasionally exceeding orders. NE, SE, NMC SE, SW and NMC SW performance was Fair with spend exceeding orders on a regular basis. Performance was Poor in NW unit where spend frequently exceeded orders. NNCs were issued to NE, NW and SE NMC units in the period. The NNCs for NE and NW remained open at the end of the annual period.

Scheme Completion

Performance in this area was mixed across the OCs. NE unit performance was Excellent. SE NMC and SW units performance was Good with the OCs closing out a significant number of schemes after scheme construction. FB and SW NMC units had a Fair performance with a moderate number of schemes still open during the period after completing construction. NW and SE units had a Poor performance with a majority number of schemes still open during the period after completing construction. NNCs were issued to NW and SE NMC units in the period. The NNC for NW unit remained open at the end of the annual period.

Expenditure Profiling

Performance was Good in FB, NE, SE and SW units with profiles submitted within timescales. Minor issues encountered included profiles not matching budgets, scheme costs being split equally over multiple periods and use of bucket code schemes. Performance in NW and SE NMC units was Fair.

Value for Money and Innovation

Whilst profiles were submitted on time there were moderate issues encountered including profiles not matching budgets, scheme costs being split equally over multiple periods and use of bucket code schemes. Performance in SW NMC was Poor with significant issues identified from profiles not matching budgets, scheme costs being split equally over multiple periods and use of bucket code schemes. An NNC was issued to SW NMC unit in the period, which remained open at the end of the annual period.

Statements

Performance was Excellent in SW NMC and Good in FB, NE, SE and SE NMC units. All statements were submitted within required timescales although some supporting information was not available in CCMf at time of statement submission. Performance was Fair in NW and SW. All statements were submitted within required timescales although a moderate number of supporting information was not available in CCMf at time of statement submission.

Works Contractor Invoices

Performance was excellent in FB, SE NMC and SW NMC units in submitting works contractor invoices within contractual timescales. There were no works contracts in SW 4G, SE 4G, NE and NW units.

Disputed Items (Part B and C items)

PAG undertakes a review of the OCs applications for payment with any issues highlighted for discussion via PAG Statement Review Notes process.

Should there be any parts of the statement for which payment is disputed these are recorded in separate parts of the statement (Parts B & C). In SE NMC unit performance was Excellent. Performance in FB, SE, SW and SW NMC units was Good with OCs responding to issues reported in PAG's Statement Review Notes within a reasonable timescale. Performance in NE and NW units was Fair as the OCs were slow in closing out issues.

OC Financial Management of IRIS

As part of the financial management of schemes and budget OCs are required to utilise the Contract Control and Management Function (CCMF) of IRIS.

Damage to Crown Property

Performance was Excellent in FB unit. Performance was Good for SE unit with minor level of damage to crown property (DCP) data missing from CCMf. Performance in NE, NW and SW was Poor in populating CCMf with all appropriate DCP information.

Statements

Performance was Good in NE, NW, SE, SE NMC units with minor level of statement data missing from CCMf. For FB, SW and SW NMC performance was Fair with moderate level of statement data missing in CCMf.

Financial Management of Programmes	FB	NE	NW	SE	SE NMC	SW	SW NMC
DCP	Green	Red	Red	Green	Grey	Red	Grey
Statements	Yellow	Green	Green	Green	Green	Yellow	Yellow

Figure 53

Value for Money and Innovation

There are also several further Performance and Monitoring Indicators measuring various aspects of performance (Figure 54 & Figure 55).

Performance Indicators	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 13 (4G)/ PI 15 (FB)/ MI 27 (NMC) - Works Contracts cost estimates							100.0%
PI 14 (4G)/ PI 16 (FB)/ MI 28 (NMC) - Works Contracts out turn cost							

Figure 54

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 04 (4G) - Orders against Budget & MI 04 (NMC) - Orders against Expenditure Profile	58%	70%	68%	24%	57%	27%	77%
MI 05 (4G) - Works Contractor Invoice submission	85%	100%		100%		100%	
MI 06 (4G) & MI 06 (NMC) - Accuracy of Operations cost estimates		77%	72%		97%		
MI 07 - Disputed items in the Statement	24%	1%	25%	2%		1%	
MI 08 (4G) & MI 08 (NMC) - Operations Instructions completed on target	51%	72%	82%	86%		90%	

Figure 55

Measurement and Valuation

In assessing performance in measurement and valuation, PAG undertakes sample reviews of Operating Instructions raised by Operating Companies, both at bid stage and on completion of the operations. These reviews look at the schedule of rate items used by Operating Companies to measure the cost of operations by checking appropriate items and rates have been

charged (Method of Measurement). These reviews also look at the files saved to scheme folders to ensure all required records are in place.

PAG rated measurement to a Good standard in all units excepting SE, SW and SW NMC which were Fair. PAG monitoring noted recurring issues relating to; incorrect quantities, item coverage, no justification provided, incorrect application of time band adjustments, incorrect application of supplementary services or items not measured in accordance with the preambles. For records, the most common issues found related to a lack of supporting records or specific types of records missing such as measurement records, waste transfer notes, grip test results, site diaries and dipping records. NNCs were issued to NE, NW and SW NMC units in the period. The NNC for SW NMC unit remained open at the end of the annual period, with the other two NNCs closed in April 2021.

Quality of Measurement	FB	NE	NW	SE	NMC SE	SW	NMC SW
Measurement	Good	Good	Good	Fair	Good	Fair	Fair

Figure 56

Quality Management System

To review performance of the Operating Company's Quality Management System PAG undertakes various audits on subjects relating to their systems. PAG undertakes monthly checks on the integrity of the Operating Company's internal audit programme and usage of its Non-Conformance Register. Ratings in Figure 57 are averaged over the annual period.

Value for Money and Innovation

Quality of Quality Management System	FB	NE	NW	SE	NMC SE	SW	NMC SW
Quality Management System Monitoring and Audit							

Figure 57

As an additional measure of the Quality Management system the contractual Performance Indicator 16 (4G) & 18 (FB) and MI 15 (NMC) measures performance in delivery of contractual reports in the timescales required.

Performance Indicators	FB	NE	NW	SE	SE NMC	SW	SW NMC
PI 16 (4G)/ PI 18 (FB)/ MI 15 (NMC) - Submission of reports	94.8%	99.7%	100.0%	94.5%	96.9%	100.0%	97.2%

Figure 58

Non-Conformance and Remedial Notices

The Non-Conformance Notice (NNC) is a mechanism available to PAG to work collaboratively with OCs where it notes an aspect of delivery that does not meet contractual specification. This highlights areas requiring to be addressed which the OC in turn places into its Quality Management System via its internal Non-Conformance Register. Actions are undertaken by the OC to correct the issue and mechanisms put in place to ensure it is not repeated. These may be raised for minor or more serious issues.

Figure 59 gives the average figure of the contractual Performance Indicator for closure of both PAG raised NNCs and OC raised internal Non-Conformances within set timescales. Note the 4G contracts measured this via a percentage of closed within defined timescales, whereas the NMC contract measures the number remaining open beyond closure timescales.

PI	FB	NE	NW	SE	SW
PI 15 (4G) and PI 17 - Closure of Non-Conformances	85.0%	100.0%	93.7%	86.5%	100.0%

PI	SE NMC	SW NMC
PI 15 (NMC) - Closure of Non-Conformances	2.0	2.0

Figure 59

Figure 60 shows the total number of NNCs and Remedial Notices raised in the 2020/21 annual period, whilst

RN & NNC	FB	NE	NW	SE	SE NMC	SW	SW NMC
Notice of Non-Conformance	0	10	7	2	11	0	11
Remedial Notice	0	1	0	0	0	0	0

Figure 60

Figure 61 show the total number raised from the start of each contract.

RN & NNC	FB	NE	NW	SE	SE NMC	SW	SW NMC
Notice of Non-Conformance	5	21	29	19	13	33	13
Remedial Notice	1	7	9	7	0	20	0

Figure 61

In addition to those raised during the 2020/21 annual period, Figure 62 shows NNCs and RNs opened in previous annual periods which were not resolved and remained open into the 2020/21 annual reporting period.

RN & NNC	FB	NE	NW	SE	SW
Notice of Non-Conformance	0	1	1	1	0
Remedial Notice	0	2	3	3	4

Figure 62

Value for Money and Innovation

Employee Engagement

Employee engagement is monitored via a variety of measures which give insight into staff circumstances (Figure 63 & Figure 64). Each of these PIs provide a figure on a rolling 12 monthly basis.

- MI 09 (4G) and MI 08 (NMC) provides the percentage of staff turnover
- MI 10 the average number of days lost to sickness per person
- MI 11 is the average weekly hours worked per person
- MI 12 (4G) and MI 10 (NMC) provides the average number of training hours provided per person

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 09 (4G) & MI 08 (NMC) - Staff turnover	4%	11%	12%	15%	4%	9%	3%

Figure 63

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 10 (4G) - Sickness absence	7	5	3	4		4	
MI 11 (4G) & MI 09 (NMC) - Working hours	36	42	43	47	50	37	39
MI 12 (4G) & MI 10 (NMC) - Training	12	33	32	3	7	27	

Figure 64

Innovation and Collaboration

Operating Companies are encouraged to provide tangible benefits via introducing innovation to the way the contracts are delivered, or via collaboration with local authorities to provide savings to operations. These two areas are measured via MIs 15 and 16 (4G) and MIs 13 and 14 (NMC) which is a direct summation of monthly values realised (Figure 65).

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 15 (4G)/ MI 13 (NMC) - Innovation	£0.00	£0.00	£0.00	£0.00		£612,774.00	
MI 16 94G)/ MI 14 (NMC) - Collaboration	£0.00	£0.00	£0.00	£0.00	£14,515.00	£312,951.00	£7,000.00

Figure 65

Sustainability

“ To reduce carbon and waste and enhance environments

Environmental Management System

Environmental management is a key aspect of contract delivery. To keep awareness of carbon footprint and the general impact on the environment of operations undertaken in delivering network operations and maintenance services. Operating Companies are required to operate systems in line with the requirements of ISO 14001 and to maintain accreditation to that standard. PAG supplements this accreditation by undertaking audits on the operation of its Environmental Management System, alongside checks whilst on roadworks sites of the environmental performance of site-specific measures identified.

Figure 66 provides the average rating over the annual period of the various reviews undertaken by PAG. Audits of the Environmental Management System found an Excellent performance in the SE NMC unit with SW NMC and NW and NE 4G Good. All units generally had a Good to Excellent performance found on site.

Quality of Environmental & Sustainability	FB	NE	NW	SE	SE NMC	SW	SW NMC
Environmental and Sustainability Monitoring and Audit							

Figure 66

Figure 67 provides the average values of the annual period measuring percentage of the use of reused, recycled or renewable materials in new construction (4G MI 17 and NMC MI 33) and the rates of recycling of roadworks arisings, waste generation and management (4G MI 18 and NMC PI 28).

MI	FB	NE	NW	SE	SE NMC	SW	SW NMC
MI 17 (4G) & MI 33 (NMC) - Sustainability – use of reused, recycled, renewable materials	1.0%	0.0%	0.0%	3.9%	5.3%	10.0%	3.2%
MI 18 (4G) & PI 28 (NMC) - Sustainability – waste generation and management	98.0%	83.3%	83.3%	99.1%	100.0%	100.0%	95.7%

Figure 67

Sustainability

Case Study: Amey SW

A737 Kilbarchan - SPHN

Overview: Transport Scotland were served with a Statutory Plant Health Notice (SPHN) for the removal of 3000 diseased trees to stop the spread of phytophthora ramorum to other plant life. Amey received the notice in late January 2021 and the deadline was end of February 2021. Amey discussed the matter with Transport Scotland and Forestry Scotland to agree a new deadline, which was agreed to be the end of March, before the bird nesting season.

Approach: To remove the diseased trees efficiently and safely, key activities were as follows:

- Gather and agree appropriate licencing requirements including SEPA, Forestry Scotland etc.
- Pre and post noise surveys to assess the impact of noise level to the surrounding properties
- Geotechnical review of the embankment

Construction consisted of the following:

- Creation of both a hardstanding clean area and contaminated area to give stable ground for works and to prevent spread of phytophthora ramorum on the main carriageway
- Removal of wood rounds at off peak hours to minimise road closures and congestion

Outcome: Works were completed within the SPHN timeline and provided a benefit to the local environment by preventing further spread of phytophthora ramorum to surrounding woodland.



A737 Kilbarchan Before



A737 Kilbarchan After

Performance and Quality Indicators

The following tables provide a summary comparison of performance in all the differing areas of the contract in either PAGs Quality assessment of delivery or the contractual Performance Indicators. The 2019/20 ratings are also provided for comparison.

Quality Ratings in delivery performance

Quality Ratings	FB		NE		NW		SE		SE NMC	SW		SW NMC
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2020/21	2019/20	2020/21	2020/21
Safety Inspections (4G) Routine Monitoring Inspections (NMC)	Green	Green	Yellow	Green	Yellow	Green	Green	Green	Red	Yellow	Green	Green
Winter Service	Green	Yellow	Green	Green	Green	Green	Green	Green	Yellow	Green	Green	Green
Incident Response	Green	Green	Red	Green	Green	Green	Green	Green	Red	Yellow	Yellow	Yellow
Health & Safety and CDM	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Detailed Inspections (4G) Comprehensive Inspections (NMC)	Green	Green	Yellow	Yellow	Red	Red	Red	Red	Green	Yellow	Red	Green
Network Cyclic Maintenance	Yellow	Green	Green	Yellow	Green	Green	Green	Green	Green	Yellow	Yellow	Green
Network Maintenance Schemes	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Green
Principal and General Inspections	Yellow	Green	Red	Green	Red	Green	Green	Green	Yellow	Red	Green	Green
JTRC & Traffic Management	Green	Green	Green	Green	Green	Green	Red	Green	Yellow	Green	Green	Yellow
DRMP	Green	Red	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green
Structures Cyclic Maintenance	Yellow	Green	Yellow	Yellow	Green	Green	Red	Green	Yellow	Red	Red	Green
Structures Risk Programmes	Green	Green	Red	Green	Green	Green	Green	Green	Green	Red	Green	Green
Structures Maintenance Schemes	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Structures Investigations	Green	Red	Yellow	Green	Yellow	Green	Red	Green	Yellow	Yellow	Green	Green
Customer Care and Travel Information	Green	Green	Green	Yellow	Green	Green	Green	Green	Green	Yellow	Green	Green
Barriers to Accessibility	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Green	Green
Measurement	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow	Yellow
Quality Management System	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Environmental and Sustainability	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Works Contracts	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Quality Ratings in financial performance

Financial Management of Schemes	FB		NE		NW		SE		SE NMC	SW		SW NMC
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2020/21	2019/20	2020/21	2020/21
Bids	Yellow	Green	Yellow	Yellow	Green	Yellow	Red	Green	Yellow	Green	Green	Yellow
Expenditure Profiling	Green	Green	Green	Green	Green	Yellow	Green	Green	Yellow	Green	Green	Red
Order v Spend	Yellow	Green	Red	Yellow	Green	Red	Red	Yellow	Yellow	Yellow	Yellow	Yellow
Part B and C items	Green	Green	Green	Yellow	Green	Yellow	Green	Green	Green	Yellow	Green	Green
Scheme Completion	Yellow	Yellow	Green	Green	Yellow	Red	Yellow	Red	Green	Yellow	Green	Yellow
Statements	Green	Green	Yellow	Green	Green	Yellow	Yellow	Green	Green	Yellow	Yellow	Green
Works Contract Invoices	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

Financial Management of Programmes	FB		NE		NW		SE		SE NMC	SW		SW NMC
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2020/21	2019/20	2020/21	2020/21
Budget v Spend	Yellow	Green	Yellow	Yellow	Yellow	Yellow	Green	Green	Yellow	Yellow	Green	Yellow

OC Management of IRIS	FB		NE		NW		SE		SE NMC	SW		SW NMC
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2020/21	2019/20	2020/21	2020/21
DCP	Green	Green	Red	Red	Red	Red	Green	Green	Green	Red	Red	Green
Statements	Yellow	Yellow	Green	Green	Green	Green	Yellow	Green	Green	Yellow	Yellow	Yellow

Performance and Quality Indicators

Contractual Performance Indicators

Performance Indicators	FB		NE		NW		SE		SE NMC	SW		SW NMC		
	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21	2019/20	2020/21		
PI 01 RIDDOR	0	0	0	0.2	0.2	0.3	0	0	1	0.4	0.5	0		
PI 02 (4G) Accident Frequency Rate	2.3	5.9	1.1	0.5	1.3	1.4	0.9	0		2.8	1.9			
PI 02 (NMC) Repair of Structures Category 1 Safety Defects									70.0%			17.9%		
PI 03 & PI 03a (FB) Repair of Category 1 Defects	97.6%	99.3%	93.5%	95.6%	93.4%	96.6%	93.5%	97.0%	76.9%	88.0%	97.0%	76.4%		
PI 03b (FB) Repair of Category 1 Defects - Forth Road Bridge	100.0%	100.0%												
PI 04 (4G) & PI 27 (NMC) Incident Response	99.3%	100.0%	92.3%	93.3%	97.8%	97.8%	96.9%	97.5%	98.7%	93.3%	99.5%	97.3%		
PI 04 (NMC) Asset Data Quality Audit														
PI 05 Safety Inspections and Patrols (4G) & Routine Monitoring Inspections (NMC)	99.4%	99.8%	98.2%	99.8%	96.4%	98.5%	99.8%	99.5%	93.6%	97.0%	97.8%	89.3%		
PI 08 Structures Principal Inspections	75.0%	100.0%	95.2%	97.2%	98.0%	97.7%	100.0%	69.5%	98.1%	100.0%	100.0%	88.6%		
PI 09 Structures General Inspections	96.4%	100.0%	98.9%	100.0%	99.4%	99.2%	96.3%	97.0%	98.3%	99.8%	100.0%	98.4%		
PI 10 & PI 12a (FB) Structures Maintenance Programme	99.5%		96.5%	100.0%	84.6%	94.2%	94.1%		67.3%	88.7%		67.2%		
PI 10 (FB) Forth Road Bridge Inspections	88.9%	83.5%												
PI 11 (FB) Queensferry Crossing Inspections														
PI 11 (4G) & PI 13 (FB) Winter Service treatments	99.6%	100.0%	99.1%	99.6%	99.6%	99.6%	97.3%	100.0%		96.5%	100.0%			
PI 11 (NMC) Well Lit Network									99.1%			99.4%		
PI 12 (4G) & PI 14 (FB) Actual spend against profile	94.2%	94.8%	78.6%	80.6%	88.3%	83.5%	91.0%	100.0%		85.9%	81.0%			
PI 12 (NMC) - Winter Treatment Efficiency									0.1			0.9		
PI 12b (FB) Structure maintenance - Forth Road Bridge	100.0%	100.0%												
PI 13 (4G) & PI 15 (FB) Works Contracts cost estimates										99.0%				
PI 13 (NMC) Weather Forecast Accuracy									-0.7%			-24.2%		
PI 14 (4G) & PI 16 (FB) Works Contracts out turn cost	100.0%													
PI 14 (NMC) Remedial Notices									0.0			0.0		
PI 15 & PI 17 (FB) Closure of Non-Conformances	91.7%	85.0%	96.2%	100.0%	96.2%	93.7%	93.8%	86.5%	1.9	100.0%	100.0%	1.6		
PI 16 (4G) & PI 18 (FB) Submission of reports	99.2%	94.8%	100.0%	99.7%	100.0%	100.0%	98.9%	94.5%		100.0%	100.0%			
PI 16 (NMC) Complaints Response Time Compliance									100.0%			100.0%		
PI 17 & PI 19 (FB) Planning applications	100.0%	100.0%	99.3%	99.5%	98.9%	100.0%	95.8%	93.8%	90.6%	98.5%	100.0%	100.0%		
PI 18 & PI 20 (FB) OC Correspondence and Call Response Time Compliance	99.1%	98.3%	99.7%	100.0%	98.9%	100.0%	93.5%	91.8%	98.9%	100.0%	100.0%	97.9%		
PI 19 & PI 21 (FB) Carbon emissions														
PI 20 & PI 22 (FB) Grassed area	100.0%	100.0%	100.0%	100.0%										
PI 21 (4G) & PI 23 (FB) Recording Inventory Condition Rating			33.3%	37.0%	34.0%	43.1%	79.1%	98.1%				57.1%	58.8%	
PI 21 (NMC) Salt Spread												97.5%		99.7%
PI 22 (NMC) Litter and Refuse														
PI 23 (NMC) Review and Inspection of Structures Assets with Known Defects														
PI 23b (FB) Recording Inventory Condition Rating - Forth Road Bridge														
PI 23c (FB) Recording Inventory Condition Rating - Queensferry Crossing														
PI 24 (FB) Community Engagements and Community Benefits	100.0%	100.0%												
PI 24 (NMC) Inventory Data Completion														
PI 25 (NMC) Approvals for Structural Maintenance														
PI 25 (FB) Queensferry Crossing Structural Health Monitoring System Reporting														
PI 26 (NMC) Submission of Planned Maintenance Works (Work Code 0300)														
PI 26 (FB) Queensferry Crossing Supervisory Control And Data Acquisition System Maintenance														
PI 27a (FB) Access Systems inspection - Forth Road Bridge	99.60%	100.0%												
PI 27b (FB) Access Systems maintenance and testing - Forth Road Bridge	100.0%	100.0%												
PI 28 (NMC) Sustainability - Waste Generation and Management												100.0%		95.7%
PI 28a (FB) Access Systems inspection - Queensferry Crossing														
PI 28b (FB) Access Systems maintenance and testing - Queensferry Crossing														
PI 29 (NMC) Timely Upload of Construction Phase Plans														
PI 29 (FB) Programmed Special Inspections - Forth Road Bridge	100.0%	100.0%												
PI 30 (NMC) Timely Upload of Final Health and Safety Plans														
PI 31 (NMC) Asbestos Action Plans														

Operating Company Unit Information

4G North West fact file



Managed and maintained by:

BEAR Scotland Ltd.
BEAR House
Inveralmond Road
Inveralmond Industrial Estate
Perth
PH1 3TW

Total route length of the network in NW:

1,422km

Number of structures:

1,502

Budget for maintaining trunk roads in NW this period:

£79.2m

Operating Company Unit Information

4G North East fact file



Managed and maintained by:

BEAR Scotland Ltd.
BEAR House
Inveralmond Road
Inveralmond Industrial Estate
Perth
PH1 3TW

Total route length of the network in NE:

573km

Number of structures:

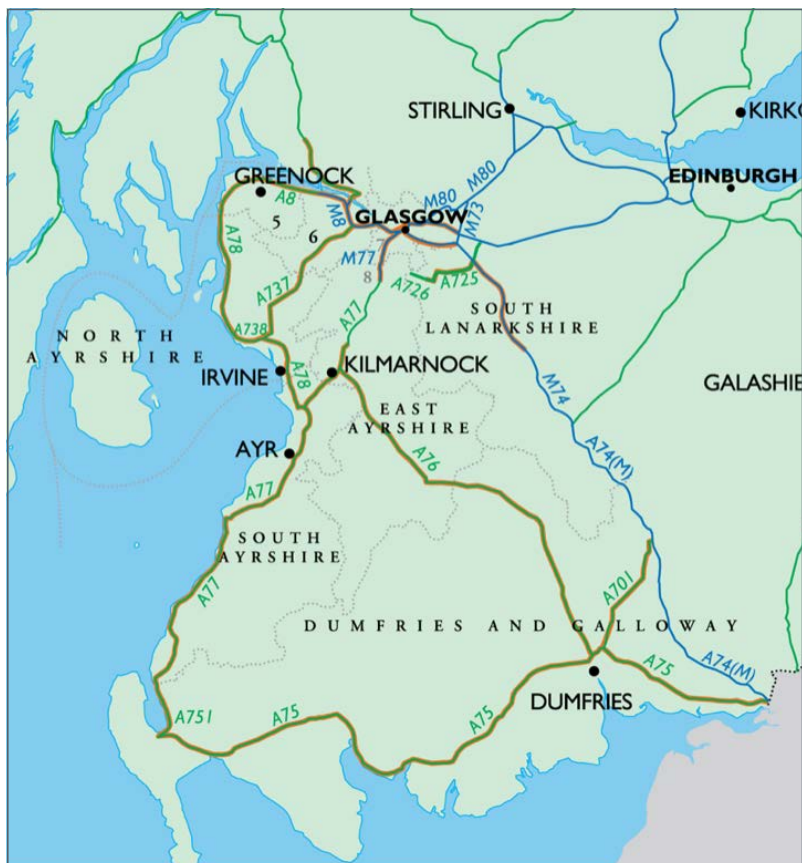
475

Budget for maintaining trunk roads in NE this period:

£54.4m

Operating Company Unit Information

4G South West fact file



Managed and maintained by:

Scotland TranServ
Oatlands House
150 Polmadie Road
Glasgow
G5 0HD

Total route length of the network in SW:

619km

Number of structures:

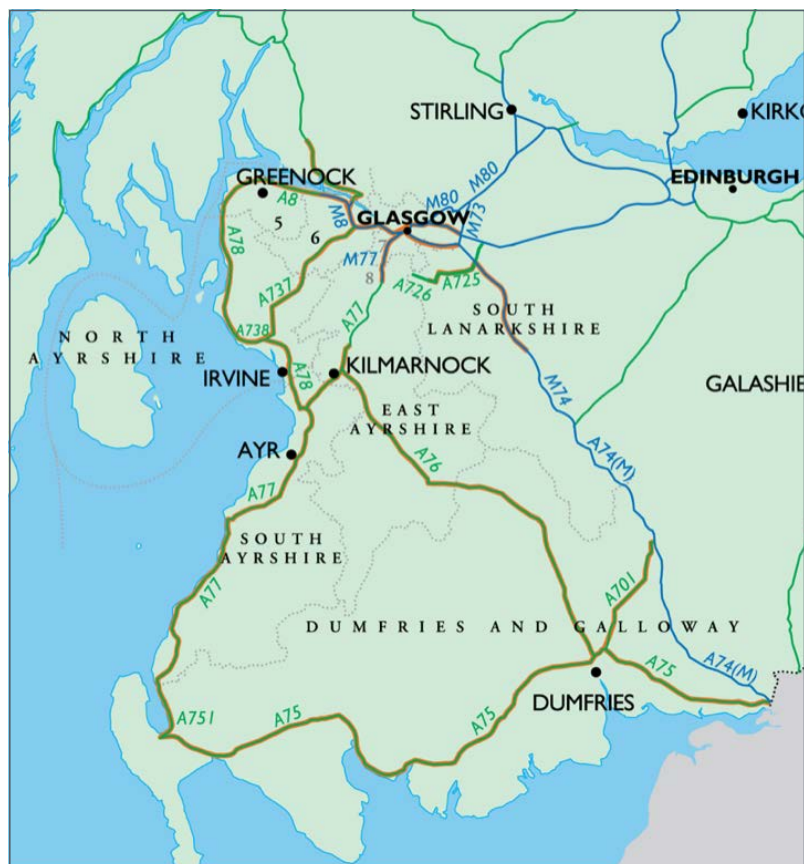
1,545

Budget for maintaining trunk roads in SW this period:

£18.0m

Operating Company Unit Information

NMC South West fact file



Managed and maintained by:

Amey
Oatlands House
150 Polmadie Road
Glasgow
G5 0HD

Total route length of the network in SW:

618km

Number of structures:

1,539

Budget for maintaining trunk roads in SW this period:

£51.8m

Operating Company Unit Information

4G South East fact file



Managed and maintained by:

Amey Plc.
6A Dryden Road
Bilston Glen
Loanhead
EH20 9TY

Total route length of the network in SE:

473km

Number of structures:

631

Budget for maintaining trunk roads in SE this period:

£11.4m

Operating Company Unit Information

NMC South East fact file



Managed and maintained by:

BEAR
Forth Road Bridge
South Queensferry
EH30 9SF

Total route length of the network in SE:

505km

Number of structures:

743

Budget for maintaining trunk roads in SE this period:

£39.0m

Operating Company Unit Information

4G Forth Bridges fact file



Managed and maintained by:

Amey Plc.
Forth Road Bridge
Administration Office
Ferrymuir Gait
South Queensferry
EH30 9SF

Total route length of the network in FB:

33km

Number of structures:

126

Budget for maintaining trunk roads in FB this period:

£7.4m

Glossary of main terms

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. FB was subsequently introduced on 1 June 2015.

NMC Contracts

Network Management Contracts were introduced to replace the 4G contracts in the SW, SE and Forth Bridges units in August 2020. The 4G SW unit transferred over in its entirety whilst the 4G SE and Forth Bridge units were combined into a single new SE unit.

Category 1 defect

A Defect that necessitates prompt attention because it presents:

- (i) an immediate or imminent hazard, or
- (ii) a risk of rapid structural deterioration to the affected element.

Category 2 Defect

Any Defect which is not a Category 1 Defect.

CCMf (Contract control and management function)

A part of IRIS - computer-based financial management system supplied by Transport Scotland and operated by the Operating Companies. 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 financially and where money is being spent.

Contract price fluctuation factor (CPF)

Inflation adjustments to the OC's tendered rates and prices.

Financial year

The period between 1 April 2020 and 31 March 2021.

IRIS (Integrated road information system)

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.

Performance indicators

A numerical measure of the Operating Company's compliance with a requirement of their Contracts.

Monitoring indicators

A numerical measure of service provision as stated in the Contract.

Non-conformance (NC)

Default by the Operating Company or defect in operations.

Notice of non-conformance (NNC)

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

Operations

Work carried out by the OCs.

Orders

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

Quality management system (QMS)

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

Glossary of main terms

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.

RMMf (Routine maintenance management function)

A part of IRIS - 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.

SMS (Structures management system)

A part of IRIS - 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.

Works Contract

Any works undertaken under a separate contract, designed, procured and supervised by Operating Companies. Such contracts are between the Scottish Ministers and a works contractor for execution of a scheme or part of a scheme.

Abbreviations

4G Fourth Generation Term Contract for the Management and Maintenance of the Scottish Trunk Road Network

BICS Bridge inspector certification scheme

CCMF	Contract control and management function
CDM	The Construction (Design and Management) Regulations 2015
CPF	Contract price fluctuation
DRMP	Disruption Risk Management Plan
FB	Forth Bridges
FCBC	Forth Crossing Bridge Constructors
H&S	Health and safety
IRIS	Integrated road information system
ISO	International Standards Organisation
LED	Light emitting diode
MI	Monitoring indicators
NNC	Notice of non-conformance
OC	Operating Company
ORI	Observation resulting from inspection
PAG	Performance audit group
PI	Performance indicators
QMS	Quality management system
RMMF	Routine maintenance management function
SM	Structural maintenance
SMS	Structures management system
SRS	Strategic road safety
STR	Structures
VRS	Vehicle restraint system

PAG Team



Performance Audit Group

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