Network Rail Monitor

Quarters 3-4 of Year 1 of CP5
12 October 2014 to 31 March 2015

12 June 2015

OFFICE OF RAIL AND ROAD

Contents

Executive summary

This is the second Network Rail Monitor of Control Period 5 (CP5) which runs from 1 April 2014 to 31 March 2019. It provides ORR's assessment of Network Rail's performance over the second half of 2014-15, year one of CP5. Where appropriate it also provides an overview of the company's performance over the whole year.

Safety

Network Rail has made good progress in reducing safety risk at level crossings. However, in other areas such as track worker safety there is significant scope for improvement. Network Rail needs to maintain a focus on wider risks including those arising from the failure to deliver effective occupational health management on the ground.

Performance and punctuality

Network Rail entered CP5 at a lower performance point than anticipated and it put in place a plan to return performance to targeted levels by 1 April 2016. Although it is largely delivering on the plan's milestones, these are not improving train performance as much as predicted.

Train cancellations

East Coast Mainline performance has been strong – the three long distance operators on this route all exceeded their cancellation and severe lateness (CaSL) targets. However, performance for many operators on other routes is behind plan.

Asset management

Network Rail has reported delivering less renewals work than it planned to do. We are reviewing the company's plans for the remainder of the control period to understand whether this under-delivery will be recovered and whether there is any impact on the safety and sustainability of the network.

Enhancements

Network Rail is responsible for delivering over £12bn of infrastructure enhancement expenditure over the five years of CP5. Following a relatively successful CP4, the company's performance on delivery of its enhancement portfolio has worsened. At the end 2014-15 Network Rail had missed 30 out of its 84 planned milestones in its Enhancements Delivery Plan.

Expenditure and finance

Network Rail overspent its budget by around £230m and ORR expects the company to underperform the regulatory financial performance measure by around £430m in 2014-15. Operating, maintenance and renewals (OMR) efficiency has reduced by 2.2% and the company is now forecasting a cumulative efficiency gain of around 16% by the end of CP5 compared to the 22% forecast alongside the CP5 Delivery Plan.

Data quality

Our evidence shows that the quality of data that Network Rail relies upon to plan and manage works on Britain's railways is not acceptable in some areas. ORR has written to Network Rail requiring a proposal from the company to address this.

Overview

Health and safety

While still in the early stages of implementation, Network Rail's Business Critical Rules (BCR) programme demonstrates a more innovative approach to risk control supported by better analysis and understanding of the effectiveness of different risk control measures. Although it is not in Network Rail's budget and is therefore contributing to the forecast overspend, the Tidy Railway programme is another positive development that will support further safety improvements. We have also seen evidence of further improvement in the management of risk at level crossings, including the closure of 118 higher risk crossings during the year.

We have not yet seen evidence that the Transforming Safety and Wellbeing strategy is being delivered consistently. During the year we served 12 improvement notices and two prohibition notices. These notices covered a range of issues including drainage, track quality, and vegetation management as well as occupational health. We have seen positive developments in the management of occupational health risks. However, sustained effort will be needed over the coming years to maintain this trajectory and deliver the sustained improvements to which Network Rail and the industry have committed.

We also need more robust assurance that the renewals programme is delivering a safe and sustainable railway.

Our Railway Management Maturity Model (RM3) analysis suggests that Network Rail still has some way to go in building safety management maturity.

Train service performance

Passenger

Work by Transport Focus shows that punctuality remains the single most important driver of passenger satisfaction, underlining the need for a continuing focus on performance delivery. As we reported in the Quarter 1-2 Monitor for 2014-15, Network Rail's worse than expected performance in Control Period 4 (CP4) meant that it entered Control Period 5 (CP5) at a lower performance point than anticipated. As a result, the company put forward a plan, which we agreed (the CP5 Performance Plan) to return performance to targeted levels by 1 April 2016. We agreed that we would monitor delivery against this plan during those first two years.

Over the last decade there has been a significant improvement in performance, although there are still some areas where it is unsatisfactory (set out below). Most recent data shows that the overall punctuality and reliability of the railway for passenger services has been stable over the last four months, compared with an overall downward trend since the latter part of 2011-12. Operators using the East Coast Mainline have seen performance for the last few periods of 2014-15 well above previous levels.

However, Network Rail has fallen short of the performance trajectory to which it committed in its plan. At the end of 2014-15, PPM in England and Wales was 1.4 percentage points (pp) below the CP5 Performance Plan target whilst CaSL was 0.5pp above (i.e. worse than) target. Although it is largely delivering on the activity milestones in the plan, these actions are not having the effect on performance the company anticipated. We are investigating whether Network Rail has done everything reasonably practicable to achieve the levels of performance to which it committed and for which it was funded.

Freight

Performance for the freight sector was relatively strong. The Freight Delivery Metric (FDM) MAA at the end of 2014-15 stood at 94.5%, 2.0 pp above the annual target of 92.5%.

Asset management

Network Rail's *Composite Reliability Index* (CRI) which measures the improvement in asset reliability weighted by asset type and the potential impact of failure, shows an improving trend in the number of incidents caused by asset failure. The company has achieved all the 2014-15 milestones for the *Offering Rail Better Information Services* (ORBIS) programme which will deliver significant improvements in the way asset information is collected, stored and utilised.

The number of unplanned temporary speed restrictions has halved since a high at the end of 2013-14.

Network Rail has under-delivered against the volumes of renewals work to which it committed in the CP5 Delivery Plan. The position for maintenance volumes remains mixed. We are reviewing the company's plans for the remainder of the control period to understand whether this under-delivery will be recovered and whether there is any impact on the sustainability of the network.

Developing the network

Network Rail has delivered a number of significant infrastructure enhancements in the first year of CP5, all of which are providing or will provide tangible benefits to its customers and passengers. For example, upgrades to Reading station and capacity improvements on the East Coast Main line and the Barry to Cardiff Queen Street corridor. However, nationally 39% of project completion outputs and 34% of project development regulated outputs were missed in 2014-15. We have initiated an enhancements capability investigation and want to see the implementation of planned measures to deliver improvements in this area.

Overrunning engineering works

On 27 and 28 of December 2014, passengers travelling into or out of King's Cross and Paddington stations were severely disrupted as a result of overrunning engineering works. In February, following an intensive investigation, the ORR Board concluded that Network Rail had breached its licence in that it had not done everything reasonably practicable in planning these engineering works and in the development and implementation of operational contingency plans. We need to see in place clear contingency plans which help passengers if engineering works do overrun.

We are continuing to hold the company to account through its existing licence obligations for the way in which it works with train operators and prepares for key holiday periods such as Easter, Bank Holidays and Christmas. Network Rail needs to continue undertaking large-scale engineering projects in order to renew and enhance Britain's railways. The company has commissioned a cross-industry review of the programming of major engineering works and whether it is appropriate to do these during holiday periods.

Engineering work carried out over Easter was completed with no significant delays.

Expenditure and finance

Based on provisional information we have received, Network Rail's operating, maintenance and renewals (OMR) efficiency was around -2.2% in 2014-15 and the company is now forecasting a cumulative efficiency gain of around 16% by the end of CP5 compared to the 22% forecast alongside the CP5 Delivery Plan. Network Rail overspent its budget for 2014-15 by around £230m and ORR expects the company to underperform the regulatory financial performance measure by around £430m. This means that it has spent more than was thought necessary to achieve what it did in 2014-15.

Business plan review

Network Rail is updating its CP5 business plans to reflect its latest views on when outputs will be delivered and revised cost information. This process has taken longer than expected and we are currently reviewing the draft plans.

Information and data quality

The quality of Network Rail's data is critical to understanding and addressing underlying problems on the network. We have previously expressed concerns about data quality and in our 2013 Periodic Review we required the company to give us access to more of its data so we could monitor it more closely. We have now seen evidence of unsatisfactory data quality in some areas including asset condition, volumes data and financial reporting. Network Rail's Audit Committee is reviewing data quality across all these areas. We have seen evidence of progress towards improving financial reporting but we now expect to see improvement in data quality and management information across all areas of the business. This issue needs to be addressed urgently.

Health and safety

Track quality

During the second half of 2014-15 we served one national improvement notice on Network Rail concerning its management of derailment risk at switches. We continue to monitor the company's progress in complying with the June 2014 improvement notice which we served as a result of our investigation into the derailment at Gloucester in October 2013. This notice focussed on adequacy of track staff resource at all levels in the Bristol delivery unit, and whilst Network Rail has made good progress, we have granted an extension of time to 26 June 2015 to allow the company to develop a robust solution to address issues relating to section manager workload.

Drainage is an important enabler for sustaining and improving track geometry. In February 2015, we served a national improvement notice on Network Rail regarding its management of drainage assets critical to earthwork stability. In response to our notice the company has increased its focus on the management of track geometry, and we are seeing improvements in key measures, for example a reduction in the number of twist faults. However, we have not yet seen the same reductions in repeat faults, with some routes that had previously halted the increase now seeing that increasing trend returning. This perhaps reflects the greater challenge in securing longer lasting repairs for this type of fault. It is currently unclear if Network Rail's recovery plans will deliver sustainable improvements and it has re-launched route-level fault reduction targets. We will continue to monitor this area.

We continue with our programme of proactive route-based inspections, focusing on Network Rail's management of risk at switches and crossings (S&C) and track geometry. The latter continues into 2015-16 focusing on the effectiveness of Network Rail's arrangements for managing risk arising from track quality.

At this stage, we are satisfied that safety risk arising from poor track geometry is being controlled. But this is being done in a largely reactive way that sometimes does not address the underlying causes of faults and misses opportunities to address identified weaknesses. This increases the reliance on routine inspection and reactive maintenance.

Interaction of train and track

In recent years there have been several freight container wagon derailments[1]. There were a number of common factors relating to track condition: in particular track twist; vehicle characteristics; and asymmetric loading of containers. The consequences of these incidents have so far been limited to infrastructure and vehicle damage and fortunately no injuries or fatalities have been sustained. The risk here is shared by a number of industry parties and whilst the industry as a whole is undertaking some work, there does not appear to be a co-ordinated approach focussed on addressing the system risk. In March 2015 we wrote to the industry setting out our concerns, and led an industry seminar to agree the next steps the industry needs to take to better understand the risks and the arrangements necessary to control them. We continue to monitor progress in this area.

Electrification

We need assurance that Network Rail can deliver a safe infrastructure at the end of enhancements projects and that it can take fast and safe engineering possessions once a project goes live. We have seen some early evidence of Network Rail's responsiveness to our "safety by design" challenge: the company has produced a draft set of electrical safety principles which can be used to establish a consistent approach across new electrification projects. Progress has been good but significant scope remains for increasing efficiency in those areas.

On the third rail network, solutions for faster and safer isolation work are continuing. Trial sites for Negative Short Circuiting Devices are in place although safety validation of this solution is not yet complete. If successful this will deliver a step change not only in safety but also in productivity. However, other options for improving isolation utility and security are being considered to increase momentum.

Network Rail has recognised that there needs to be a step change in the way that it meets its statutory obligations, for example under the Electricity at Work Regulations 1989 and this area continues to present a significant challenge for the company.

SPADs

Following a long period of gradual improvement, Signal Passed at Danger (SPAD) numbers increased in 2013-14 and remained at a high level in 2014-15. During the year SPADs have been fairly evenly distributed around the network, suggesting that increasing traffic volumes may be a factor.

[1] Washwood Heath (2006), Duddeston Junction (2007), Marks Tey (2008), Wigan NW (2009), Reading West (2012), Camden (2013), Gloucester (2013)

ORR has continued to encourage train operators and infrastructure providers to review their SPAD risk profiles. Our inspectors look at operators' driver training and management processes closely. We are encouraging operators to integrate non-technical skills training and assessment into their competence management systems.

Some operators now have plans in place to upgrade Train Protection and Warning System (TPWS). This is important as European Rail Traffic Management System (ERTMS) fitment is likely to be some way off for some routes.

Wootton Bassett

There was a high risk SPAD at Wootton Bassett involving a charter train operated by West Coast Railway Company (WCRC). Network Rail took prompt action suspending WCRC's access rights for a period and ORR undertook formal consultation on the possible revocation of the Safety Certificate. We have decided not to revoke and are seeking resubmission of the Safety Certificate application from the company. Our formal investigation into the incident is ongoing.

Level crossings

In our CP5 Final Determination, Network Rail was provided with £99m of ring-fenced funding with the aim of reducing risk at level crossings by 25%. Network Rail has identified over 250 crossings for closure which will result in a 21% overall level crossing risk reduction. The total closed by the end of the year was 118. The company is now developing a plan to enable it to achieve the remaining 4% risk reduction. The plan includes commissioning new technologies at user worked and footpath crossings.

Network Rail is also developing a level crossing strategy which will describe its management of risk at passive crossings for CP5 and beyond.

It is evident from our engagement with level crossing managers that they have an improving understanding of crossing risks. The introduction of the narrative risk assessment process will further enhance this understanding.

Infrastructure worker safety

Worker safety remains a key priority for both Network Rail and ORR and there has been no noticeable improvement during the year. The company is seeking to address this through a number of initiatives, including:

- national roll-out of the *Planning and Delivery of Safe Work* (the new Control of Work permit procedure and roll-out of the new Safe Work Leader role);
- improved management of track patrolling including specific briefings to improve coordination and communication between different roles;
- increased working under line blockage with additional protection; and
- the development of technology to enhance track worker protection and provide higher integrity warning

systems covering the movement of trains on the mainline.

Progress has been made in these areas but we need to see better coordination and faster and more effective implementation.

We have found some examples of poor understanding and management of basic health and safety risks by Network Rail and its contractors, particularly in construction-related sites. Specific concerns have included failure to control risks from; excavations, working at height, working with or near electricity, vehicle operation, heavy plant/machinery, and substances hazardous to health. We have taken action on these cases (including investigation and enforcement) as required.

Occupational health

Although Network Rail's health risk management maturity is not well developed, we have seen some significant signs of improvement, notably in the strategic approach being taken to managing risks from hand arm vibration. We also recognise the leadership, hard work and commitment to better occupational health at senior levels, and welcome the recruitment of the Occupational Health and Wellbeing Managers to most of the routes. We see the potential for work on developing strategies to be translated into action and progress on the frontline as a next step, particularly on hand arm vibration, but also on asbestos management, and silica in ballast dust. However, sustained effort will be needed over the coming years to maintain the initial impetus and deliver the vision in the *Industry Roadmap* and Network Rail's *Health and Wellbeing Strategy,* as well as achieving legal compliance consistently.

We have seen evidence that central initiatives are being delivered very well. But there is a considerable gap between what is delivered centrally and the management of health risk in the routes and depots. Overall awareness of worker health has improved and we have seen some good examples of workforce involvement in programme development.

There are particular concerns surrounding Network Rail's strategic management of manual handling. In 2013-14 we served a prohibition notice concerning handling of concrete troughing. However this was not dealt with effectively and we have had to serve further prohibition notices in the last quarter of 2014-15.

Key weaknesses found during 2014-15 were:

- risk assessment was not used effectively to identify risks and the control measures required;
- failure to follow 'hierarchy of control' principles in managing health risks (with missed opportunities to design or engineer out risk), and too much reliance on personal protective equipment (with evidence of failure to ensure it was worn even when it was the only control measure);
- lack of competence among front line managers for health risk control at site level;

- lack of supervision by front line managers of health risk control at site level, and insufficient attention by managers to assurance on health; and
- examples of contracts which did not adequately hold contractors to account on health risk management.

Train service performance

National level performance

Approach in years one and two

Network Rail entered 2014-15 at much lower levels of performance than anticipated in our CP5 Final Determination and at that stage did not expect to meet a number of its regulated performance outputs during the first two years of the control period. We agreed with the company that we would take an input-based approach to monitoring PPM and CaSL in England and Wales during the first two years of CP5. We have monitored the delivery of its CP5 Performance Plan which details the activities it will deliver with the aim of ensuring that performance returns to the regulated target levels by 31 March 2016.

In addition, we are monitoring Network Rail's delivery of regulated performance outputs (PPM and CaSL) *at TOC level* as specified in the Performance Strategies Network Rail has agreed with each operator.

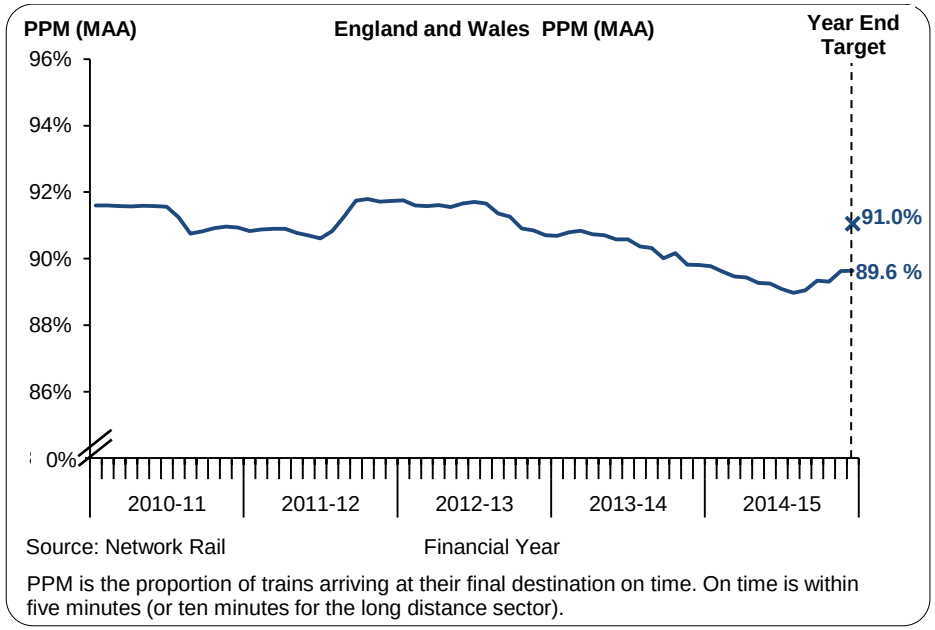
National freight performance, measured by the Freight Delivery Metric (FDM), remains an annual regulated target throughout CP5.

Delivery of the CP5 performance plan

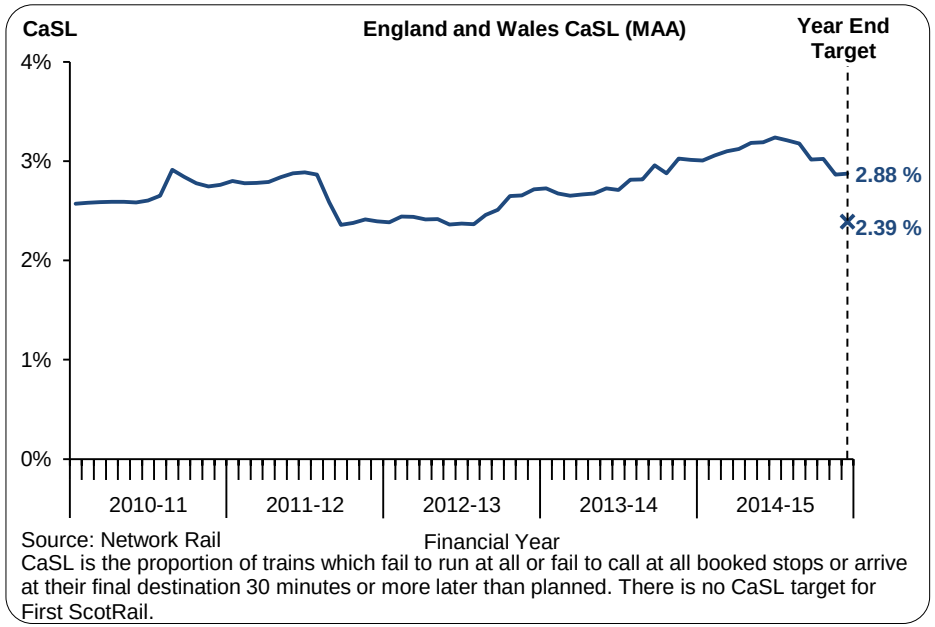
Network Rail has committed to providing quarterly reports on delivery of the CP5 Performance Plan. These reports show that at the end of 2014-15, of the 190 activity milestones completed in England and Wales, 161 were completed on time or early whilst 29 were completed late. Of the 171 milestones yet to be delivered in England and Wales, 149 are expected to be delivered on schedule whilst 22 are forecast to be delivered late. 51 milestones have been abandoned while a further two are on hold. The table below shows the degree of milestone slippage and delivery in England and Wales in 2014-15:

	On time (complete)	Early (complete)	Late (complete)	On time (forecast)	Late (forecast)	On hold	Abandoned	Total
Q1	35			151	5	1	2	**194**
Q2	37	24	8	126	13	10	10	**228**
Q3	82	34	21	206	25	6	25	**399**
Q4	111	50	29	149	22	2	51	**414**

At the end of 2014-15, underlying performance in England and Wales was below the levels assumed when the CP5 Performance Plan was produced. Punctuality and reliability as measured by PPM and CaSL fell below the targets agreed in the performance strategies for key operators in England and Wales. The graphs below show the national PPM and CaSL position.



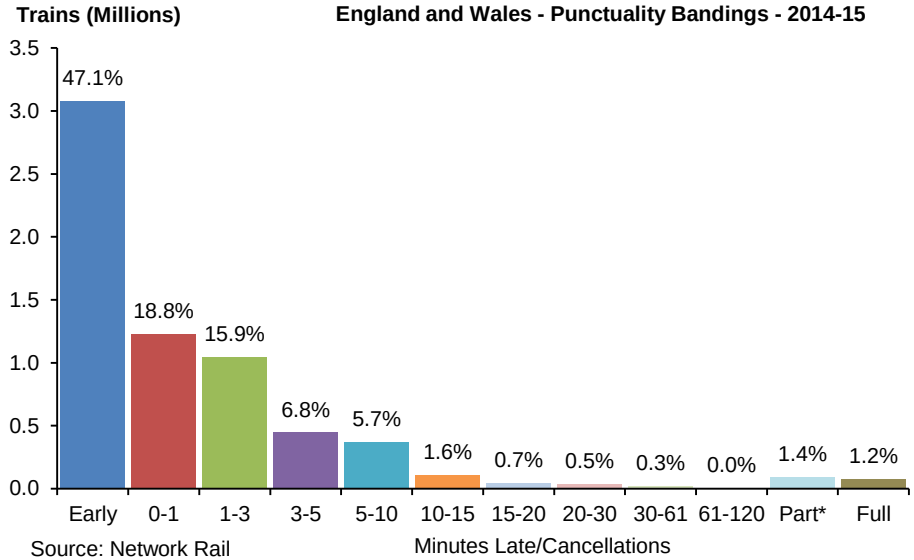
PPM is the proportion of trains arriving at their final destination on time. On time is within five minutes (or ten minutes for the long distance sector).



CaSL is the proportion of trains which fail to run at all or fail to call at all booked stops or arrive at their final destination 30 minutes or more later than planned. There is no CaSL target for First ScotRail.

There are however, indications that the overall downward trend seen since the latter part of 2011-12 may have been halted. Operators using the East Coast Mainline have seen performance for the last few periods of 2014-15 well above previous levels.

Detailed analysis of actual train arrival times shows that trains arriving early constituted the largest single category.



Source: Network Rail

Part cancellations includes trains late by more than 120 minutes.

We also note that nationally, around half of trains that failed PPM in 2014-15 missed their PPM threshold by less than five minutes and there may be some cause for optimism that performance can reach the required regulatory targets in the coming years, even allowing for passenger growth. This is however likely to require efficient train regulation using traffic management support tools to predict and prevent real time train conflicts. The recovery of performance has also been helped by the fact that most routes have seen less than half the total of delay minutes attributable to Severe Weather category seen in 2013-14.

Performance at TOC level

Performance since the beginning of CP5 has been worse than the targets specified in Performance Strategies for a significant number of operators. We are continuing to hold Network Rail to account for these commitments. In the CP5 Final Determination we set a shortfall threshold of 2.0 pp for PPM and 0.2 pp for CaSL at which point we would consider whether to intervene. The following operators failed to meet their Performance Strategy commitments at the end of the year:

- ***PPM*** – Southern by 4.7 pp, First TransPennine Express (FTPE) by 2.4 pp, and GoVia Thameslink Railway (GTR) by 2.8 pp;
- ***CaSL*** – Southeastern by 0.26 pp, First Great Western by 0.42 pp, South West Trains by 0.56 pp, Virgin Trains (West Coast) by 0.96 pp, Abellio Greater Anglia by 0.87 pp, FTPE by 0.77 pp, GTR by 1.29 pp and Southern by 1.88 pp.

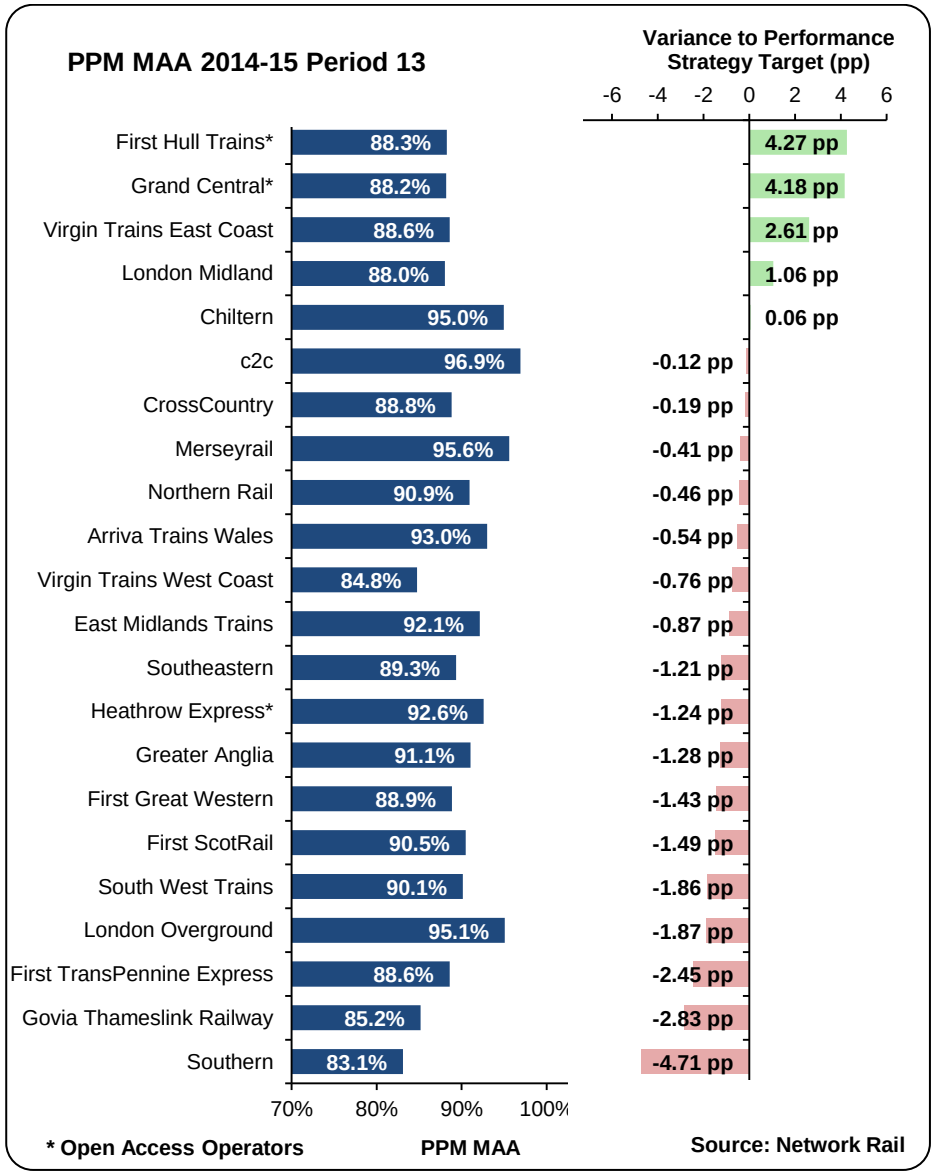
The recent performance of the East Coast Mainline has been a success. Three of the four long distance operators on this route exceeded their PPM and CaSL targets and these are the best performing operators in terms of variance against both measures. By contrast, GTR and Southern have the worst variance against target for both measures.

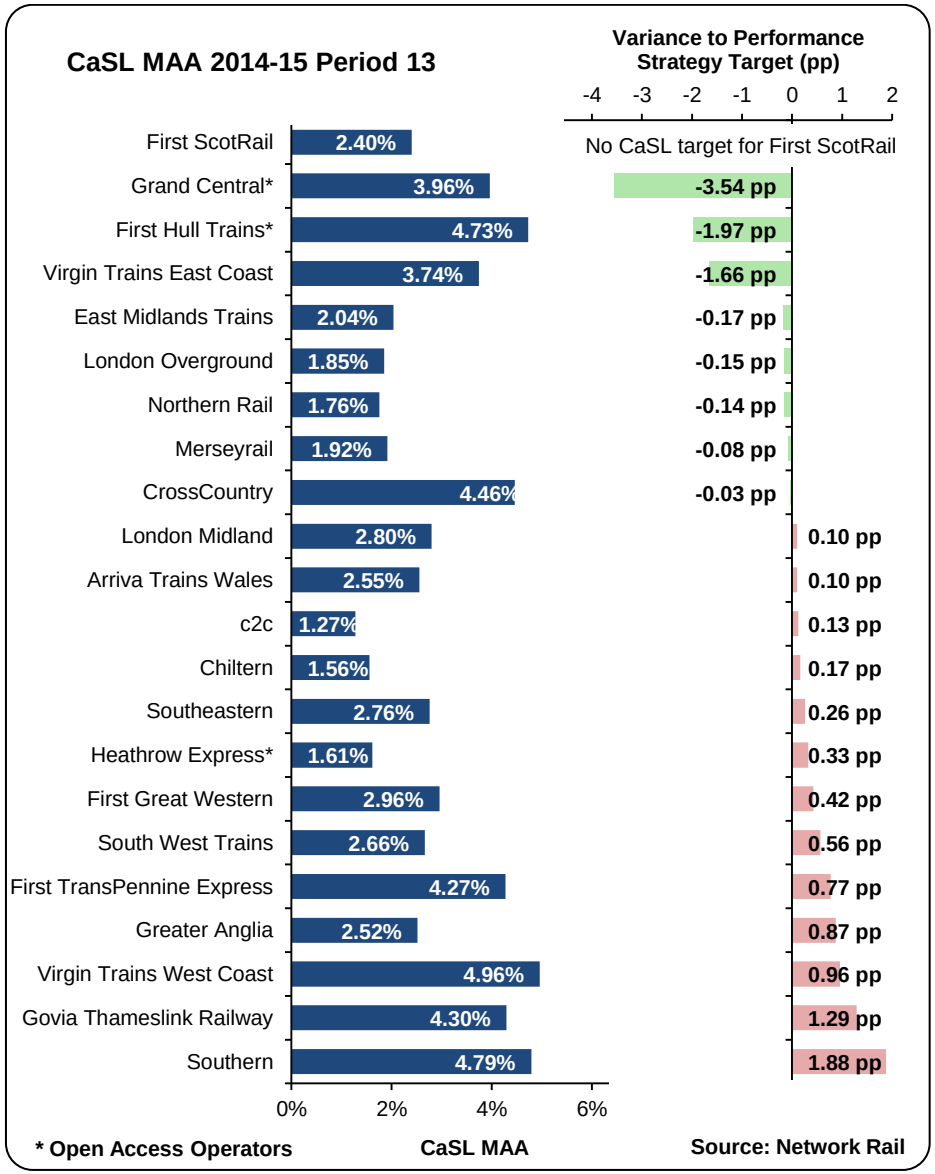
We are investigating whether Network Rail has done everything reasonably practicable to achieve its targets and the ORR Board will consider this in the summer. Our investigation in England and Wales is focused on Network Rail's delivery to Southern and GTR. Together these operators account for approximately one third of the PPM shortfall and one half of the CaSL shortfall in England and Wales.

Our investigation is concentrating on potential causes of underperformance including the impacts of the Thameslink Programme, timetabling, operational and asset management issues. We are also considering whether there is any evidence of systemic issues impacting performance.

We are continuing to monitor Network Rail's delivery to all other operators through our internal processes and will consider launching further investigations should the plans set out in the performance strategies fail to deliver the proposed benefits.

The graphs below show all operators' performance ranked by variance to their profiled Performance Strategy targets at the end of Period 13.


PPM MAA 2014-15 Period 13
Variance to Performance Strategy Target (pp)
-6 -4 -2 0 2 4 6
First Hull Trains* 88.3% 4.27 pp
Grand Central* 88.2% 4.18 pp
Virgin Trains East Coast 88.6% 2.61 pp
London Midland 88.0% 1.06 pp
Chiltern 95.0% 0.06 pp
c2c 96.9% -0.12 pp
CrossCountry 88.8% -0.19 pp
Merseyrail 95.6% -0.41 pp
Northern Rail 90.9% -0.46 pp
Arriva Trains Wales 93.0% -0.54 pp
Virgin Trains West Coast 84.8% -0.76 pp
East Midlands Trains 92.1% -0.87 pp
Southeastern 89.3% -1.21 pp
Heathrow Express* 92.6% -1.24 pp
Greater Anglia 91.1% -1.28 pp
First Great Western 88.9% -1.43 pp
First ScotRail 90.5% -1.49 pp
South West Trains 90.1% -1.86 pp
London Overground 95.1% -1.87 pp
First TransPennine Express 88.6% -2.45 pp
Govia Thameslink Railway 85.2% -2.83 pp
Southern 83.1% -4.71 pp
70% 80% 90% 100%
* Open Access Operators
PPM MAA
Source: Network Rail


CaSL MAA 2014-15 Period 13
Variance to Performance Strategy Target (pp)
-4 -3 -2 -1 0 1 2
No CaSL target for First ScotRail
First ScotRail 2.40%
Grand Central* 3.96% -3.54 pp
First Hull Trains* 4.73% -1.97 pp
Virgin Trains East Coast 3.74% -1.66 pp
East Midlands Trains 2.04% -0.17 pp
London Overground 1.85% -0.15 pp
Northern Rail 1.76% -0.14 pp
Merseyrail 1.92% -0.08 pp
CrossCountry 4.46% -0.03 pp
London Midland 2.80% 0.10 pp
Arriva Trains Wales 2.55% 0.10 pp
c2c 1.27% 0.13 pp
Chiltern 1.56% 0.17 pp
Southeastern 2.76% 0.26 pp
Heathrow Express* 1.61% 0.33 pp
First Great Western 2.96% 0.42 pp
South West Trains 2.66% 0.56 pp
First TransPennine Express 4.27% 0.77 pp
Greater Anglia 2.52% 0.87 pp
Virgin Trains West Coast 4.96% 0.96 pp
Govia Thameslink Railway 4.30% 1.29 pp
Southern 4.79% 1.88 pp
0% 2% 4% 6%
* Open Access Operators
CaSL MAA
Source: Network Rail

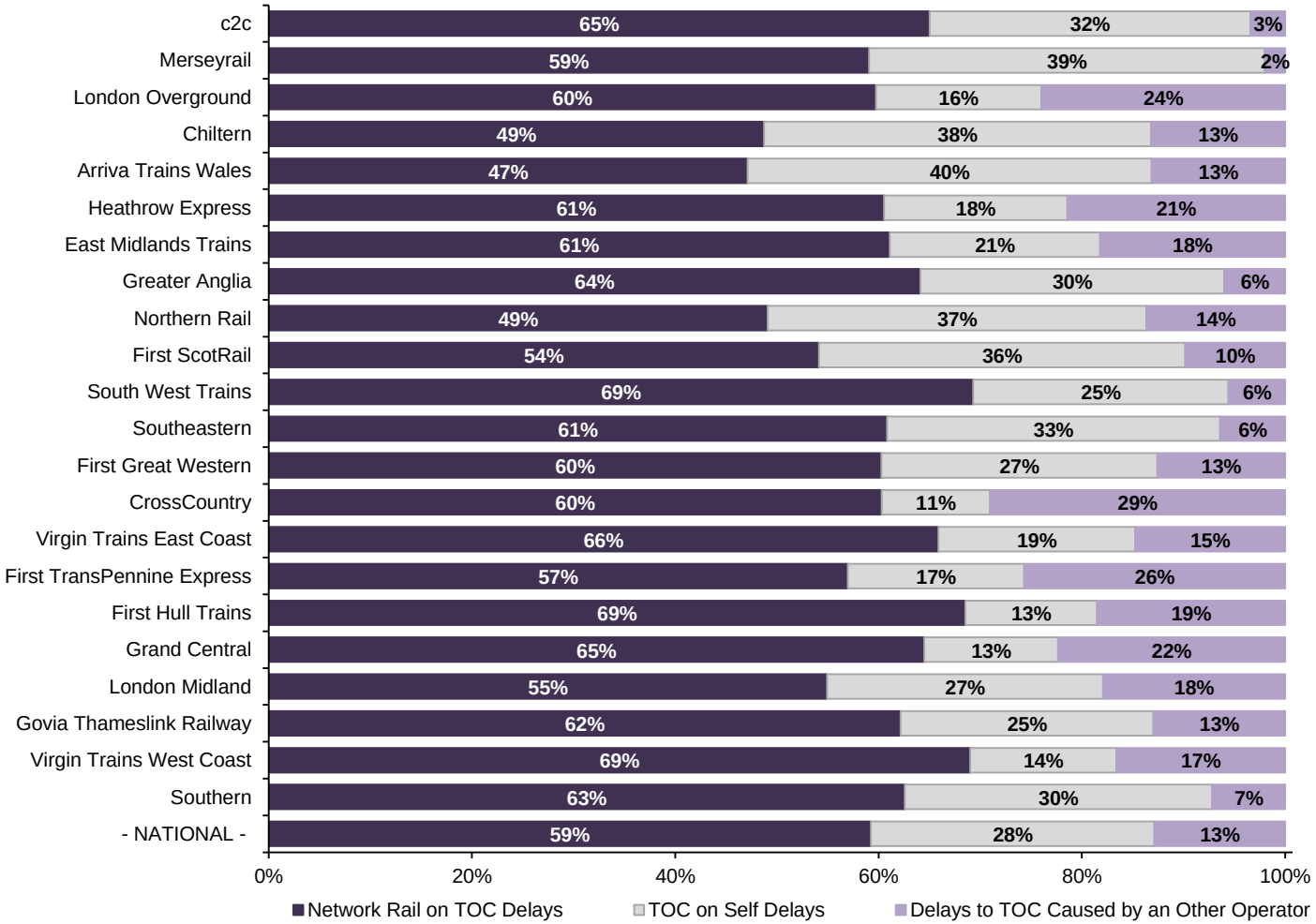
Delay minutes

We are continuing to monitor Network Rail delay minutes as a key diagnostic indicator for train performance. In 2014-15 Network Rail caused 59% of delay minutes. 28% were “TOC on Self” (delays to a passenger train operating company's services caused by that company) and 13% were “TOC on TOC” (delays to a passenger train operator’s services caused by another train company). The operator with the lowest proportion of Network Rail caused delays was Arriva Trains Wales (47%). Network Rail caused the highest proportion of delays to South West Trains, First Hull Trains and Virgin Trains West Coast (69%). The table overleaf provides further detail. On average Network Rail was also responsible for 42 of the top 50 passenger affecting incidents per period during 2014-15.

Freight performance

The regulatory performance measure for freight is the Freight Delivery Metric (FDM). This metric measures the percentage of freight trains arriving at their destination within 15 minutes of scheduled time. FDM covers delays for which Network Rail is responsible, i.e. not those caused by other train operators. FDM MAA at the end of Period 13 stands at 94.5%, 2 pp ahead of the annual target of 92.5%.

Proportion of Total Delay Minutes by Cause Group: 2014-15



	PPM MAA	CaSL MAA	Trains Planned (Rounded)
c2c	96.9%	1.27%	115,100
Merseyrail	95.6%	1.92%	208,100
London Overground	95.1%	1.85%	373,600
Chiltern	95.0%	1.56%	126,900
Arriva Trains Wales	93.0%	2.55%	322,000
Heathrow Express	92.6%	1.61%	50,900
East Midlands Trains	92.1%	2.04%	156,700
Greater Anglia	91.1%	2.52%	642,700
Northern Rail	90.9%	1.76%	831,300
First ScotRail	90.5%	2.40%	749,700
South West Trains	90.1%	2.66%	588,100
Southeastern	89.3%	2.76%	663,300
First Great Western	88.9%	2.96%	517,200
CrossCountry	88.8%	4.46%	103,700
Virgin Trains East Coast	88.6%	3.74%	50,200
First TransPennine Express	88.6%	4.27%	114,300
First Hull Trains	88.3%	4.73%	4,600
Grand Central	88.2%	3.96%	6,200
London Midland	88.0%	2.80%	420,200
Govia Thameslink Railway	85.2%	4.30%	393,800
Virgin Trains West Coast	84.8%	4.96%	101,700
Southern	83.1%	4.79%	745,600
- NATIONAL -	89.7%	2.83%	7,285,900

Source: Network Rail

Customer service

Passenger satisfaction

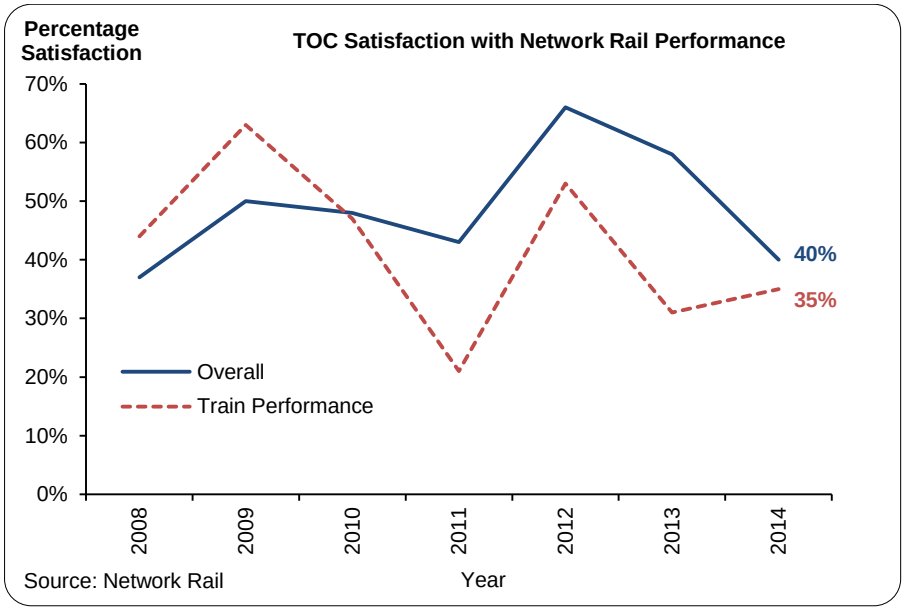
Transport Focus published the results of its autumn 2014 National Rail Passengers' Satisfaction survey (NRPS) on 27 January 2015.

Although passenger satisfaction depends on TOC as well as Network Rail performance, these results reflect our concerns about Network Rail's non-delivery of some regulated outputs. The proportion of passengers satisfied with their journey overall was 81%. This is down (-2.0 pp – a statistically significant decline) compared to autumn 2013 when 83% of passengers were satisfied. It is also lower than the spring 2014 result of 82%.

Similarly, the proportion of passengers satisfied with punctuality/reliability was 77%. Again, this was significantly down compared to autumn 2013 when 79% were satisfied. Satisfaction with punctuality/reliability by individual TOC varied between 68% (Southern) and 96% (Grand Central). Nationally, satisfaction with the provision of information during the journey also declined, with 69% satisfied (a statistically significant 2.0 pp down on the autumn 2013 result).

Customer service maturity

Network Rail has measured the satisfaction of its passenger and freight operator customers in an annual survey conducted throughout CP4. As far as Network Rail's TOC customers are concerned, the proportion stating that they were "satisfied" or "very satisfied" with Network Rail's overall delivery to them decreased from 58% in 2013 (and 66% in 2012) to 40% in the 2014 survey. For the first time since the survey was introduced the number of "dissatisfied" or "very dissatisfied" customers was greater than those satisfied (41%). This is a striking result given that satisfaction with train performance in fact increased by 4% compared with 2013.



More positively, freight customers reported increased satisfaction with Network Rail, with an improved score of 52% compared to 47% in the previous survey.

The survey provides a useful overview of satisfaction levels but does not allow Network Rail to understand the effectiveness of its focus on customers. So in our CP5 Final Determination we required the company to implement and embed a maturity model providing a much fuller picture of the level of service delivered to its customers.

In the second half of 2014-15 Network Rail made some positive progress in developing this model. Its route teams developed measures based on a national template which incorporates:

- hard measures that are brought together from other existing sources;
- scores from the latest surveys / pulse check; and
- measures for softer / intangible issues.

We expect to see the benefits of this new approach start to become apparent in 2015-16.

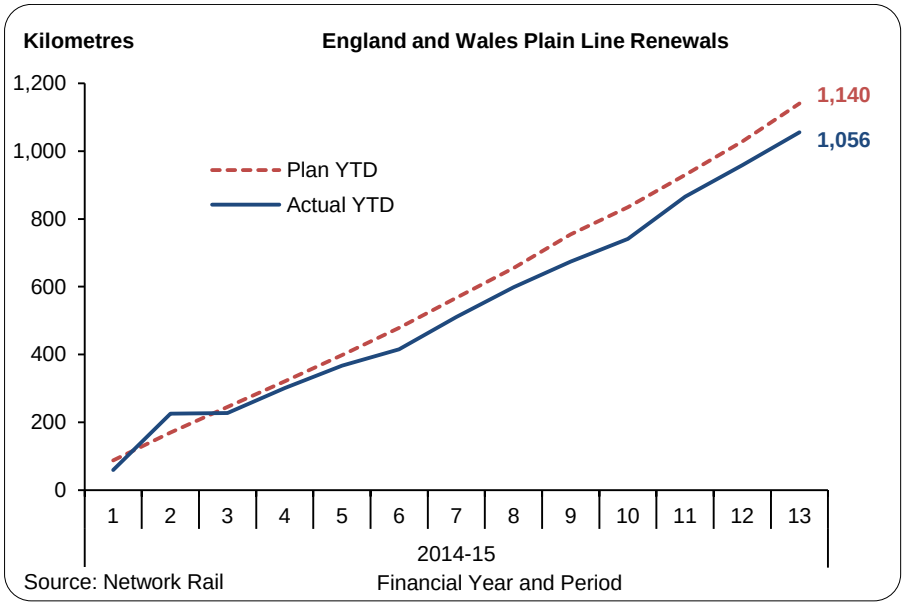
Asset management

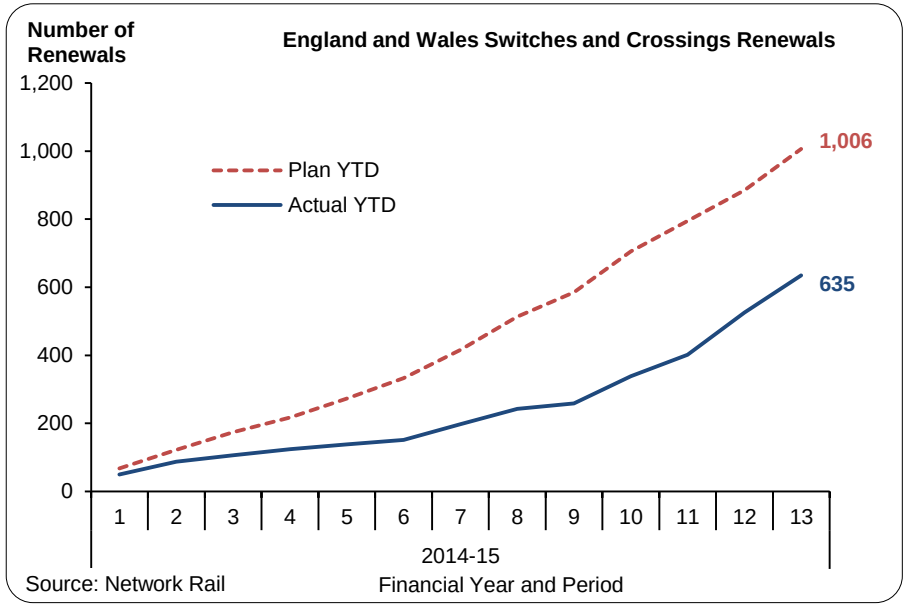
Maintenance and renewals volumes

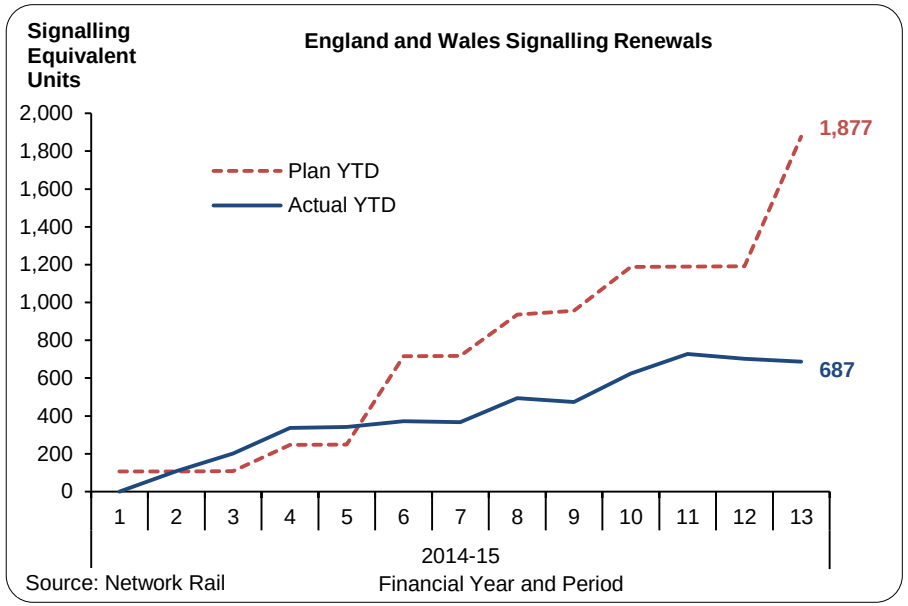
Maintaining and renewing the network is fundamental to Network Rail's responsibilities. Regular maintenance counters the effects of wear and aging to keep the assets safe and performing as intended. But eventually it becomes uneconomical or impractical to maintain them any longer and they have to be renewed.

Network Rail has set out in its asset policies its approach to maintaining and renewing the network sustainably and efficiently. The volume of work required during CP5 in accordance with these policies was set out by Network Rail in its 2014 delivery plan. We are now monitoring whether Network Rail delivers the volume of maintenance and renewals it said was necessary.

The picture for maintenance is mixed but Network Rail has reported delivering significantly less renewals work than it planned to do in 2014-15. Plain line track renewals volumes improved over the second half of the year but were still 7% behind plan at year end, and switches and crossing (S&C) finished the year 37% behind plan due to a deferral of medium refurbishment across the network. Signalling renewals were 63% behind plan following delays completing several large resignalling schemes.







Work on civils also fell well behind plan, with a 50% shortfall for underbridges and a 46% shortfall for earthworks. Overhead line renewals are also well down at 77% less than plan.

This significant under-delivery raises questions of sustainability. Despite reassurances that there would not be a repeat of the issues seen at the start of CP4, some of the shortfalls reflect migration to new supply chain arrangements for CP5. The position should improve as these new arrangements "bed in", and there is evidence that this is now happening in track and civils. The signalling delays in part reflect limited supply chain capacity – Network Rail had planned to deliver twice the volume of work in CP5 as was achieved in CP4.

We are reviewing the company's plans for the remainder of the control period to understand whether this under-delivery will be recovered and whether there is any impact on the sustainability of the network.

Overall expenditure on renewals in England and Wales is 14% below plan, reflecting the shortfall in volumes, and work in progress that has not yet been completed, but the work which has been delivered has cost 19% more than expected. If Network Rail spends more on delivering its plan than we funded in our determination, the excess cost is financial under-performance.

For CP5 we asked Network Rail to provide more detailed reporting on the volume of maintenance delivered, so we could see how each route is performing by maintenance activity. We have found shortcomings in the data reporting during the year and asked the company to improve the quality of its reporting. The situation is also complicated in some areas where maintenance activities are delivered as part of an enhancement project or in the course of renewals activity and are thus not captured as maintenance in Network Rail's work reporting system. Overall it appears there has been a mix of both over and under-delivery of maintenance across the network, in part reflecting shortcomings in the DP14 maintenance plans. We will continue to press Network Rail for greater transparency in this area and for improvements in maintenance planning.

Asset management excellence

Asset management excellence is key to improving the reliability and performance of Network Rail's assets in an efficient and sustainable way. A consistent systematic strategy with robust processes and procedures will lead to a more "predict and prevent" approach to asset management so that issue can be addressed before they affect services. This contrasts with 'find and fix' which is usually reactive and less efficient. There are opportunities for Network Rail to learn from leading edge organisations and to adopt and adapt new technologies and work practices to its advantage. This will translate into more reliable and efficient infrastructure, ultimately leading to a better experience for customers and passengers.

At the end of CP4 Network Rail achieved an asset management competence score of 66.7% overall across the six core AMEM areas for assessment (see diagram opposite). For CP5, we set an overall target of 72% to be achieved by January 2018. In March, AMCL found that Network Rail's "roadmap" for achieving this target was well structured as a statement of intent, but that the detailed activity plans underpinning it were lacking in some aspects. Network Rail is now developing further milestones in support of the roadmap. Our most recent analysis suggests the company is on course to deliver the 72% target. We expect it to continue to develop its detailed plans to achieve this.

Network Rail is also undertaking a programme of work to assess its asset management capability at route level. This shows that there are quite a few pockets of excellence, but that there is some difference between national and local capability. Network Rail has recognised that it needs to build up its capability at route level and is putting in place a programme of work to support the routes in raising awareness and providing training and expertise where it is needed. It is expected that a more systematic approach to its asset management functions (at route level) should translate into improved performance, reliability, resilience and sustainability of its assets.

Asset data quality

Knowing what assets you have, where they are and how they are performing is a fundamental building block of asset management. Without up to date knowledge about its assets an organisation will not have sufficient understanding of how and why they fail, and its maintenance approach will be largely reactive rather than preventative. This in turn leads to inefficiencies through reduced performance and repeat maintenance.

For CP5 we challenged Network Rail to improve its asset data quality, and we set a specific quality target to be achieved by April 2017. To that end Network Rail has adopted a comprehensive assurance programme to enable it to populate, verify and monitor the quality of its 'data assets'. We are monitoring progress on a quarterly basis, and Network Rail remains on target to achieve the required standard.

ORBIS milestones

Offering Rail Better Information Services (ORBIS) is an ambitious programme aimed at improving asset management capability through improved information management. It involves adopting consistent data specifications, providing simpler mobile data capture tools, replacing outdated asset information systems (such as GEOGIS and CARRS), and providing improved decision support tools. The programme began in CP4, and we set specific milestones during CP5 to help ensure it delivers all the benefits expected.

To date all milestones have been achieved on schedule, including for the signalling core data, which was completed in January. The next milestone is completion of the national rollout of the signalling decision support tool, due in September. This will bring together disparate signalling data sources and enable Network Rail to target work more efficiently.

Track

Track performance

Nationally, the number of service-affecting track failures has decreased over the year, although Wales and Sussex Routes are exceptions, showing worsening trends.

There has been a continuing reduction in the numbers of broken rails and serious rail defects. After some problems mid-year, 'poor track geometry' has improved and the position at the end of March 2015 was better than at the beginning of 2014-15 and indeed the best (i.e. lowest) level recorded for more than a decade.

Civils

Drainage

Earthworks and track both rely on the condition of drainage. Poor drainage can cause wet beds and eventually poor vertical track alignment or sudden failures in embankment or cutting slopes. There were many earthworks failures during the wet weather over the winter of 2013-14 and these were partly attributable to historic problems with drainage. We are still not satisfied that Network Rail is doing enough in this area and we issued an improvement notice on the 18 February 2015 covering the management of critical drainage system components. This was a network-wide notice.

Station buildings and operational property

Earlier in the year a backlog in operational property assessments came to light as well as significant gaps in data knowledge. These assessments determine whether a structure is capable of carrying the maximum load it might be expected to carry, such as passenger loading on a footbridge or wind loading on a canopy. Network Rail has established mitigation measures and is rechecking their effectiveness. A recovery plan has been developed and is now being implemented. Progress is slow at present but we are continuing to monitor delivery closely and to press Network Rail to accelerate the program which extends into 2017-18.

Developing the network

Network Rail is responsible for delivering over £12 billion of infrastructure enhancement expenditure over the five years of CP5. The government's rail investment plans in CP5 are more ambitious and complex than in CP4, with a high level of interdependency between the infrastructure projects, the re-franchising timetable and rolling stock procurement and the resulting reallocation of rolling stock. The infrastructure component for which Network Rail is responsible will be the critical enabler for planned step changes in train services, with significant timetable improvements planned for later in the control period.

We reported in the last monitor that Network Rail had missed several milestones in the first six months of CP5. The current position is as set out in the table below:

	Project development milestone	Project completion milestone	Total
Achieved	28	26	54
Missed	16	14	30
Total	**44**	**40**	**84**

At the end 2014-15 the company had missed 30 out of 84 planned milestones in its Enhancements Delivery Plan. 16 of these were development milestones – meaning the scheme design is running behind plan. The remaining 14 were project completion milestones. Although many of these did not significantly impact Network Rail's customers, there were notable occasions where the introduction of new and improved services was delayed. The most prominent example was phase 2b of the North West Electrification project (Liverpool-Manchester, including Liverpool – Wigan) which missed the December 2014 completion date for the introduction of electric services. The infrastructure was not actually ready for authorisation until March 2015.

For all these missed regulatory milestones, we will assess the degree of passenger or freight customer impact and make a proportional financial adjustment to Network Rail's Regulatory Asset Base (RAB) as set out in our CP5 Final Determinations.

However, the high number of missed milestones has raised serious questions about Network Rail's ability to deliver future projects on time. Some of these missed milestones, such as Swindon resignalling and Reading to Didcot electrification were communicated at short notice. We reported in the last monitor that we have formerly escalated several concerns related to enhancement projects and Network Rail's ability to deliver its regulated obligations.

These concerns can be summarised as follows:

- shortcomings in project design and development, including inadequate rigour in cost estimating;
- late project delivery;
- shortcomings in how Network Rail delivers its part in cross-industry programmes such as Great Western Route Modernisation; and
- lack of evidence that Network Rail is managing the CP5 investment portfolio to achieve efficiencies.

In the Final Determination we gave Network Rail time to work up some early lifecycle projects requested by DfT and then make an Enhancements Cost Adjustment Mechanism (ECAM) submission including a robust scope and cost estimate for delivering defined outputs. This would enable us to assess whether this was an efficient cost that could be added to the RAB. We have seen slippage in the dates of this project development work and significant escalations in the cost estimates since the early estimates included in the Strategic Business Plan.

Additionally, in order to provide assurance that a project has complied with all its safety and legislative duties, projects that make significant changes to the risk profile for a section of the railway (such as electrification) are required to submit Technical Files to the National Safety Authority (which for the UK is ORR) in order to receive permission to authorise into public use. The late submission and poor quality of many of these submissions, which are made at the very end of the project, has highlighted significant failings in Network Rail's delivery processes and capability.

Network Rail has acknowledged our concerns and is carrying out several separate internal reviews to learn lessons and put in place improvements. It needs to strengthen and enhance its capabilities in key areas to ensure it can deliver what is required on time. We are investigating whether the company is doing everything reasonably practicable to address these concerns and to improve its capability so that we are more assured that it can deliver its regulatory obligations for CP5.

Independent Reporter review

Network Rail has a critical role in major cross-industry programmes. We commissioned the independent reporter last year, to check that lessons had been learnt from recent experience in establishing a programme framework in Thameslink and the Great Western route modernisation. The review has already established a rapid assessment framework to apply to Network Rail's programmes. The work has proved valuable in establishing what each programme needs to do in order to improve its capability. It has also been expanded to develop an outline programme management process for major route upgrades, innovating from established best practice. We expect to see evidence of improvements as a result of this work.

Expenditure and finance

Overall financial performance

We consider Network Rail's financial performance in two different ways as set out in the tables overleaf. Firstly we provide a simple comparison of spend against Network Rail's own budget and second we look at our regulatory performance measure. This measure takes account of issues such as the delivery of regulated outputs and the effectiveness of Network Rail's asset management, in order to assess how the company is performing in relation to our CP5 Final Determination. It does not allow any benefit from where work has simply been delayed. The baseline is our CP5 Final Determination.

Regulatory financial performance against budget

Financial performance for the year is around £230m adverse to Network Rail's own budget. Key drivers of overspend include:

- higher schedule 8 costs, reflecting worse than expected train performance;
- higher than expected renewal costs partly due to delays in some efficiency initiatives;
- overspend across a number of enhancements projects; and
- the introduction within the year of the Tidy Railway and Vegetation Management programmes.

Whilst not directly affecting regulatory financial performance (justified deferral has a neutral effect on regulatory financial performance) we note that renewals work delivered in the year slipped by around 20% compared to Network Rail's budget resulting in the largest budget variance. This is largely due to under-delivery of planned track, signalling and electrification work (considered in the asset management section above). We will keep this under review and our assessments of Network Rail's financial performance in CP5 will take into account any concerns we may have regarding the sustainability of the company's asset management. Enhancements work also slipped by around 8% and we are keeping that under review as set out in the section on developing the network.

Overall regulatory financial performance

We currently expect Network Rail to underperform the regulatory financial performance measure (which excludes some expenditure and fixed income) by around £430m in 2014-15. This takes into account the variances between:

- actual performance and its own budget (c. £230m adverse);
- the financial assumptions in our PR13 determination for CP5 and Network Rail's own budget (c. £100m adverse); and

- Network Rail's estimate of the financial effect of the under-delivery of the regulatory outputs for train performance (c. £100m adverse).

Network Rail's borrowing

Network Rail's net debt at 31 March 2015 was £36.9 billion, £0.3 billion lower than its budget. This variance was largely due to the deferral of capital expenditure to later in CP5.

The amount of new borrowing available from DfT is limited to £30.3 billion across CP5. Following the company's classification to the public sector by the Office of National Statistics (ONS), Network Rail agreed to borrow from DfT instead of issuing bonds.

Network Rail is updating its CP5 business plans to reflect its latest views on when outputs will be delivered and revised cost information. This process has taken longer than expected and we are currently reviewing the draft plans.

Network Rail's financial performance

Comparison of income and expenditure

£m	2014-15		
	Budget	Actual	Variance
Turnover	1,580	1,565	-15
Schedule 4	-243	-182	61
Schedule 8	-51	-112	-61
Operations, support & maintenance	-2,205	-2,222	-17
Capex - Renewals	-3,460	-2,965	495
Capex - Enhancements	-3,532	-3,369	163
Total	**-7,911**	**-7,285**	**626**

(See notes 5 and 6 below)

Total regulatory financial performance

£m	Financial Performance
Income less expenditure	626
Variances that do not count for financial out/underperformance (1)	-1,296
Capex performance adjustment (2)	434
Financial performance compared to Network Rail budget	-234
Network Rail budget compared to PR13 (3)	-91
Adjustments for missed regulatory outputs (4)	-101
Total financial performance measure	**-426**

Notes

1. Variances that do not count for financial out/underperformance include items such as renewals that have been deferred to later in the control period.
2. The Capex performance adjustment is a deduction from the value of renewals and enhancements variances so that 25% is recognised as under or over performance. This aligns with Network Rail's financial reward/penalty for renewals and enhancements expenditure through the RAB roll forward mechanism.
3. Network Rail started CP5 in a worse position than we assumed because it achieved lower efficiency savings in the final year of CP4 than we assumed in our PR13 determination. This meant that Network Rail has more work to do in CP5 to deliver the efficiency challenge set out in our PR13 determination.
4. The adjustment for missed regulatory outputs represents Network Rail's estimate of the value of an anticipated ORR adjustment for not meeting the train performance target in 2014-15 based on our work last year and the adjustment for not delivering some of the enhancements milestones. We will review this and other issues and adjust for missed regulatory outputs in our annual finance and efficiency assessment, so the final number may be different.
5. In both tables a positive variance is favourable and a negative variance unfavourable
6. This analysis is based on information in Network Rail's management accounts (period end 31 March 2015). We will publish our annual finance and efficiency assessment in September 2015, which will be based on Network Rail's regulatory accounts for 2014-15.

We publish the *Network Rail Monitor* every six months, focusing on Network Rail's delivery of its obligations to its customers and funders, for which it is mainly accountable under its network licence.

We welcome your feedback on this publication. Please send your comments or queries to:

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