



ORR Performance Investigation Report

Network Rail's delivery of its regulated performance targets 2013-14

June 2014

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Glossary

Acronym	Definition
AMEM	Asset Management Excellence Model
ASI	Asset Stewardship Indicator
ASLEF	Associated Society of Locomotive Engineers and Firemen
BTP	British Transport police
CaSL MAA	Cancellations and Significant Lateness Moving Annual Average
CP4	Control Period 4
CP5	Control Period 5
DP10 & 13	Delivery Plan 2010/2013
ECML	East Coast Mainline
ESR	Emergency Speed Restriction
FDM	Freight Delivery Metric
FJB	Freight Joint Board
FMS	Fault Management System
FOCs	Freight Operating Companies
FPM	Freight Performance Measure
FPO	Freight Performance Order
FRB	Freight Recovery Board
GSM-R	Global System for Mobile Communication- Railway
ICR	Infrastructure Condition Report
ITPS	Integrated Train Planning System
JPIP	Joint Performance Improvement Plan
KPI	Key Performance Indicator
LADS	Linea Asset Decisions Support
LD	Long Distance Sector
LDRP	Long Distance Recovery Plan
LNE	London North Eastern Route
LNW	London North Western Route
LSE	London and South East Sector
LSEP	London and South East Sector Plan
LTPP	Long Term Planning Process
MPV	Multi-Purpose Vehicle
NDS	National Delivery Service
NPS	National Passenger Survey
NR	Network Rail
NTF	National Task Force
ORBIS	Offering Rail Better Information System
ORR	Office of Rail Regulation
PP	Percentage point(s)
PPM	Public Performance Measure
PPM MAA	Public Performance Measure Moving Annual Average
PPRP	Performance Planning Reform Programme
PR08	Performance Review 2008
Q1-4	Quarter 1-4
RCM/RBM	Reliability Centred Maintenance/Risk Based Maintenance
RHTT	Rail Head Treatment Train
RoSE	Reliability Centred Maintenance of Signalling Equipment
RSD	Railway Safety Directorate
TOC(s)	Train Operating Companies
TSR	Temporary Speed Restrictions
WCML	West Coast Mainline
WSTCF	Wrong Side Track Circuit Failure

Part A - Executive summary

1. This evidence report sets out the findings of our performance investigation into Network Rail's (NR's) failure to achieve delivery of the regulated performance outputs for all sectors in England and Wales and freight as defined in the PR08 final determination. Failure to achieve its Scotland sector targets is addressed in a separate evidence report.
2. The performance outputs for the England and Wales passenger sectors are divided into three sectors; Long Distance (LD), London and South East (LSE) and Regional. For Control period 4 (CP4), in all sectors, PPM MAA and CaSL MAA targets were set, and only the Regional CaSL target was achieved. Delay minutes targets were also set for England and Wales, but these have been excluded from the investigation despite not being achieved because our earlier Board decisions concluded that they did not as closely reflect the passengers' experience and the volatile nature of the relationship between PPM and CaSL and delay minutes.
3. Freight performance is measured by NR caused delay minutes normalised per 100km ran. This was a regulated target in CP4.
4. At the end of 2013-14 (the last year of CP4) the LD sector PPM MAA finished CP4 5.1pp short of target and CaSL MAA was 1.0pp worse than target. This is despite NR creating a recovery plan to address the decline in performance in the sector, which had been evident since 2010-11. One of the key findings of this investigation is that the recovery plan failed to address the decline in performance, in part due to slippage in milestones associated with the planned actions, and also because the scheme benefits were in some cases over-stated. We have also found failings with NR's asset management and day to day maintenance of the railway which in no doubt contributed to its failure to achieve targets.
5. The LSE sector missed its PPM MAA target by 3.4pp at the end of 2013-14 and missed the CaSL target by 1.1pp. NR voluntarily produced a sector plan to improve performance for its LSE customers, and again, we note that slipped milestones and over-stated scheme benefits contributed to this position. We have also found failings in terms of track asset management, which have manifested as temporary speed restrictions, track faults and poor track geometry. We have also witnessed a growing trend in un-investigated delays in the LSE sector, and it is our view that without proper data capture and quality assurance, NR were unable to properly understand the performance challenges affecting its customers and take the requisite actions.
6. While the regional sector achieved its CaSL target of 2.3%, PPM MAA was 1.0pp short of target. We have analysed the performance data we have obtained from NR, and spoken to the Train Operating Companies (TOCs) in this sector. We have formed the view that TOC caused cancellations and disruption, mainly in regards to train crew availability, have been a significant factor in this shortfall and as such recommended that there is no case for NR to answer in respect of this sector's failure to achieve the PPM MAA target.
7. Freight delay minutes ended CP4 at 3.70 per 100km. This was 25.9pp worse than target. While this performance is less than the regulated outputs, we do recognise that there are limitations with the measure in that it does not measure freight train arrival at destination,

and the Freight Performance Measure (FPM) MAA of 74.8% was only 0.1pp worse than target. FPM measures freight services arriving at destination within ten minutes of booked arrival time. In reviewing this performance shortfall, we took on-board feedback from the Freight Joint Board who told us that they are satisfied with NR's performance delivery in this sector.

8. We acknowledge the impact of extreme weather on the UK rail network and recognise the efforts of all rail staff to operate a safe railway in these extremes; we also acknowledge that on some occasions in extreme conditions, performance is not the primary motivation for the industry, but rather the provision of capacity to allow customers to complete their journeys. Where we have identified extreme weather as a factor, we have used an approach that has been shared with NR to mitigate its impact. We have also mitigated for delays caused by TOCs that are wholly outside of NR's control, as well as making allowances for external factors such as suicide and trespass.

Part B - Introduction

1. Background

The Long Distance Sector: 2012-13

9. In January 2012, we issued an enforcement order requiring Network Rail (NR) to produce a plan for improving future performance in the Long Distance (LD) sector in 2012-13 to the levels specified in the final determination for Control Period 4 (CP4). In response to this, NR submitted its Long Distance Recovery Plan (LDRP) on 30 March 2012. After reviewing the plan, we concluded that NR was then currently complying with their enforcement order for LD performance in 2012-13. We stated that whilst NR was not currently in breach of its licence in respect of 2012-13, it was critically dependent on delivery of the Joint Performance Improvement Plan (JPIP) commitments it had made and on doing the work to deliver further improvement.
10. However, despite the above, we also concluded that NR was likely to be in future breach of condition 1 of its licence in relation to its LD performance target in 2013-14. We therefore issued a Final Order on July 23rd 2012 requiring NR to meet its LD Public Performance Measure (PPM) target (92%) for 2013-14 to the greatest extent reasonably practicable. The Final Order included a reasonable sum, set on a sliding scale of £1.5m for every 0.1 percentage point below the target that will be paid by NR if it fails to meet the CP4 target at the end of the control period (31 March 2014).
11. We also required NR to deliver quarterly reports in relation to its performance and delivery of its LDRP, the first of which was received in July 2012. In assessing progress, we also took into consideration problems regarding NR's delivery with regard to Cross Country and Virgin. In September and October 2012 we sought further commitments from NR to implement the conclusions of the work Chris Gibb was doing to help improve performance in the LD sector (specifically on the West Coast Mainline – south).
12. In November 2012, we concluded that NR's plans for the LD sector demonstrated that it was doing everything reasonably practicable to achieve its JPIP commitments for 2012-13 and was therefore compliant with condition 1 of its Network Licence. However, it was also noted that the company faced a major challenge if it was to avoid a significant penalty in 2013-14. This decision was communicated to Robin Gisby in our letter of 5 December 2012.
13. Despite this, NR did not meet its end of year targets as set out in the LDRP for 2012-13. As per the Final Order, we continued to monitor the position across the sector carefully.

The London and South East Sector: 2012-13

14. NR volunteered to produce a plan to recover performance for the London and South East (LSE) sector in the same way it had done for LD. An initial LSE plan (LSEP) was submitted to us on 7th August 2012, but NR told us that it was still a work in progress and agreed to issue the final plan by 28 September. Based on the final plan we received we decided that, on balance, NR was not currently in breach of condition 1 of its licence as it was doing everything reasonably practicable to recover performance in the LSE sector. In

coming to this view we had regard to our assessment of the plan, the high level of leadership attached to it, the relatively small margin PPM was missing the target (especially compared to the LD sector) and our view that NR (and the train operators) had been much quicker to recognise and address the problem than on LD. In addition we took in to account the views of NR customers, the train operating companies (TOCs), that it was trying hard in the new devolved organisation and that it should be given a chance to deliver. Further, it was felt by the TOCs that more harm than good would be done by enforcement action.

15. In light of problems relating to operational planning during the Christmas and New Year period in 2012 we wrote to NR raising our concerns. We also asked for more information on the reasons behind the issues and the measures being taken to ensure they didn't happen again. We also advised that we would be considering these issues as part of our end of year review of its performance.

Investigation into LD & LSE performance: 2012-13

16. In April 2013 we initiated an investigation into NR's LD and LSE sector performance after it failed to reach its end of year targets.
17. In July 2013 we found NR in breach of condition 1 of its Network Licence for performance in the LD and LSE sectors. However, we did not consider penalties were appropriate in this instance. This was because it is our primary objective to ensure that NR takes all practicable measures to exit CP4 as close to its regulatory targets as possible on behalf of passengers. In our decision letter of 31 July 2013 we emphasised our expectation that NR would detail the additional funds and resources it would implement in order to recover performance. In particular we required NR to:
 - Undertake better weather mitigation and ensure the resilience of the network in adverse and extreme weather;
 - Deliver day to day maintenance of the network consistent with that of a best practice operator;
 - Deliver planned volume of renewals by the end of CP4; and
 - Demonstrate that the senior management and Board of NR are focused on addressing the underlying issues and doing everything reasonably practicable to achieve its regulatory targets.
18. In order to ensure compliance, we required NR to continue providing us with its quarterly reports, including an end of year assessment at the end of CP4.
19. In 2013-14 we continued to monitor NR's performance very closely. This included monitoring the deteriorating regional sector and Scotland performance, both of which NR implemented plans for improvement in performance.

2. Terms of reference for the current investigation: 2013-14

20. On 25 March 2014, we wrote to NR setting out our intention to formally investigate its delivery of regulated performance targets in 2013-14. In summary, this investigation focused on NR's sector and Scotland (see separate report) performance in 2013-14 and an assessment of whether it did everything reasonably practicable to achieve its regulated outputs. Following earlier board decisions we have not investigated NR's failure to achieve its delay minute targets. We have agreed to use delay minutes as a "diagnostic" measure as they do not directly align with passengers' experience and the volatile nature of the relationship between PPM and delay minutes.

21. Our investigation included an analysis of a range of issues affecting performance. They included, but were not limited to:

- Adjustments – including extreme weather, TOC on self delays and externals;
- NR's delivery of the LDRP, LSEP and Regional recovery plan;
- Performance planning;
- Train planning delays;
- Impact of major projects;
- Engineering access and possession overruns;
- Performance fund and initiatives in 2013-14; and
- Asset management – including renewals, maintenance expenditure, off-track asset conditions and vegetation management/weather preparedness.

3. Consideration of issues

22. This investigation focused on whether we thought NR did everything reasonably practicable to meet its performance obligations in 2013-14. In assessing this we considered the following issues:

- What NR considered to be the issues affecting its performance in 2013-14;
- Whether NR did everything it said it would do in the LDRP, LSEP and Regional sector plans;
- The application of the performance fund and initiatives;
- Whether the performance improvements had the effect NR thought they would;
- The impact weather had on performance and whether NR did everything reasonably practicable to mitigate the effect it had;

- The impact of “operator on operator” / TOC on self delays and external factors on NR’s delivery;
- Whether NR was up to date on its day to day maintenance of the network (including the organisation of maintenance work, asset renewals, track faults, signalling and power supply, overhead line electrification and the implementation of new technology);
- The effect train planning had on performance; and
- What other things NR were planning for 2013-14 to improve performance.

4. Context of the investigation

23. In order to conduct our investigation we considered the following:

- The original LDRP, LSEP and Regional sector plans;
- The quarterly progress reports we received throughout the year;
- The full end of year review we received on 9 May 2014;
- Some further evidence NR asked us to consider;
- Our engagement with NR to understand the reports and plans it provided, to answer any questions we had and to discuss any further information NR thought may be relevant to our investigation;
- Views and further information from relevant TOCs regarding NR’s and the factors they believe influenced performance in 2013-14; and
- We commissioned an independent reporter to provide us with an assessment of the delivery and impact of the actions in the LDRP, LSEP and Regional sector plans. The independent reporter undertook numerous field tests (annex B). In line with our usual reporter process, a remit was agreed in advance with NR.

Part C - Performance Summary: 2013-14

1. Overview of CP4 targets

24. This part of the report sets out the actual performance against CP4 targets in all England and Wales sectors. It then considers other factors that were wholly or partially outside of NR's control, and which we therefore believe need adjustment to reflect the extent to which it was not reasonably practicable to meet its regulated targets.

25. We identified the following four adjustments to consider:

- Extreme weather delays;
- TOC on self delays;
- Operator on Operator delays; and
- Externals.

The Long Distance sector

26. The table below shows the actual performance in the LD sector and the variances to target. As can be seen from the table, the LD sector missed its PPM MAA target by 5.1 percentage points (pp) and its CaSL MAA target by 1.0pp in 2013-14.

	PPM MAA	Target	Variance to target	CaSL MAA	Target	Variance to target
2009-10	88.7 %	88.6 %	0.1pp	4.6 %	4.9 %	-0.3pp
2010-11	87.7 %	89.8 %	-2.1pp	5.0 %	4.5 %	0.5pp
2011-12	89.1 %	90.9 %	-1.8pp	4.0 %	4.2 %	-0.2pp
2012-13	87.0 %	91.5 %	-4.5pp	4.9 %	4.0 %	0.9pp
2013-14	86.9 %	92.0 %	-5.1pp	4.9 %	3.9 %	1.0pp

Table 1 – LD sector performance in CP4

The LSE sector

27. The table below shows the actual performance in the LSE sector and the variances to target. As can be seen from the table, the LSE sector missed its PPM MAA target by 3.4pp and its CaSL MAA target by 1.1pp in 2013-14.

	PPM MAA	Target	Variance to target	CaSL MAA	Target	Variance to target
2009-10	91.5 %	91.5 %	0.0pp	2.5 %	2.3 %	0.2pp
2010-11	91.1 %	92.0 %	-0.9pp	2.6 %	2.2 %	0.4pp
2011-12	91.7 %	92.4 %	-0.7pp	2.4 %	2.1 %	0.3pp
2012-13	91.0 %	92.7 %	-1.7pp	2.5 %	2.0 %	0.5pp
2013-14	89.6 %	93.0 %	-3.4pp	3.1 %	2.0 %	1.1pp

Table 2 – LSE sector performance in CP4

The Regional sector

28. The table below shows the actual performance in the regional sector and the variances to target. As can be seen from the table, the regional sector missed its PPM MAA target by 1.0pp, but attained its CaSL MAA target in 2013-14.

	PPM MAA	Target	Variance to target	CaSL MAA	Target	Variance to target
2009-10	92.5 %	90.5 %	2.0pp	2.1 %	2.6 %	-0.5pp
2010-11	91.5 %	91.0 %	0.5pp	2.4 %	2.5 %	-0.1pp
2011-12	92.5 %	91.5 %	1.0pp	2.0 %	2.4 %	-0.4pp
2012-13	91.1 %	91.9 %	-0.8pp	2.5 %	2.3 %	0.2pp
2013-14	91.0 %	92.0 %	-1.0pp	2.3 %	2.3 %	0.0pp

Table 3 – Regional sector performance in CP4

2. Adjustments: Extreme Weather

29. During 2013-14 temperatures remained relatively mild throughout, but the year was characterised by periods of strong winds, heavy rain and associated flooding such as St Jude's storm on 28th October and prolonged wet and stormy conditions from 23rd December until mid-February. As is the nature of these events, these storms affected regions differently, but their effects were most pronounced in the South and West of England.

30. At the end of period 7, national severe weather autumn and structures delay minutes were 62.5% better than the same time last year and 41.1% better than JPIP. However, delay minutes for this category significantly increased during the next three periods, largely due to the storms from October onwards, resulting in national weather delay minutes ending quarter 3 (Q3) 9.9% worse than JPIP target. Unsettled weather conditions in February resulted in a further decline in performance with national delay minutes ending the year 52.5% worse than the end of year JPIP target and 12.4% worse than last year.

Previous methodologies for assessing and adjusting for extreme weather

31. In the past, when there has been extreme weather, our approach has been to replace the whole affected period with an average PPM which is based on the past five years' worth of PPM data. This is the approach we took for addressing the severe weather in 2009-10 and 2010-11.

32. However in 2012-13, we developed a more sophisticated methodology to account for extreme weather, which was endorsed by NR. This methodology used daily Meteo Group data to identify extreme weather days and, if PPM was also below the fifth percentile for that 28 day period, we replaced that day with an average PPM.

33. Using this analysis we were able to conclude that even if extreme weather was removed, NR would not have met its regulatory outputs for LD or LSE in 2012-13.

Approach proposed for assessing weather in 2013-14

34. For 2013-14 the situation is further complicated by the nature of the severe weather experienced during the year. Between Periods 10 and 12 the impact of the extreme weather in some cases continued for weeks after the storm event. For example:

- The continued flooding in Somerset in January/February 2014;
- The collapse of the sea wall in Dawlish, Devon, in February 2014; and
- The River Thames bursting its banks at Chertsey in February 2014 several days after the storm event.

35. As a consequence of the continuing effect of the extreme weather, we believed that we should review the methodology used in 2012-13 and identified a number of alternative methods which could be used to adjust performance in the three periods affected most by the extreme weather, namely periods 10-12.

36. We decided against re-using the methodology we had adopted in 2009-10 and 2010-11, as it relies upon using the average PPM from the previous five years, as four of the years which we would be relying upon had been affected by bad weather.

37. We assessed many methodologies individually, but concluded that there were two preferred options, which are outlined in the table below.

<u>Methodology</u>	<u>Advantages</u>	<u>Disadvantages</u>
A) Use the methodology we applied in 2012-13	It is consistent with what we have done previously	It does not account for the longer, lasting effects of the weather.
B) Use the average variance to JPIP for Periods 1-9. e.g. for 2013-14 NR missed its target in Periods 1-9 by an average of 1.2% so we then presume that it would have also missed the JPIP targets for periods 10-12 by 1.2% had there been no extreme weather.	It is based on recent performance	It is dependent on achievable targets being set throughout the year

Table 4 – Preferred Methodologies for assessing weather

38. There is no single best method for accurately predicting performance and adjusting for weather. Each of the scenarios we looked at had its benefits and drawbacks. The table below shows that the results for both are also very similar:

	Target PPM	Actual	Using methodology A	Using methodology B
LD	92.0%	86.9% (-5.1pp)	87.7% (-4.3pp)	88.0% (-4.0pp)
LSE	93.0%	89.6% (-3.4pp)	90.4% (-2.6pp)	91.2% (-1.8pp)
Regional	92.0%	91.0% (-1.0pp)	91.0% (-1.0pp)	91.1% (-0.9pp)

Table 5 – PPM adjustments using preferred methodologies

39. We discussed the options with NR and decided that we would recommend methodology B to our board. This is because it is based on recent performance and accounts for the longer lasting effect of the weather in the latter part of the year. Also, when the same methodology is applied to the other sectors, it is consistent with our assessment that the weather had the greatest impact in the LSE and LD sectors, with minimal impact on the Regional sector.

40. NR agreed with the use of this methodology and utilised it within its Q4, end of year assessment. Our board has also approved this approach.

Adjusted weather analysis in the LD sector

41. In the LD sector, we adjusted 16 days and 3 periods for extreme weather, resulting in a 1.1pp improvement in performance and an end of year PPM MAA of 88.0%. However, performance still remained 4.0pp below NR's regulatory target.

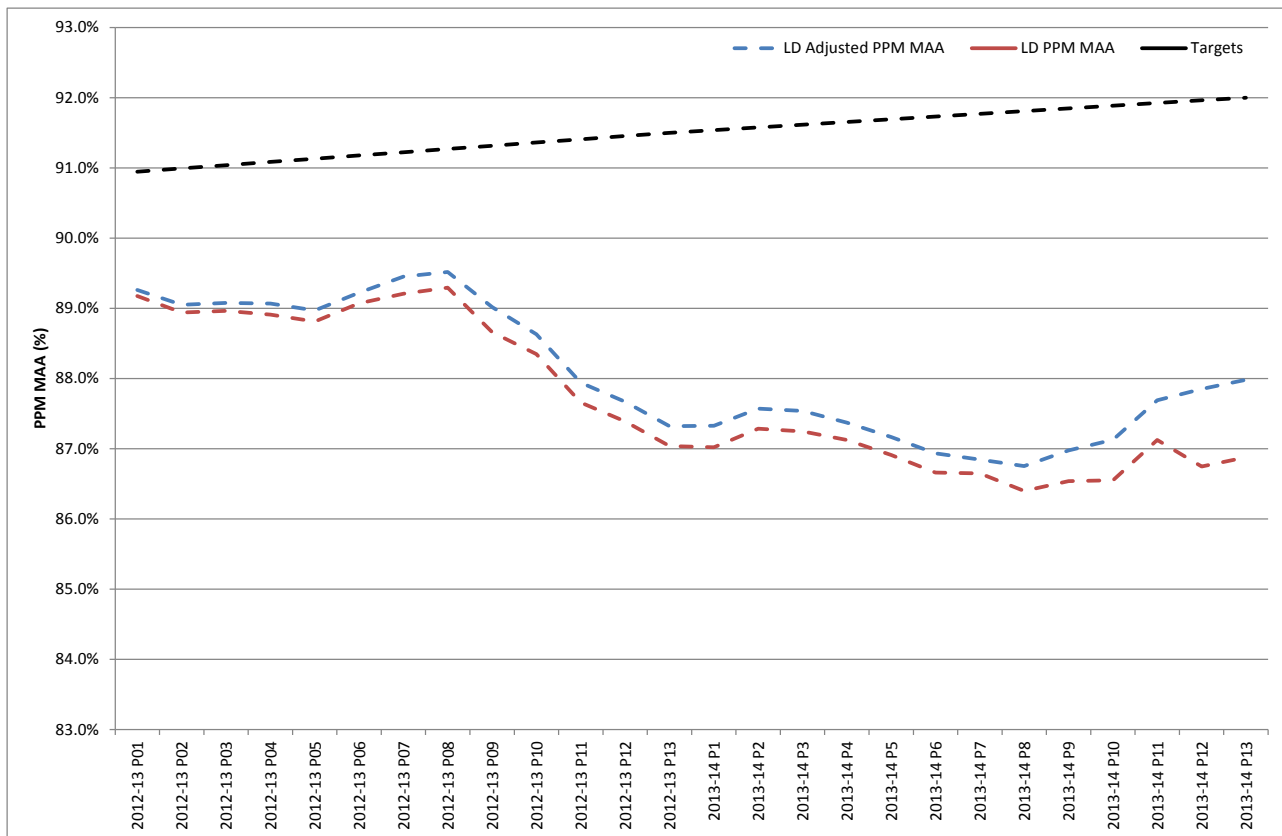


Chart 1 – Actual and adjusted PPM MAA in the LD Sector

Adjusted weather analysis in the LSE sector

42. In the LSE sector, we adjusted 18 days and 3 periods for extreme weather, resulting in a 1.5pp improvement in performance and increasing the end of year PPM MAA to 91.2%. This was the greatest improvement in PPM MAA out of all sectors; however it was still 1.8pp worse than the end of year regulatory target.

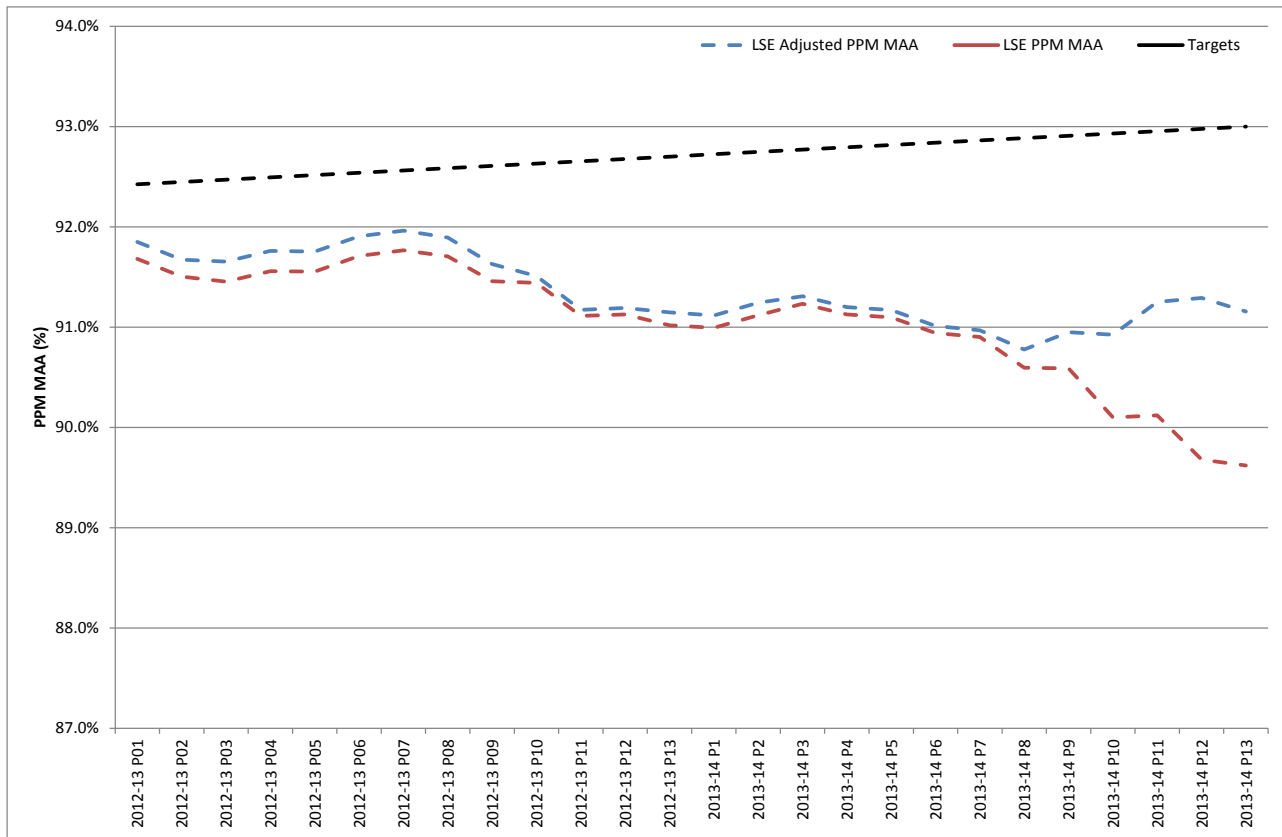


Chart 2 – Actual and adjusted PPM MAA in the LSE sector

Adjusted weather analysis in the regional sector

43. This sector was less impacted by extreme weather, with only 10 days and 3 periods being adjusted. As a result, there was an improvement of 0.1pp, increasing the end of year PPM MAA to 91.1%. This was still 0.9pp adrift of the regulatory target.

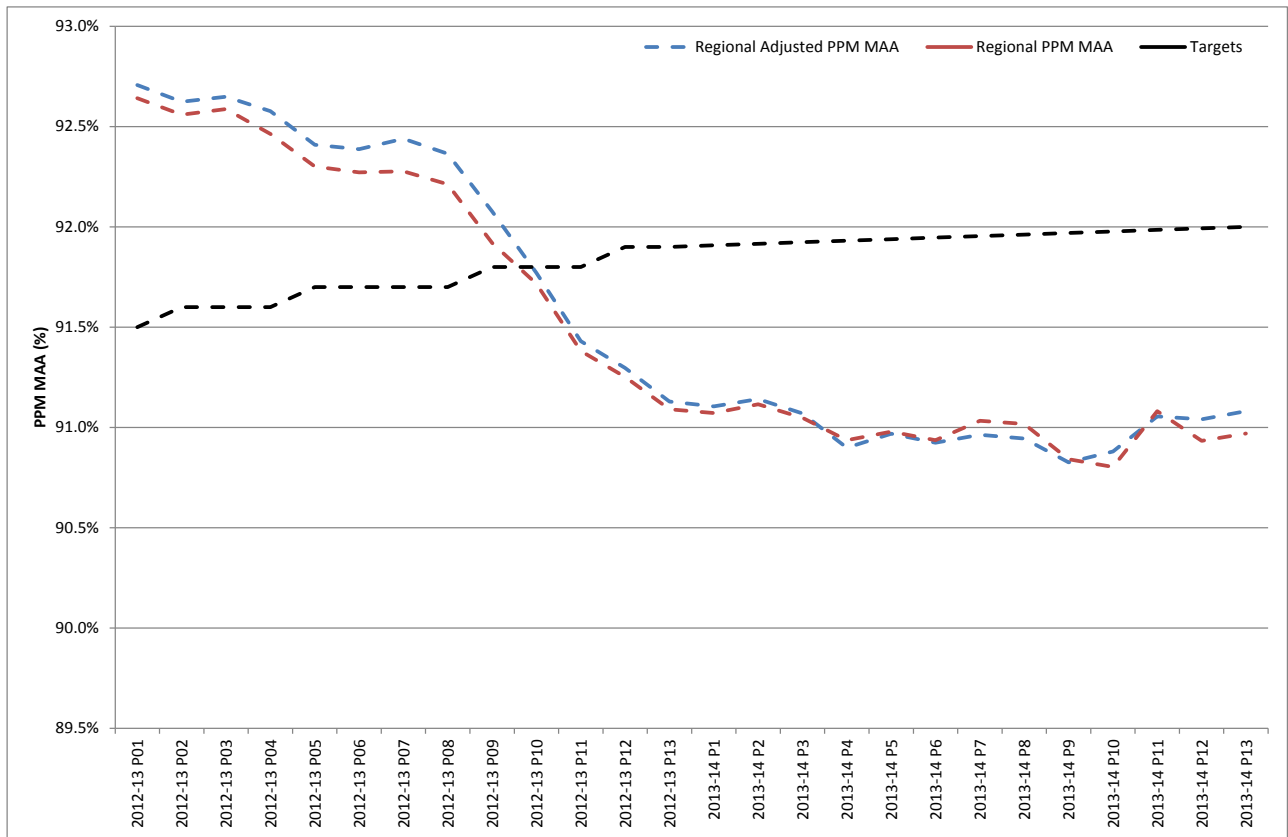


Chart 3 – Actual and adjusted PPM MAA in the regional sector

Summary

44. The table below summarises the adjustments made to the end of year PPM MAA using methodology B:

	Target PPM MAA	Actual PPM MAA	Variance to target	PPM MAA adjusted for extreme weather	Adjusted variance to target
LD	92.0 %	86.9 %	-5.1pp	88.0 %	-4.0pp
LSE	93.0 %	89.6 %	-3.4pp	91.2 %	-1.8pp
Regional	92.0 %	91.0 %	-1.0pp	91.1 %	-0.9pp

Table 6 – Summary of weather adjusted PPM MAA

45. In conclusion, despite adjusting PPM for extreme weather, NR would still not have met its regulatory targets in any sector. Therefore other areas outside of extreme weather impacted performance.

3. Adjustments: TOC on self delays

46. We consider that the most straightforward and transparent method for adjusting TOC on self delays should be to evaluate the impact that operator caused delays had on performance and only take into account NR delay minutes.

47. We also developed a methodology that calculated the impact of the variance to target of TOC on self delay minutes but excluded from any reasonable sum in the LD sector as these delays were better than target in this sector. We also applied this methodology to the LSE sector but concluded that any adjustment would have been negligible.

The Long Distance sector

48. In 2013-14, First TransPennine Express (FTPE) suffered from traincrew availability issues, which caused cancellations that impacted on their performance figures. We calculate that this had an impact of 0.26pp on the LD sector's PPM MAA. Overall, LD TOC on self delay minutes were better than target so no adjustment has been made for this, only the FTPE cancellations.

The LSE Sector

49. In the LSE sector in 2013-14, TOC on self delays did not have a material impact on our PPM adjustment calculation.

The Regional Sector

50. In the regional sector in 2013-14, London Midland had a 1.45pp PPM MAA loss from traincrew caused cancellations, equating to a 0.3pp loss from the sector. We also estimate that London Midland's inability to recover the train service during disruption could account for another 0.3pp off the sector target.

51. Further, East Midlands trains had traincrew resource issues at the same time as the Nottingham re-signalling project, meaning that there was not enough traincrew to work a revised, resource intensive timetable.

52. Northern Rail also suffered many cancellations as their traincrew were disrupted whilst travelling to work, and also on their „pass“ rides by the FTPE resource availability problems that affected the LD Sector.
53. Taken as a whole, we estimate the impact of these issues in the regional sector is approximately 1pp of NR’s PPM.

4. Adjustments: Operator on Operator delays

54. A further adjustment consideration in 2013-14 is that of the impact of „operator on operator“ delays. These are delays caused by TOCs and FOCs on each other’s services. Although NR cannot be responsible for the initial delay, it is responsible for managing the consequences of that delay. We have taken on-board feedback from TOCs and therefore concluded that this delay should not be excluded from NR’s responsibility.

5. Adjustments: Externals

55. External delays are not entirely within NR’s control, although it can take actions to make them less likely and to mitigate their impact. However, if the underlying trend that causes external delays increases then, even with improved mitigation and service recovery, these delays could increase. This is particularly the case in respect of delays caused by trespass and suicide and cable theft which constitute the majority of external delays.

Fatalities and trespass instances

56. Nationally, the number of suicides has been increasing, with possible driving factors including the economic conditions since 2007-08, increased homelessness and indebtedness in the UK and changes to health and welfare legislation. Suicides on the rail network have followed a similar trend with the number of suicides and delay minutes attributed to them in 2013-14 increasing compared to the previous year. The total number of suicides/suspected suicides in 2013-14 was 277, a 16% increase on 2012-13. The 2013-14 figure is the highest since the Suicide Prevention Programme began in 2010, but the proportion taking their lives on the rail network remains around 4%. There has been positive combined work between specialist teams in NR, Samaritans, the British Transport Police (BTP) and TOCs to tackle the issue.
57. We acknowledge the extensive training scheme that has been provided to front line staff to aid in identifying vulnerable persons as well as a sympathetically targeted poster campaign to raise awareness. We are aware of numerous anecdotal reports of staff intervening with vulnerable persons and moving them away from immediate danger.

Cable theft

58. In its CP4 performance assessment, NR stated that its cable theft programme was successful, reducing delays compared to the lead indicator of the value of scrap copper.
59. In 2013-14, the price of copper and hence the profitability for thieves increased significantly causing increases in the level of metal theft nationally. Despite this, national delays caused

by vandalism and theft reduced by 38.8% and there has been real evidence that NR has risen to the challenge of cable theft. Practical measures, such as the introduction of land sheriffs in the LSE sector, have combined well with good media campaigns about cable theft and lobbying for changes in legislation regarding scrap metal sales.

60. Generally, the TOCs that we spoke to are positive about NR's progress with cable theft. They highlighted partnerships in relation to media and advertising materials being displayed on trains and at stations, and a real effort by NR to use physical measures such as cable burying and smart water.

61. In light of the underlying base level increase in these external delay causes, we propose to exclude the PPM impact of 50% of externally caused delay minutes over target. We recognise the positive steps NR has taken to reduce their impact, but mitigation of these events and the management of the disruption they cause is remains NR's responsibility.

6. Summary of Adjustments

62. The table below identifies the PPM value of each adjustment:

	Actual 2013-14 PPM MAA	Weather adjustment	Externals adjustment	TOC on self adjustment	Adjusted 2013-14 PPM MAA
LD	86.9 %	1.1pp	0.2pp	0.3pp	88.5%
LSE	89.6 %	1.5pp	0.2pp	0.0pp	91.4%
Regional	91.0 %	0.1pp	0.0pp	1.0pp	92.2%

Table 7 – summary of all adjustments

63. The table below contains a summary of the final variance to targets in all sectors once all adjustments have been applied.

	Target PPM MAA	Actual PPM MAA	Variance	Adjusted PPM MAA	Final adjusted variance to target
LD	92.0%	86.9%	-5.1pp	88.5%	-3.5pp
LSE	93.0%	89.6%	-3.4pp	91.4%	-1.6pp
Regional	92.0%	91.0%	-1.0pp	92.2%	0.2pp

Table 8 – summary of final adjusted PPM MAA

64. To summarise, once all adjustments have been applied we believe that NR still missed its PPM targets in the LD and LSE sectors by 3.5pp and 1.6pp respectively.

65. Further, we are satisfied that after adjustment, the Regional sector surpassed its target for PPM MAA by 0.2pp.

Part D - Passenger Satisfaction

66. It is important that we take statistically significant declines in passenger satisfaction into account when considering the impact of NR's failure to achieve regulated performance targets has had on passengers.

67. An important measure of how performance affects passengers across the sector is the National Rail Passenger Survey (NRPS). We considered the autumn 2013 results in relation to all sectors:

1. The Long Distance Sector

68. The NRPS showed that the proportion of passengers travelling in the LD sector who were satisfied or good overall was 88%. This was not statistically significantly different compared to autumn 2012 (when 89% were satisfied).

69. However, satisfaction with train punctuality/reliability was statistically significantly lower than for the same time last year, (autumn 2012) and had fallen by 3% to 84%, ending the steady upward trend that has occurred over the last few years. This sudden downward progression helped to reinforce our decision to formally investigate performance in NR's LD sector.

2. The LSE Sector

70. In the LSE sector, overall satisfaction with train punctuality/reliability showed a longer term gradual upward trend. However, overall satisfaction was at 82% in autumn 2013 results, which was the lowest autumn score since autumn 2009 and a statistically significant decline (down 3%) since the autumn 2012 survey.

71. Satisfaction with train punctuality/reliability in the LSE sector was 78%, which was the lowest score in an autumn wave since autumn 2007 and 5% lower than the autumn 2012 (a statistically significant decline).

3. The Regional Sector

72. Overall satisfaction in the Regional sector in the autumn 2013 results was 84%, which was two percentage points lower than the autumn 2012 results. This was not a statistically significant decline.

73. Satisfaction with train punctuality/reliability in the Regional sector was 82%, a 1% decrease compared to the previous autumn wave and the lowest in an autumn survey since 2007. This was not a statistically significant decline.

Part E - NR Evidence & ORR Assessment

74. NR set out in its 2013-14 Quarter 4 (Q4) report (annex E), and accompanying correspondence, that it accepts responsibility for its part in non-delivery of performance outputs in CP4. NR stated that, whilst some of the reasons why targets were missed were beyond their control, they would accept that they failed in four key areas, namely:

- Asset failures – whilst the number of asset failures fell significantly over CP4, in some areas it did not fall by as much as NR had assumed at the start of the control period. NR further accepts that even the improvement which they had targeted would have been insufficient;
- Extreme weather - whilst the country experienced a series of extreme weather situations in the last few years, NR accepts that it was its responsibility to manage its assets sustainably and to work with operators to mitigate the impact of such external events on rail users;
- Traffic growth – Which was relatively flat in 2013-14 and lower than the forecast in the LDRP. NR accept that it is its responsibility to find solutions which enable them to collectively respond to this opportunity in a way which does not unduly compromise performance; and
- Under-delivery – NR further accept the under-delivery of benefits assumed in its performance plans.

75. We took into consideration NR's above admissions and analysed them across all sectors to see if they should have done better in order to achieve their regulated targets. We also considered other areas which could have affected performance. Our analysis of all factors is outlined below.

1. Delivery of the LDRP, LSEP and Regional Recovery Plan

Base + and Base ++

76. In order to establish if NR delivered the Base+ and Base++ activities in the recovery plans we tasked an Independent reporter (IR) to review NR's delivery of its committed actions. *(Full report provided in annex B)*

77. The IR found that the number of Base+ and Base++ schemes reported in NR's IPAT monitoring tool increased significantly in the last few months of 2012-13, as well as in Q2 and Q3 of 2013-14. The IR stated that in his opinion this is indicative of NR adjusting performance plans to reflect changing circumstances.

78. The IR noted that by the start of 2013-14 the PPM MAA forecasts for the end of CP4 were being reported in the quarterly reports as likely to miss the regulatory outputs. The IR also noted that the increase in performance plans by NR during this period was considerably less than was required to close the widening gap between an emerging PPM MAA and the regulated outputs. This suggests that NR were unable to develop Base + and Base ++ initiatives quickly enough to close the gap.

79. The IR are also noted that delivery of milestone plans for the Base+ and Base++ programmes was routinely reported, and identified significant numbers of milestones missed against plan. The IR stated that in his opinion the slipped milestones were not consistent with a well-controlled major infrastructure programme, however noted that the nature of the programmes and the pressure on NR teams to plan and deliver schemes combined to create a culture of over optimism and constant re-planning for slippage.

Base

80. The Base component of the recovery plans came in the form of the individual routes JPIPs. In 2012-13, we were made aware that there was large scale scheme withdrawal from the IPAT system, which meant that deliverables and the associated benefits were not going to be realised. We were informed by NR that this was an issue with transition to the new system and would not be repeated. We have anecdotal evidence from our discussions with TOCs, supported by the IPAT exports that we obtained through the independent reporter to suggest that in actual fact the issue continued into 2013-14, albeit to a lesser extent.

81. We identified large scale scheme withdrawal on the Kent route, although we have been assured by the Route Performance Manager that the reasons for this are that Kent archived all historically complete schemes in IPAT in this period, which may have made it appear that schemes were abandoned. We are unable to determine if this happened elsewhere.

82. When we look at NR's IPAT exports for each quarter of 2013-14, we see that the original volume of schemes intended to be delivered in period one of this year exceeds the number of actual schemes delivered in period one, although we also note that many schemes were delivered downstream of this time, possibly because they had been delayed by other factors. Therefore this does not suggest schemes have been withdrawn, but rather that they have been delayed. When we consider the IPAT exports cumulatively we see that significantly fewer schemes were delivered in the early part of 2013-14 than was intended. Consequentially, benefit realisation would not occur and the intended performance trajectory would not be attained. We acknowledge that more schemes will deliver them as planned towards the end of the year. We also observed a large volume of schemes intended to be delivered in period one of 2013-14, it looks somewhat unusual that this should be the case, and raises questions over NR's programme management of performance.

83. The charts overleaf demonstrate that NR has under-delivered on the volumes of schemes that it originally put into IPAT. Chart 5 shows that once IPAT data was refreshed after period 7 of 2013/14, significantly less schemes were delivered than had been intended (the intended profile being the period 1 export) While more schemes were delivered than plan in the latter part of the year, this would not have been sufficient to bridge the emerging performance gap as the benefit delivery that was required to underpin the performance trajectory would have been delayed into the latter part of the year.

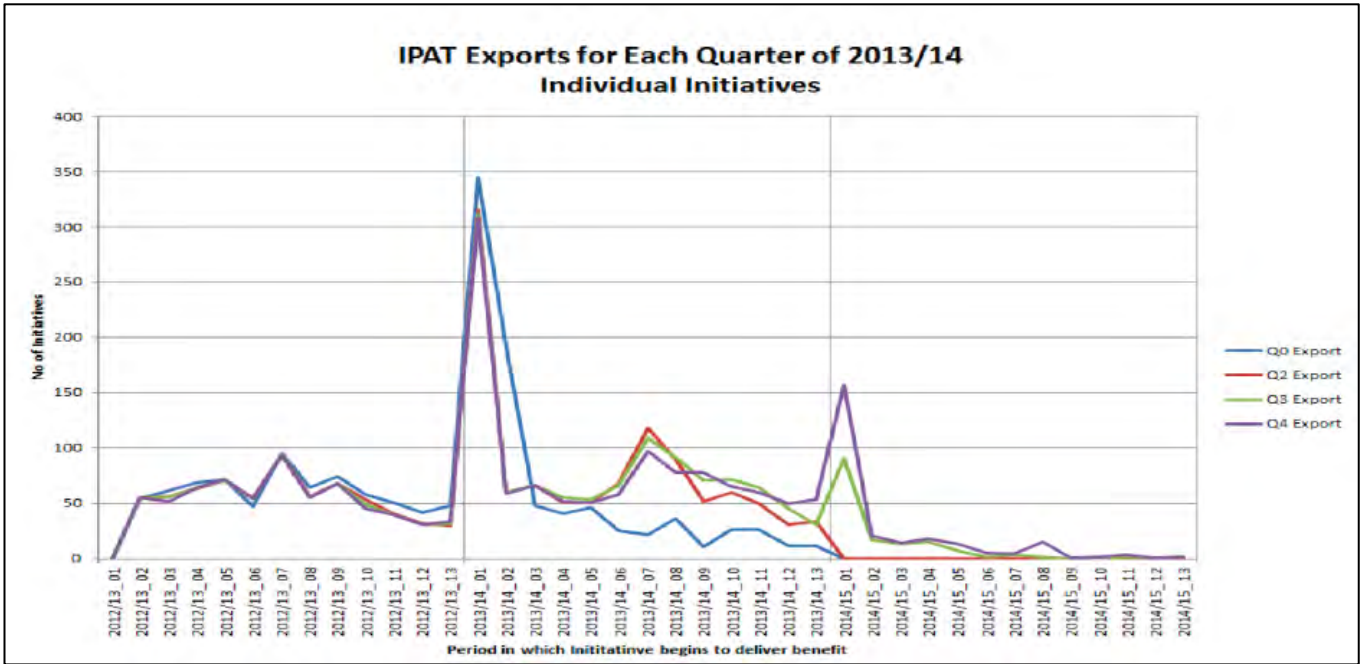


Chart 4 – CP4 IPAT exports: individual initiatives

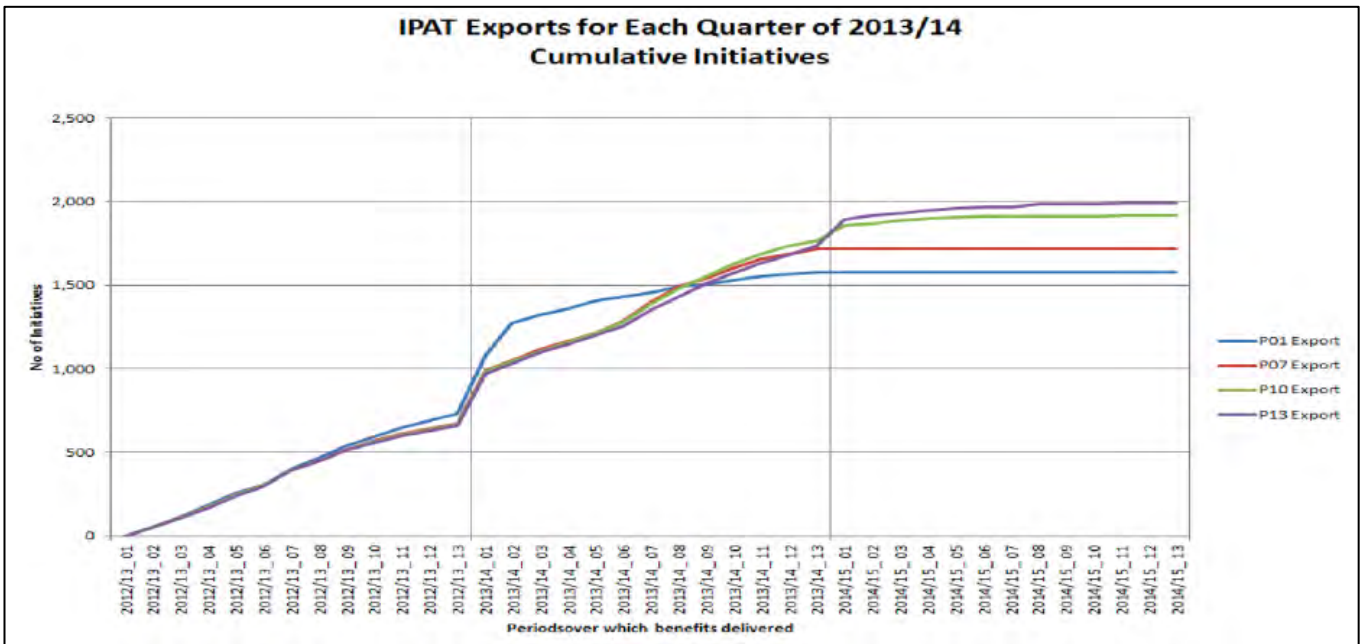


Chart 5 – CP4 IPAT exports: cumulative initiatives

Our Assessment

84. We acknowledge that scheme benefit definition is a challenging and complex matter, and even the most experienced performance analyst will struggle to accurately forecast scheme benefits. We have evidence to suggest that in some cases delay minute benefits were exaggerated beyond what was practical to deliver, this when combined with the large number of slipped milestones, points to NR inadequately managing its performance processes. The abandonment of the JPIP approach in favour of the introduction of PPRP will not have helped to resolve these issues, although it goes somewhere towards focussing NR's performance planning on meaningful outputs rather than delay minutes

which, while probably the best measure to use for scheme definition, are unreliable when converted to a PPM figure.

2. Performance planning

85. It is clear from Charts 6 and 7 below that in both the LD and LSE sectors the PPM MAA regulated target trajectory and the bottom up JPIP target started to diverge through 2011-12, meaning that the bottom up target was not aligned with the regulated outputs.

Performance target setting in the LD sector

86. The chart below demonstrates the targets diverging in the LD sector in the last few months of 2011-12. This meant that there was nearly a 2pp gap between the regulated target and the bottom up target at the start of 2012-13. This gap peaked at the beginning of 2013-14 industry year with a shortfall of approximately 4.5pp and by the end of the control period this gap was 2.9pp.

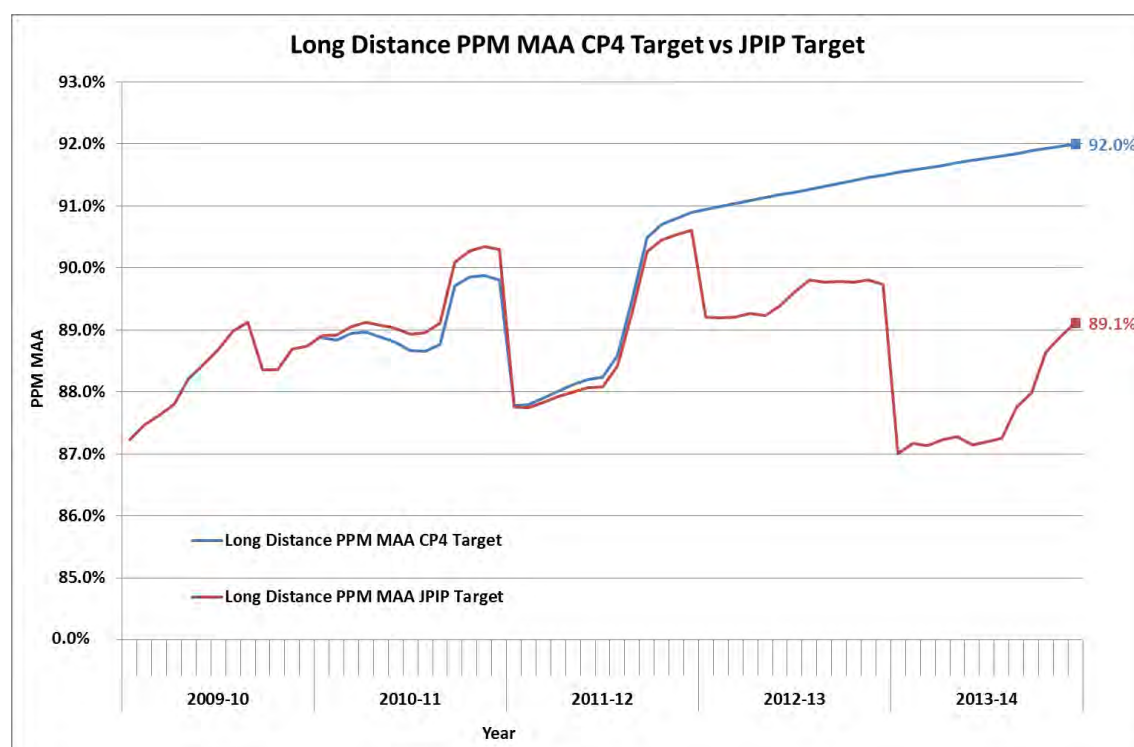


Chart 6 – LD PPM to JPIP targets

87. We recognise that route performance teams and their TOC customers have a difficult challenge with JPIP planning in that top down targets do not always align with bottom up plans, but where a deliberately lowered target impacts on a sector or national output, it would be fair to expect NR to centrally find a way to compensate for this, either through a suite of centrally driven actions, or by ensuring other routes and operators can aim for a stretch target to offset the difference. While we acknowledge that the sector plans were intended to bridge this shortfall, both started to deliver after the decision was made to deflate the JPIP targets at a route level.

88. For instance, in 2013-14 Virgin Trains and NR agreed a JPIP target of 86.6% which was 4.3pp short of the Long Term Performance Plan (LTPP) commitment of 90.9%. Virgin constitute approximately 20% of the LD sector, therefore this decision to lower the target,

cost the LD sector 0.86pp off its PPM MAA at the end of CP4. Whilst we recognise that some operators may not perform as expected against the LTPP, where a shortfall is predicted, we expect NR to offset this by a plan to deliver better than predicted performance elsewhere.

Performance target setting in the LSE sector

89. The chart below demonstrates that in the LSE sector the divergence started at a similar time to the LD sector, and the gap at the beginning of 2012-13 was approximately 0.7pp. Similarly to the LD sector, the gap was at its largest at the beginning of 2013-14, where it was 1.7pp. Given that the LSEP was not deployed until mid-way through 2012-13, there is half a year of gap before the LSEP started to bridge the shortfall.

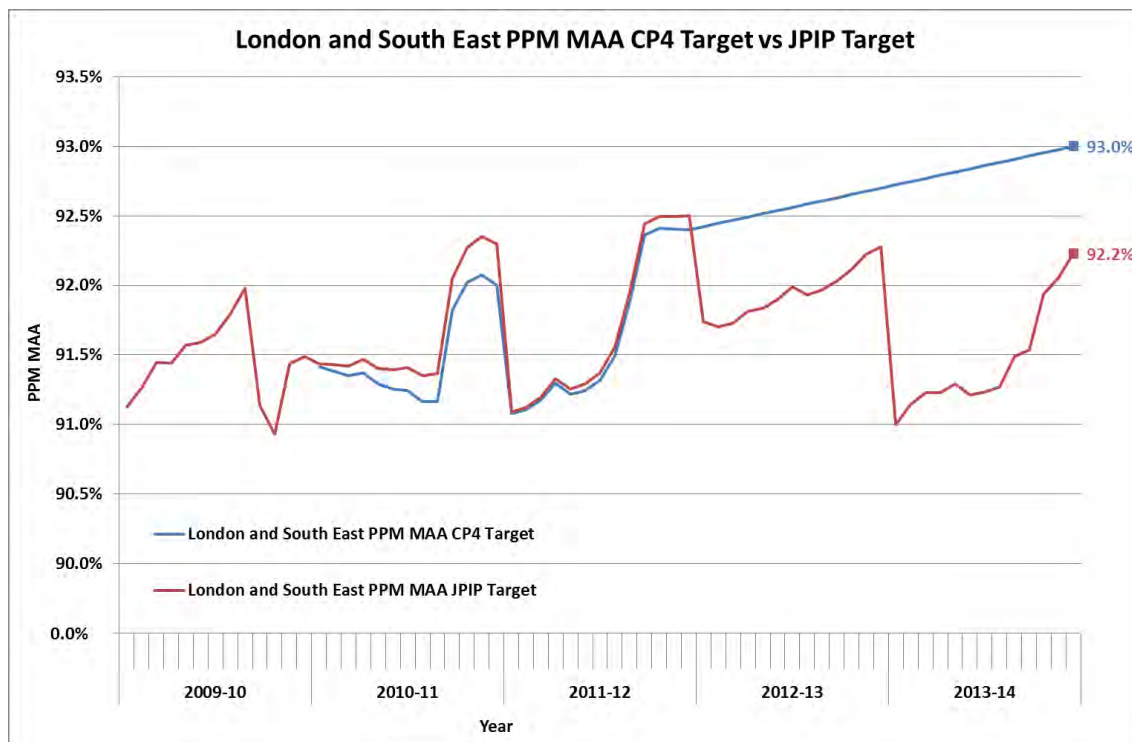


Chart 7 – LSE PPM to JPIP targets

90. The last year of CP4 showed that a significant upward trajectory was required at JPIP level to close the gap between the planned position at the end of the previous year and the regulated outputs. This meant the sector needed to improve its PPM MAA by 2pp in this final year in order to attain its regulated outputs.

91. The sum of the JPIPs for this sector did not total the required 2pp improvement but rather set a 1.2pp improvement at JPIP level meaning the targets set were 0.8pp worse than regulatory target.

Performance target setting in the regional sector

92. In comparison to the LD and LSE sectors, the regional sector target did not have such a wide divergence. This could account for the reason why the PPM MAA in this sector turned out closer to target.

93. The chart below shows the PPM and JPIP targets in the regional sector:

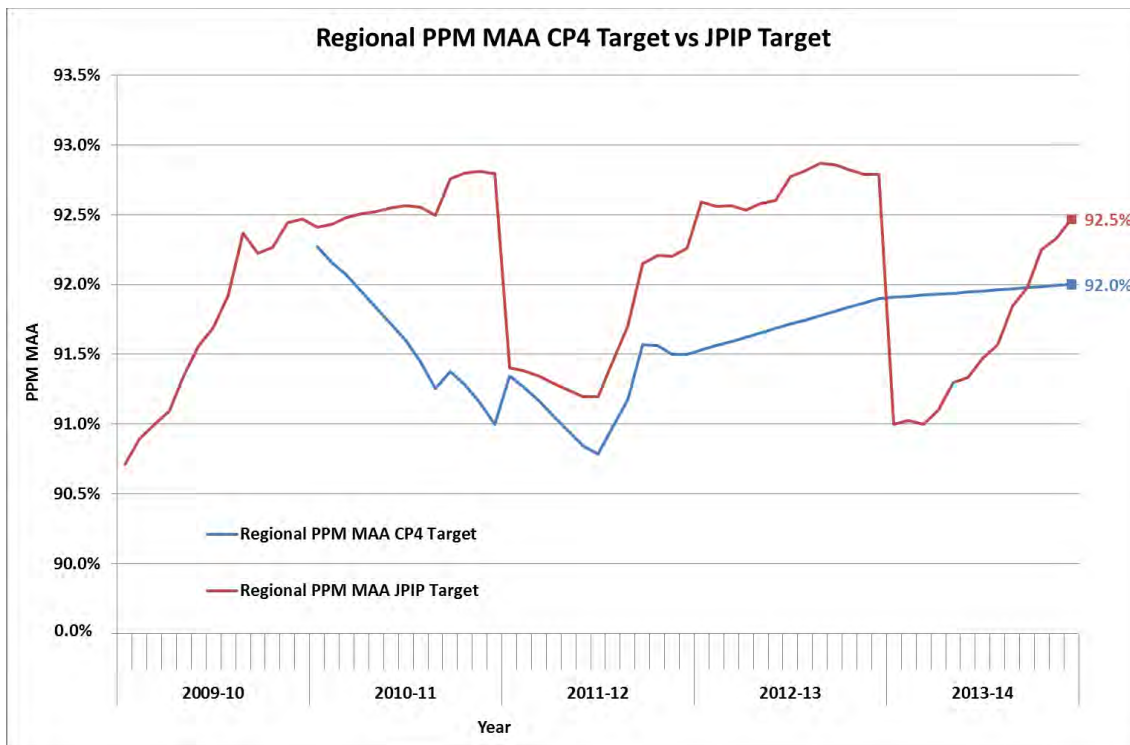


Chart 8 – Regional PPM to JPIP targets

Impact, slippage and removal of JPIP initiatives

94. We received a sample of iPAT data from NR regarding its JPIP schemes from the last year of CP4. The sample contains 348 scheme items, of which 61 were shown to have slipped in delivery (circa 17.5%) and 26 (circa 7.6%) were entered into retrospectively.

95. The schemes that were included in the sample supplied by NR have a range of benefits. We note that the schemes with the largest impact to the network were those with a sizable negative impact. The majority of these schemes were entered into retrospectively, which would suggest that NR was trying to identify shortfalls in meeting performance targets.

96. Schemes that have slipped have since, in the sample, delivered in excess of 40,000 minutes in savings to the network. While we believe that this is an impressive figure, it does leave a challenge to NR regarding lost savings in project over runs.

Benefit forecasting and realisation

97. The main metric used to determine the benefit of a scheme is delay minutes. The challenge is that delay minutes are an impact measure and not truly reflective of the benefits a scheme has delivered. This means that most performance scheme benefits are assessed using the best professional judgement of the responsible performance manager.

98. Once the scheme is committed to and the benefit has been determined, work will progress to deliver the scheme. After delivery there is very little review to determine if the defined benefit was actually delivered. Normal practice is that an assumption is made that if the scheme has been delivered on time and to specification, the benefits will be delivered over the following

13 periods. The main reason for this is that it is actually very hard to determine if the scheme benefit was realised in delay minutes currency.

99. The risk with this approach is that if the delay minutes benefit forecasting was in any way incorrect, there will be a shortfall between actual delay minutes associated with the scheme improvement and the reported delay minutes benefit. This is impossible to measure.
100. NR identified and addressed some of the performance planning deficiencies with its Performance Planning Reform Programme (PPRP). However it should be noted that PPRP does not address the full range of concerns captured in this evidence report.
101. PPRP gives NR a new way to measure performance impact by themes. It does not however address the problems surrounding benefit definition and realisation as benefits still have to be worked up by using best professional judgement.
102. Furthermore schemes are still action tracked in the iPAT system and there is evidence to suggest that despite NR assuring us that there would be no further large-scale removal of performance schemes after iPAT was implemented, this practice is still taking place and schemes are being removed from iPAT with no successor scheme being delivered to deliver the shortfall in benefits.

Our assessment

103. There could be many explanations for target setting anomalies, however what is clear is that in both the LD and LSE sectors the bottom up plans that the routes devised and the associated targets they agreed to with their operators, did not total the regulated outputs for performance.
104. It is evident that NR has not created bottom up performance improvement plans to meet the regulated outputs, and „planned to fail“ to hit the CP4 targets. This coupled with the large scale removal of schemes means that the bottom up targets will never be attained. NR does not appear to have any process to review delivery of a scheme to ascertain if benefits were realised, as such, the ability to continuously review and update the forecasting approaches that route performance teams use is absent. More could have been done in these areas to produce a better performance return. We note that NR and the operators have agreed to abandon the JPIP planning process in favour of the PPRP for CP5.
105. Further, it is clear that correctly forecasting the benefit of a performance improvement scheme is a difficult challenge, however we believe that this is an area where NR does not yet have a mature capability.

3. Train planning delays

106. Train Planning delays continue to be worse than plan, and at the end of period 13 national train planning delays were 5.6% worse than the same point last year and 18.1% worse than JPIP target. Further, train planning delays were worse at the exit of CP4 than they were at the beginning.

107. The chart below shows the train planning delays across all sectors in CP4:

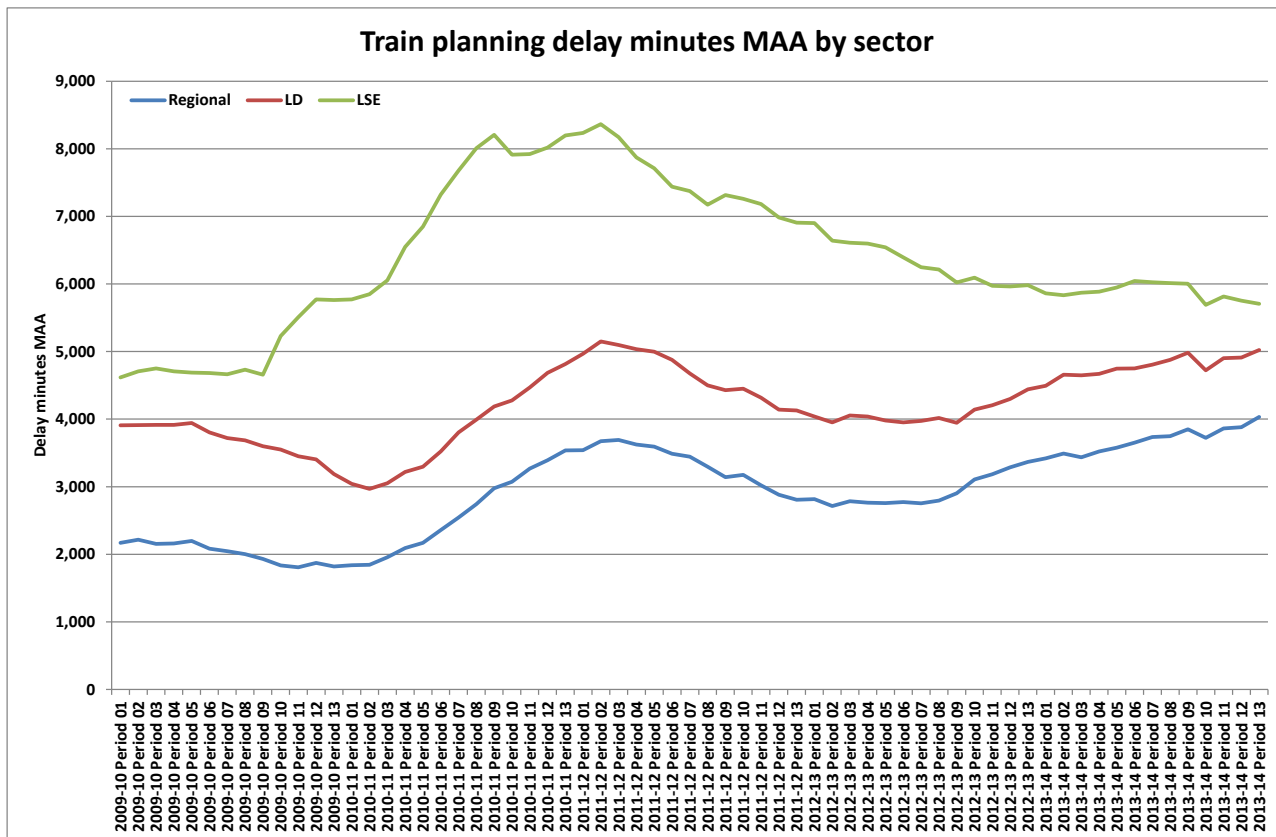


Chart 9 – Train planning delay minutes in all sectors

The table below summarises train planning delays by sector for each year of CP4.

Train planning delays	2009-10	2010-11	2011-12	2012-13	2013-14
LD	41,439	62,586	53,650	57,735	65,276
LSE	74,895	106,568	89,809	77,772	74,177
Regional	23,651	45,967	36,477	43,773	52,416

Table 12 – train planning delay minutes per sector in CP4

Train planning delay minutes in the LD sector

108. Train planning delays account for 3.0% of all LD sector NR caused delays and at the end of 2013-14 these delays were 13.1% worse than the previous year.

109. Train planning delays for East Coast, Transpennine Express and CrossCountry were all worse than last year at the end of 2013-14.

Train planning delay minutes in the LSE sector

110. Train planning delays account for 2.1% of all LSE sector NR caused delays and at the end of 2013-14 train planning caused delays were 4.6% better than last year.

111. Train planning delays for First Capital Connect (FCC) finished the year 20.3% worse than they were at the end of last year. All other operators in the LSE sector, except London Overground, showed an improvement in the train planning caused delays compared to the previous year.

Train planning delay minutes in the Regional sector

112. Train planning delays account for 2.9% of all Regional sector NR caused delays and at the end of 2013-14 train planning caused delays were 19.7% worse than last year.

113. Delays caused by train planning in this sector were predominantly NR on Northern Rail, who had encountered a 37.8% increase in train planning delays over the last year. East Midlands Trains also showed a 27.1% increase in train planning caused delays compared to the previous year.

Our assessment

114. Train planning delays continued to worsen over CP4. The pivotal incline in minutes appears to align with the introduction of the Integrated Train Planning System (ITPS) and the centralisation of the function to Milton Keynes in 2010.

115. Following discussions with TOCs, they have all shared the same view that centralisation of train planning at Milton Keynes caused many of the problems that are still causing delays, with loss of knowledge cited as causing many of the issues.

116. At the quarterly ORR and Operations Planning meeting, NR said that in order to improve the position of train planning delay minutes, the company was developing the competence of the train planning team and also developing new recruitment and retention strategies that would lead to a more stable workforce as well as introducing lean principles to improve quality. We have yet to receive this.

117. Following a further meeting with NR on 22nd January 2014, we had sight of strategies which will be employed to reduce train planning delays. The output of this meeting remains inconclusive as schemes that were presented on were lacking in substantive improvement drives of how performance will be delivered.

118. It is quite apparent that the increased numbers of train planning delay minutes has had a notable performance impact throughout CP4 in all sectors. The failure to properly implement ITPS, coupled with the wholly predictable loss in experience when NR's Paddington and Leeds train planning units moved to Milton Keynes were the two major contributory factors in this and NR acted too late to resolve the situation.

119. The reduction in train planning delays in the LSE sector indicates that NR has the capability to reduce train planning delays for the majority of its operators, but has been unable to translate this local success to the LD and Regional sectors.

4. Impact of Major Projects

120. The major projects which took place in CP4 will have had an impact on the operational capability of the railway

Remodelling at Reading

121. The remodelling work at Reading reduced the available infrastructure throughout the station, meaning that reactionary delay in this area would in all likelihood increase outside of normal proportion in the event of an incident in the Reading area. Furthermore we are also aware that during times of major construction work at Reading, the train service specification has had to be changed to accommodate the work. The change to specification caused an alteration of the workload for signallers, train crew, and rolling stock, which as a result might have caused diagrams to be amended. Signaller's simplifiers also needed to have been changed. All of these issues potentially caused delay in the LSE and LD sectors.

Birmingham New Street Gateway

122. Birmingham Gateway has also had a severe impact on services in the LD and regional sectors. The removal of one platform at any one time at the station to allow for platform modifications to take place for the new station above it reduced operational flexibility means, which meant that at times of disruption, signallers had reduced infrastructure to use and consequentially they could be more reactionary delays when problems arose in the Birmingham area.
123. Birmingham Gateway has also had an impact with station access for passengers and train crew. One TOC highlighted to us that at Christmas 2013, during a particularly busy period on the station, NR implemented an exit only operation at the station. Unfortunately this meant that customers were unable to make booked trains, and we have anecdotal evidence that in some cases train crew were unable to get to trains they were meant to be working on or travelling on as passengers.
124. We are also aware that train crew mess facilities in Birmingham New Street Station have had to be relocated and, in the case of London Midland, at very short notice. The result was that London Midland had to release their local union representatives to attend meetings on changed working practices associated with this move, causing a direct number of cancelled services. We are also aware that London Midland's train crew, having been located off site, were using working diagrams that were no longer valid. This had an impact in the number of cancellations London Midland suffered and also affected the reactionary delay to incidents irrespective of the initial cause.

Crossrail & the Thameslink project

125. Work on Crossrail and the Thameslink project predominantly affected the LSE sector. We have observed a number of possession overruns associated with the Thameslink project, which occurred for varying reasons. TOCs have expressed concerns that there was a lack of available resource, especially in signal testing disciplines. We have had examples highlighted to us of both Crossrail and Thameslink possession overruns, which were caused by a shortage of trained signal testers.

Our Assessment

126. In some cases possession overruns have caused large-scale disruption for the TOCs to manage, and the customers to endure. However it is unclear if the data is recorded accurately following problems with major projects. Reduced operational capacity at London Bridge or Birmingham new Street or for that matter Reading, will only result in reactionary delays to Key Performance Indicators (KPIs) associated with the root cause incident.

127. However, it is obvious that despite the need to carry out the work and to enhance the railway in line with NR's delivery plan, there are examples where these works have been managed inadequately. This has resulted in unnecessary delays and disruption to passengers across the network. Furthermore, reduced capacity in key locations will increase reactionary delay, but will not be demonstrated as a product of the project they are associated with.

5. Engineering Access and Possession Overruns

Delay minutes caused by engineering access and possession overruns

128. Engineering access to the railway has close ties to the timetable availability, knowledge of the planners and the challenge of completing all designated work in the time available to prevent possession over runs.

129. The chart below shows that the delay minutes for possession over-runs and related faults have been on an upward trend since period 7 in 2012-13. This peaked at just over 20,000 minutes in period 9 in 2013-14. However since then, the delay minutes MAA has decreased slightly, finishing the year at 19,729. The incident count followed a similar trend, but ended the year at 247, the same peak value seen in period 8 in 2013-14. Other possession related delays data showed a similar trend for delay minutes and the incident count.

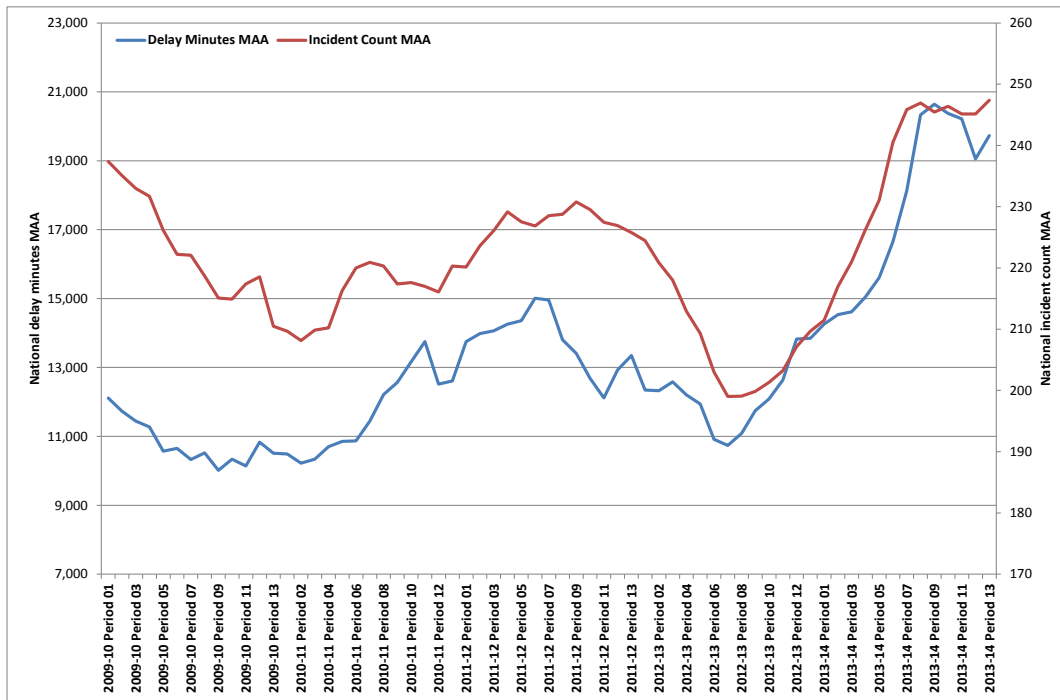


Chart 10 – National possession overruns and related faults delay minutes and incident count MAA

130. At the end of 2013-14, national delay minutes associated with possession over-runs and related faults totalled 256,483, 42.5% higher than last year. All three sectors also saw an increase in the number of delay minutes associated with possessions over-runs and related faults during the same time frame. Similarly, the incident count for this category had also increased but at a lower rate of 18.0%.

Our assessment

131. In Q2, NR said that following a number of possessions overruns during the quarter, which caused significant delays, routes were now collaborating with Infrastructure Projects on possession management. NR said that this should help improve and develop governance arrangements for work content with the aim of completing possessions on time.¹ NR added that it should be noted that a number of renewal projects were scheduled to take place at the end of CP4, with a 55% increase in worksites for this year compared to last year. It also said that a new governance arrangement was being introduced, which would do two things:

- Apply a cut-off point a week in advance of a possession, in order to check the content of the work programme; and
- Establish a last robust point, from which any over running work can be curtailed to allow the possession to finish on time.²

132. When reviewing the evidence supplied by NR and other sources, the steps taken to reduce possession over-runs seems to not have been as effective as first hoped. We are aware that during Q3 there were several large incidents that caused large amounts of delay to the

¹ Q2 progress report 4th para of executive summary

² Q2 progress report, p22-23, section 6.2 possession overruns.

network³. However, the mitigating steps to reverse the sharp MAA upward trend are not mentioned in the Q3 report, in addition to the governance measures stated in Q2 not being quantified.

133. We also have anecdotal evidence from TOCs that NR's National Delivery Service (NDS) function could better support the route in terms of resource planning and availability. An example being that the Cardiff Area Re-signalling project required every ballast wagon in the network for one weekend. This does not appear to be robust resource planning as other projects would be impacted by this resource intense project.
134. The most notable impact of possession over-runs during CP4 is the increase in delay minutes MAA. This increase would suggest the possession management in areas of high traffic intensity on the network requires more attention.

6. Performance fund and initiatives in 2013-14

Assessment of additional performance funding

135. In 2013, NR established a new performance fund to help close the gap between current performance and its regulated targets. At the end of September 2013, (which was midway through period 7) of the £50m allocated, NR had only allocated just over £15m to thirty initiatives, which had an estimated delay saving of over 80,000 minutes.
136. Further schemes funded directly by the routes are not reported to us, but we have examples of where this has happened, such as London and North Eastern (LNE) making a case for a £15m spend focussed on reliability and punctuality on the East Coast Mainline (ECML). This funding was not part of the central performance funds and as such is not recorded here.
137. While we recognise that NR has spent money to improve performance, we are not convinced that it has done this as effectively as hoped.
138. Despite assigning unspent seven day railway funds into a new performance fund in the middle of 2013, in early August of that year NR asked if they could roll over this new performance fund into CP5. Our answer to this was no as we expected to see NR spend this money with the industry to improve performance in CP4.⁴
139. Furthermore, we set NR a deadline of 30th September 2013 to inform us how they would spend the £50 million performance fund. NR failed to spend the money by this date citing issues in its accounts department. Had NR acted faster, this money could have made a difference, and reduced the PPM shortfall across the industry as schemes and their associated benefits would have been realised earlier.
140. We spoke to the TOCs to get their views on how the new performance fund was allocated. Most felt that NR had not been transparent with the allocation of the funds, and gave examples of schemes that were declined because NR stated that it would not meet the required criteria, without explaining what the required criteria was before accepting bids.

³ Q3 London Bridge and Sussex overruns.

⁴ Annex 4 - Letter to John Thompson dated 15/8/13.

141. While large sums of money from performance funds have been spent on the West Coast Mainline (WCML) and LSE asset improvements, the transparency of what was actually purchased and installed with these delegated authorities was sometimes unclear.
142. The WCML improvements came about following the secondment of Chris Gibb from Virgin Trains to NR, when the secondee made a series of recommendations, some of which were funded and managed to delivery by NR. When we met the programme manager for the WCML projects, we considered that the works NR had decided to pursue were handled very well. One significantly impressive piece of work was the overhead line equipment improvement project being carried out by technicians from Siemens power lines. However, we did not get the same amount of transparency from the LSE asset improvement programmes and therefore cannot judge if this money was properly utilised.
143. The table below shows the allocation of performance funds implemented on different sectors:

Spend in 2013-14 overall	£174m
LSE funding (which provided benefits across sectors)	£79m
Other funding:	
LD	£31m
LSE	£45m
Regional	£19m

Table 13 – allocation of performance funds

Our assessment

144. While there is no doubt that NR spend well in excess of what we expected to improve performance in 2013-14, we have doubts that it was spent in a well-managed manner. TOCs have informed us that there was little transparency of how money was spent and what qualifying criteria applied to bids from the new performance fund which led to suspicions that the funding was allocated in an arbitrary manner. We also feel that NR could have better profiled the spend in a consistent manner, rather than rushing to spend (particularly the new performance fund) in the final months of CP4.
145. In reviewing NR's performance we need to consider performance over 2013-14 in the context of issues raised earlier in the control period, which placed NR in a catch-up position. This is because severe weather events and increased passenger demand made NR's ability to recover performance more difficult.

7. Asset Management Excellence Model (AMEM) Assessment

146. Preliminary results have been produced for the AMEM assessment which shows that NR has achieved two of its „Roadmap Targets“ agreed between the joint boards. Of the remaining areas: three are within 2pp of the target, and for „Competence and Training“ the gap was greater than 2pp, although this was a relatively advanced area overall. We acknowledge that NR significantly closed the gap in key areas such as Asset Knowledge which did make a late start in CP4 and we are only now beginning to see positive signs with the introduction of Linear Asset Decisions Support (LADS) and other improvements which will enable NR to better predict faults. It should be recognised however, that the decision support tools are in the early stages of introduction and will take some time to deliver the expected benefits through CP5. The previous incumbents leading asset information had limited expertise in this area. The Offering Rail Better Information System (ORBIS) programme is now making steady progress, but there is still a long way to go. NR achieved as much as it could over 2013-14 given the late start.
147. Equally, we have been highlighting the importance of the Reliability Centred/Risk Based Maintenance (RCM/RBM) programmes for a number of years with recommendations from the Reliability Centred Maintenance of Signalling Equipment (RoSE) study, Fault Management System (FMS) and Sussex Study, having been slow to be implemented. Preliminary findings from the current RBM study shows that the foundations are now in place, but there is still a lot more work needed before this programme delivers expected benefits. It should be emphasised that the RBM programme needs ORBIS and the data quality improvement programme to enable NR to better analyse faults modes, frequency, criticality etc. The work currently being led by NR is to be commended, but it must be emphasised that overall progress has been slow. This area is fundamental in improving performance and enabling NR to target resources appropriately, it could also have released resources to be deployed on more planned activities rather than reactive work.

Asset Stewardship Indicator

148. We can see from NR's Asset Stewardship Indicator (ASI) that for at least half of the year NR missed its targets, which contributed to delays in signalling and telecoms in particular. We were concerned about track geometry for quite some time which was on the regulatory escalator, but this has improved towards the end of the control period.

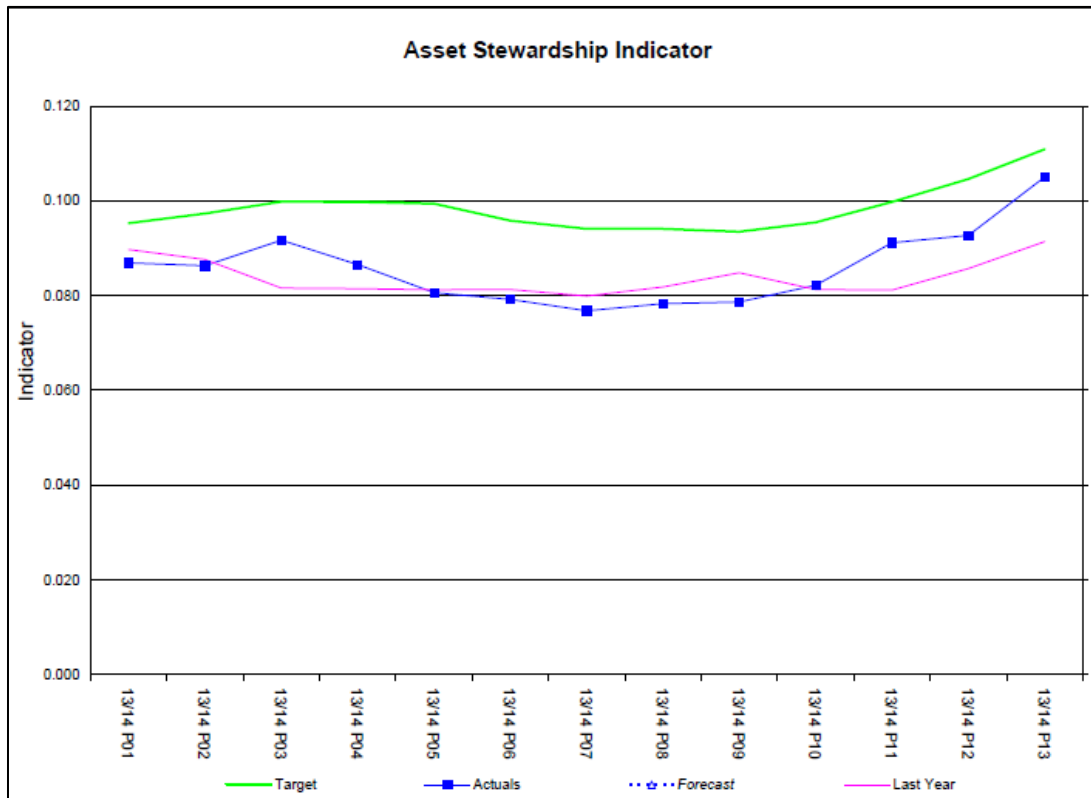


Chart 11 - Asset Stewardship Indicator

149. The chart below shows that geometry for Kent and Sussex was still below the national average, and has gradually worsened over the control period, although it appears to have improved over the last few periods. There are still issues to resolve on the rural and freight lines. NR confirmed that it missed its track geometry defects targets for CP4. The latest period 1 „Composite Reliability Index“ which replaces the ASI shows that the number of service affecting delays for track increased over 2013-14. Further, the number of track faults for Wessex and Kent had increased in 2013-14. The corresponding track fault delays increased for Kent by 25%, whereas Sussex and Wessex were on target. All other incident counts were broadly in line with targets.

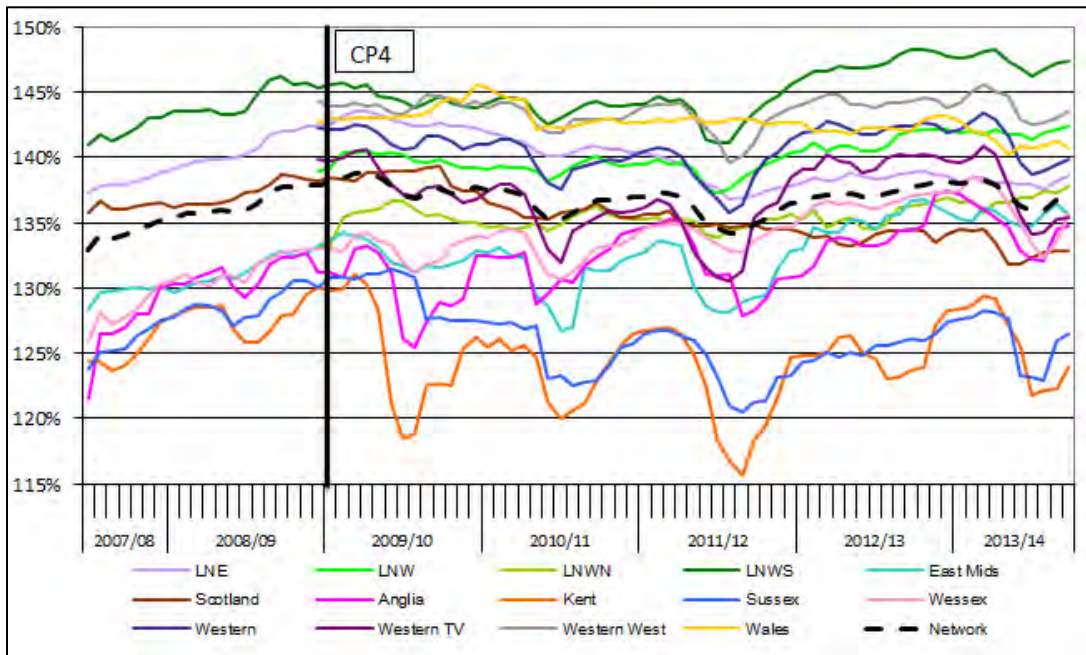


Chart 12 - Track Geometry in different routes (Source: NR – Track Geometry Presentation)

150. In 2013-14 we carried out a number of inspections. In Sussex we conducted a track inspection and found that there was good evidence to show that NR was controlling risks from poor track geometry. All other incident counts were broadly being managed given the constrained resources. Often, we have noted that short term fixes are applied due to a lack of access and other constraints but the root cause has not been addressed. We have noted that track defects across the country have been increasing and there are potential safety risks from repeat faults in particular but NR uses the Track Recording Vehicle and track inspections to pick up such faults. There is a risk arising from these faults, however this is not the most significant in terms of performance.
151. In relation to Ipswich's track assets we found that resource levels were insufficient to manage the workbank, but this was never properly bottomed out because the inspector was off with ill-health. In relation to the off-track assets we found that drainage assets did not have inspection and maintenance frequencies in Ellipse, but this apart we have no evidence of poor management of the off-track asset.
152. The chart below shows the number of incidents in relation to track and non-track assets. The actual number of incidents total for 2013-14 exceeded target but the overall trend is downwards. When track specific data only is considered, incidents had increased steadily over 2013-14:

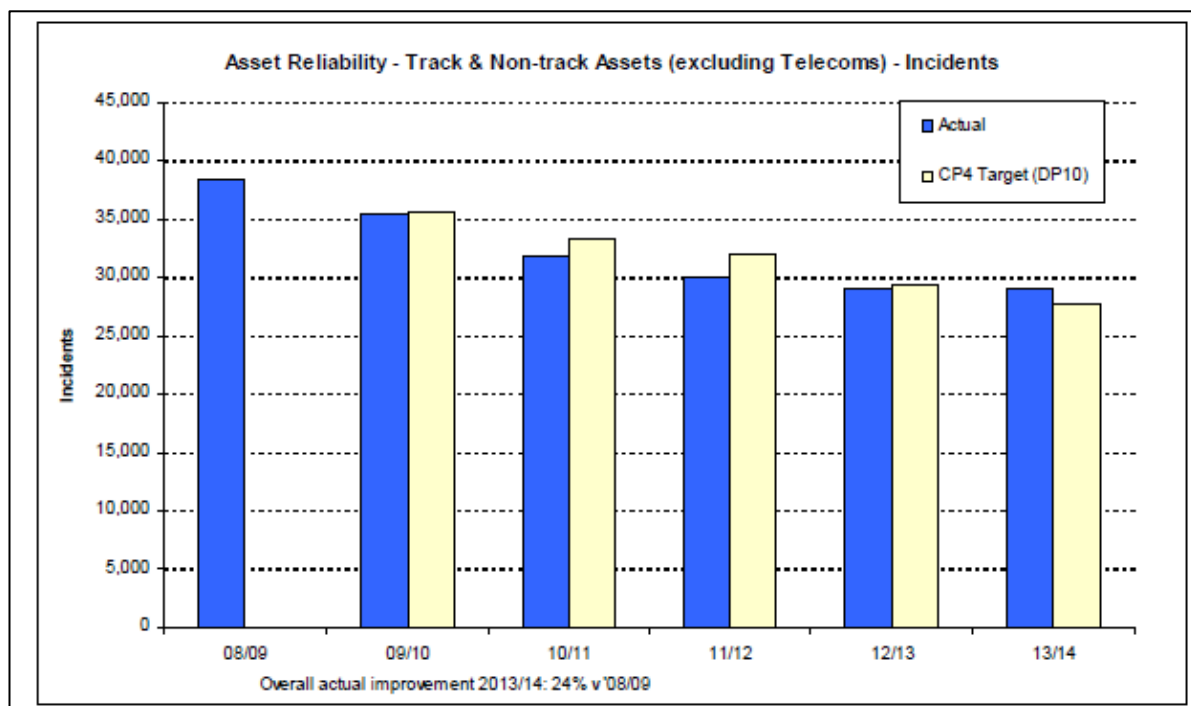


Chart 13 - asset reliability (sourced from NR's CP4 performance assessment)

153. In order to accommodate the additional traffic we believe that the recovery plans may not have taken into account asset performance and reliability requirements sufficiently to deliver the PPM requirements, taking into account criticality for example. It is also likely that timetabling was not sufficiently robust to provide recovery time from disruption and the increased dwell times at stations for example.
154. In terms of delivery of the performance recovery plans as of April 2013, 340 of the 884 base milestones had been missed. Of the base+ plans 170 out of 216 had been achieved. Throughout the year work programmes had been re-prioritised and the IR stated that there was little evidence of change control in place. It is clear that the assumed benefits were over-optimistic and insufficient work had been undertaken on deliverability of the programme. Although the IR found that the programme management was good, he also cited that the project management on the ground was variable. We believe that although the central planning team was well-intentioned, the causal links between the programmes of work and the expected benefits was not very robust.
155. The performance of Global System for Mobile Communication – Railway (GSM-R) this year has shown an increase in delay minutes of 33%. Wessex seemed to have experienced more problems than other routes. It is recognised that telecoms do not represent a significant proportion of asset overall delays. We suspect that the attribution of delay to GSM-R was poorly managed; making the figures worse than they ought to have been. There is now evidence that these problems are being brought under control.

Maintenance Delivery

156. The IR was asked to review the robustness of the maintenance delivery programme and found that generally, the amount of maintenance work delivered in 2013-14 for England and Wales had broadly exceeded the planned volume of work. However the robustness of the planning and effectiveness of the programme was not fully reviewed.

157. The chart below shows that there was a growing backlog of maintenance work items (designated as „outstanding work“). This had been steadily increasing over 2013-14 (albeit having reduced slightly in the last 2 periods) and is likely to be associated with an increase in delay minutes as a result of temporary and in some cases emergency speed restrictions (TSRs and ESRs respectively).

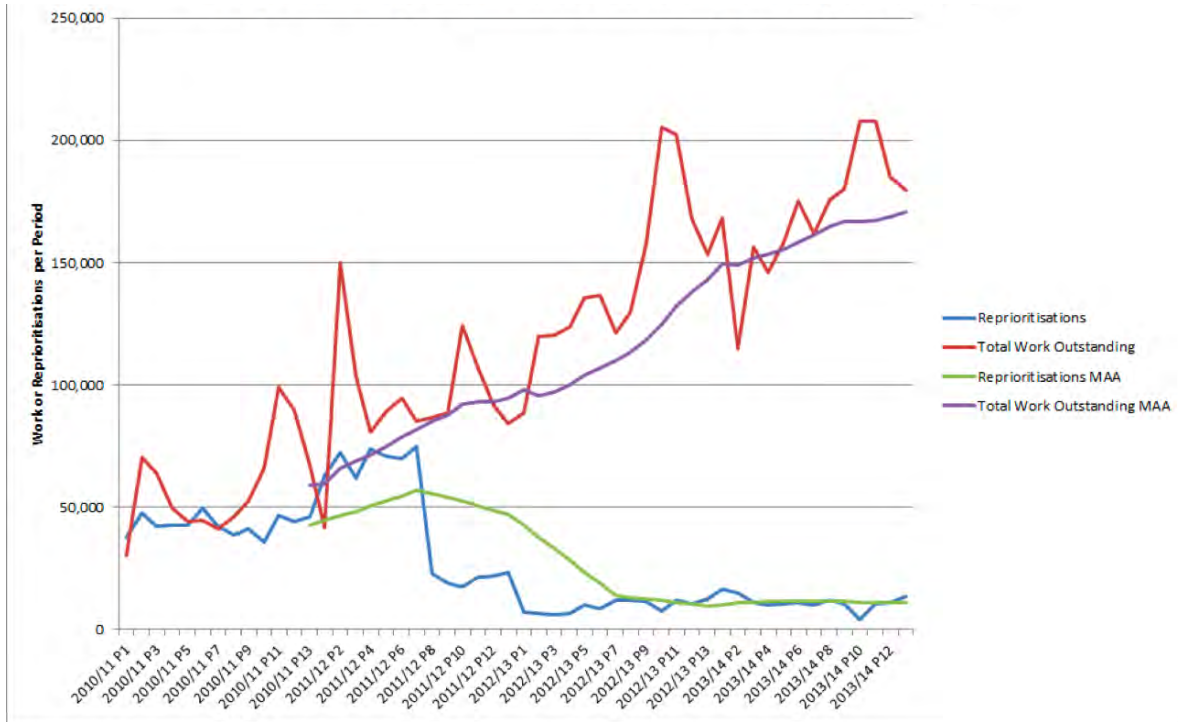


Chart 14 - Total work outstanding and reprioritisations (Source: Independent Reporter Study CN030)

158. The track maintenance graph below shows that the actual level of track maintenance work did not achieve the planned target. This tends to correspond with the increases in track defects noted previously, although only Kent had worse than expected delay minutes overall.

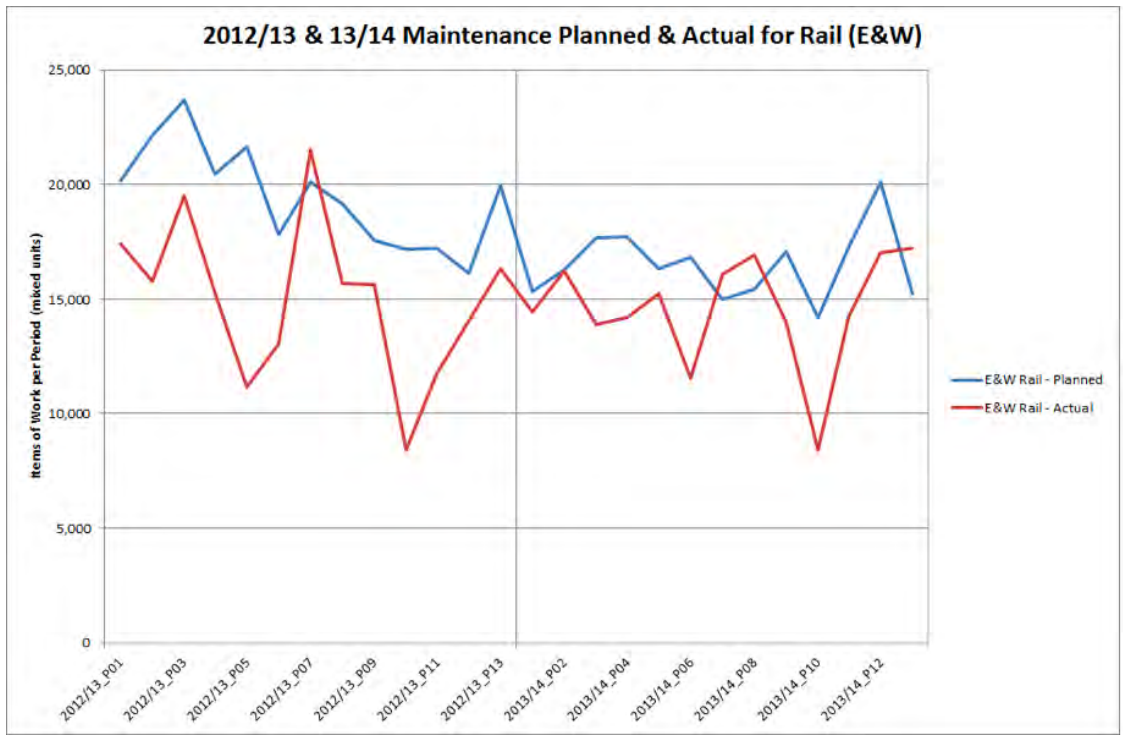


Chart 15 - Operational Analysis of Train Service Performance

159. We have concerns that NR could have done more to manage repeat twist faults. This issue resulted in an improvement notice in Scotland; however there are a number of routes nationally where performance is worse than in Scotland, as illustrated in the charts below. Scotland route analysed the reasons behind the failure to achieve an effective repair including:: Track access; TSM Workload; Staffing; Repair Method; & Resourcing.

160. We have no reason to believe that these issues are not present elsewhere in the system. It is important to note that the output of NR's work to date to address the Improvement Notice in Scotland is that resource (human, plant, access) is the issue, however we are of the opinion that the issue is about how they use the resource, rather than them having insufficient resource. It is our view that the indicators showed that NR's approach was not working and that it failed to fully understand the underlying problems until prompted by the Improvement Notice. Our investigations into the derailments at Camden and Gloucester last year also show real concerns about resourcing and assurance; our investigations into those are on-going.

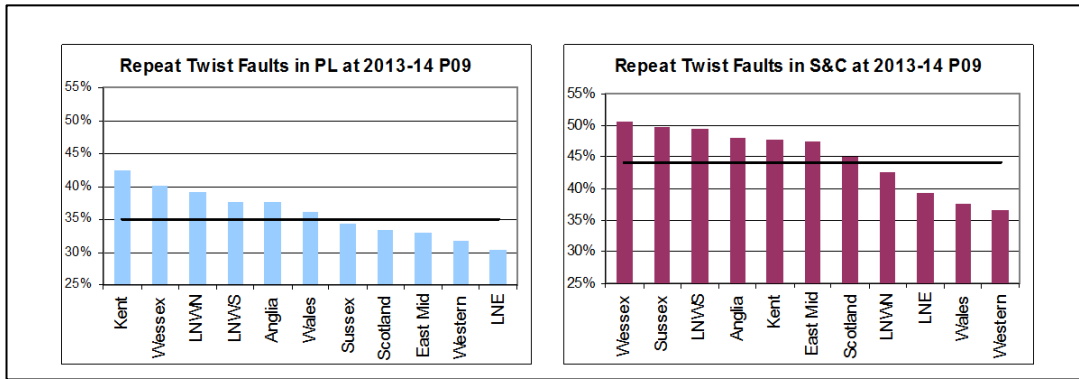


Chart 16 - Source: NR Track Geometry Presentation

161. The chart overleaf shows that that TSR's have been steadily rising over the control period and have continued to rise during 2013-14. To some extent it is inevitable that the backlog and re-scheduling of work from earlier on in the control period has led to some increase in TSR's, whilst unplanned TSR's will have resulted from issues including severe weather.

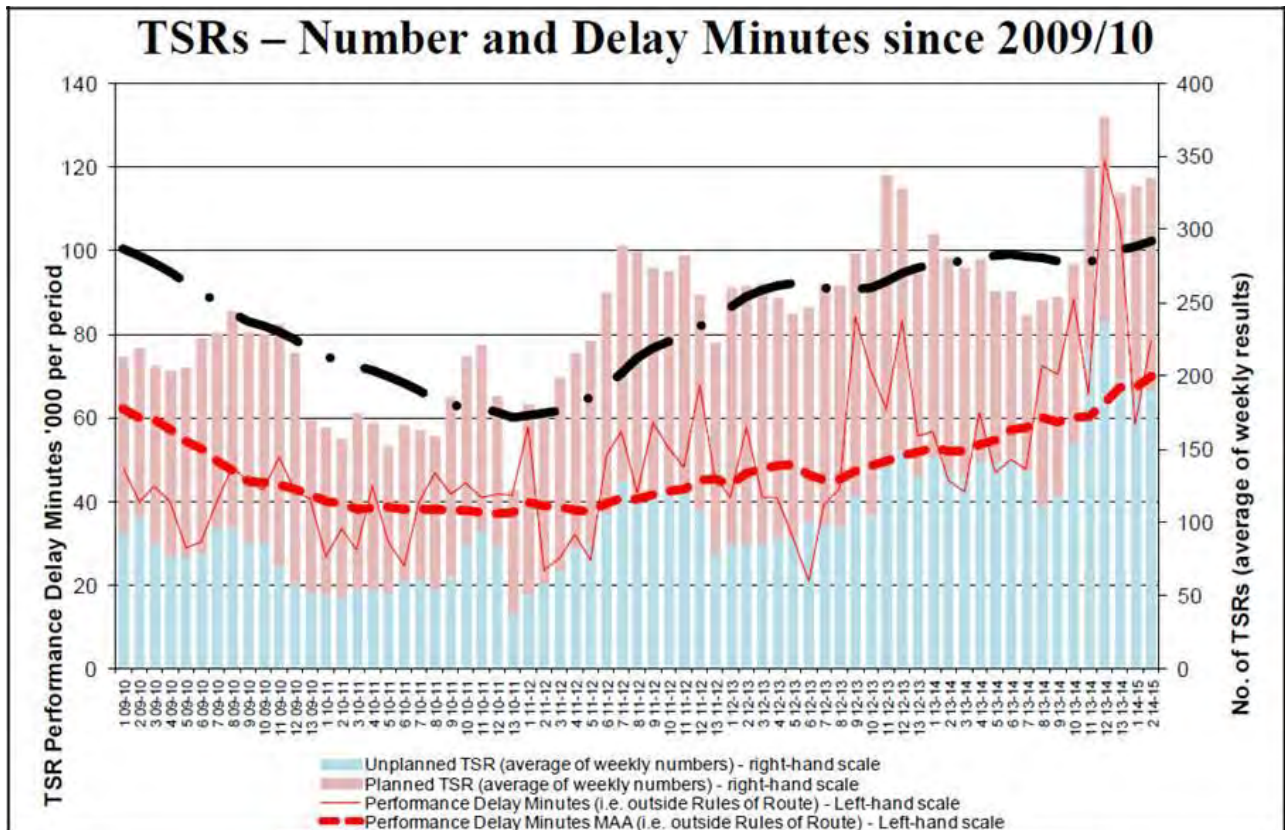


Chart 17 - Source: National Task Force – Performance Report

Renewals Volumes

162. NR did not achieve the volume of renewals that it had set out to do in its delivery plans. For track, NR had under-delivered volumes by 625ckm or 6.5% compared to in the baseline Delivery Plan 2010 (DP10). We accept that there should be no long term impact on sustainability, providing NR delivers the CP5 workbank. We can see that in NR's Delivery Plan 2013 (DP13) the track renewals plan was very optimistic (see DP13 published plans). This plan was later scaled back to the „corrected“ level, but NR did not succeed in delivering that level of renewals. This tends to demonstrate a lack of effective planning and control mechanisms.

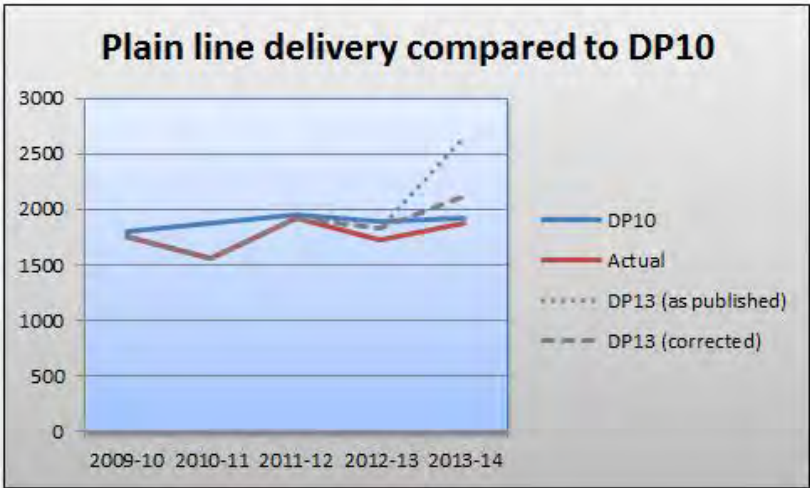


Chart 18 - Plain line delivery compared to DP10

- 163. NR has delivered its signalling programme of work overall. There have been issues with axle counter failures increasing, but the long term trend for track detection delays is reducing. Delay minutes for axle counters was up 33% for 2013-14 nationally.
- 164. Electrification renewals were not delivered according to plan and although NR achieved the DP10 outputs there was a significant gap against the DP13 programme. NR determined that it could extend the life of some of these assets however, there is a potential reliability risk associated with deferrals. Performance of electrification systems, particularly the AC and DC contact systems has fallen short of anticipated targets at the end of 2013-14.
- 165. Significant failures on the DC network have not demonstrated a consistent (or improving) level with 2013-14 worse than 2012-13. Much of this is related to the DC cable faults and NR could have done more in this area to understand and mitigate the issues that are occurring. However, overall it is unlikely that the shortfall in DC renewals activities made a significant contribution to the attainment of overall performance measures.

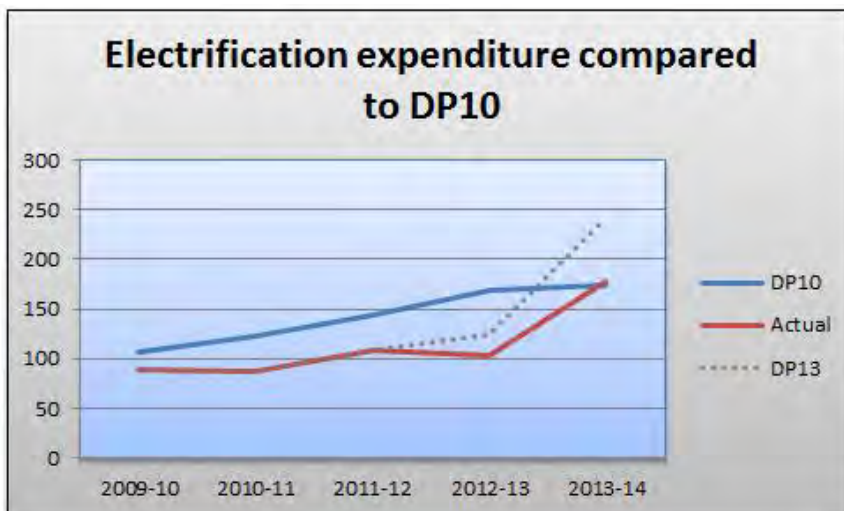


Chart 19 - Electrification expenditure compared to DP10

166. The level crossings programme failed to deliver 40% of renewals; however we are assured that there is no safety risk in deferring these renewals. It can be seen below that NR had exceeded its revised DP13 programme, but there is a large gap from what they had set out to do in their DP10 plans (the graph below shows cumulative expenditure to highlight the difference). NR have provided explanations for much of the shortfall, but other circumstantial evidence suggests that the project teams doing stand-alone level crossing renewals are not well resourced and consequently have made errors along the way. Level crossings have not contributed significant performance delays over 2013-14.

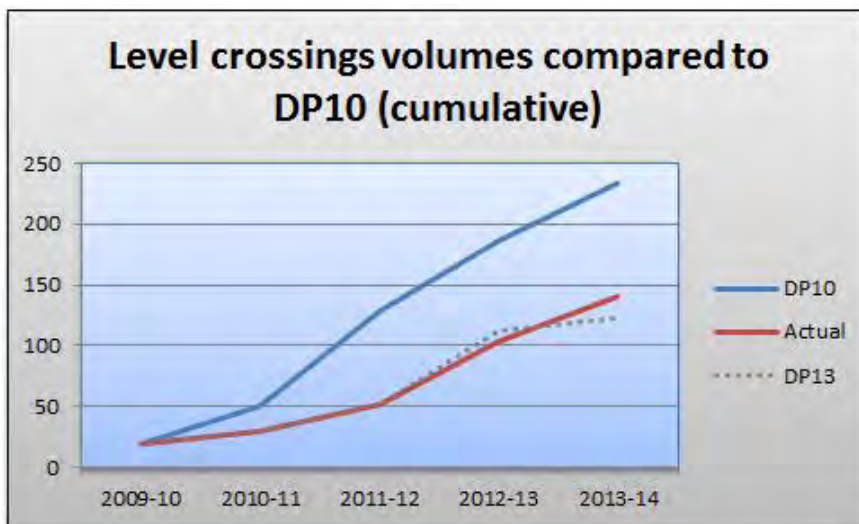


Chart 20 - Level crossing volumes compared to DP10

Our Assessment

167. NR was placed on the „back-foot“ in trying to recover the backlog in maintenance and renewals work from previous years. Issues such as extreme weather made the task more difficult. Undoubtedly, increased growth has also had a material impact in various ways including dwell times, increased wear and tear, reduced access and availability etc.
168. Strategic level planning has been variable with the causal links between milestones and the benefits delivered largely unproven. NR did not deliver all the performance improvement milestones, which may have improved performance further. If it had better planning and project management in place to deliver all of its milestones, then it may have been able to improve PPM marginally, but given that it was starting from behind, it was unlikely to have achieved much more at a tactical level given the available resources and the challenges faced during the year.
169. It is not certain to what extent the tactical/maintenance planning is simply a reflection of the previous year’s workbank rather than the level of work needed to achieve the performance outputs. NR is currently developing its maintenance strategy, which will give it a greater forward-looking focus.
170. Unplanned TSRs have been steadily increasing over the control period. Although there is some renewals backlog across the asset groups, the exact link with performance is unclear although TSRs had increased over 2013-14. It is noted that the number of asset incidents

has continued to reduce throughout the control period. However, reliability and resilience needs to improve further given the increase in growth and criticality of the relevant assets.

171. The lack of information about the performance and failure modes of specific assets has been a perennial problem for NR. This has meant that the balance between planned and reactive maintenance is not optimal. Good work is being done in the area of decision support tools, remote condition monitoring and RCM/RBM, but there is still much to do and progress to date has been slow.

8. Asset Management: Off Track Asset Condition & Vegetation Management (weather preparedness)

172. In March 2014 we reviewed NR's off-track inspection and maintenance regime and published our findings⁵. In summary we found:
- it is difficult to gauge on paper how adequately off-track asset management was resourced. In 2013-14, whilst some routes were judged to be adequately controlled, there were examples that had led to the prospect of safety enforcement action for failure to adequately manage off-track assets;
 - off-track drainage is not yet included in all DU assets registers, which has led to limited confidence that it is being properly inspected and maintained;
 - There is lack of clarity as to who is responsible for vegetation management on slopes;
 - There is an ineffective and inefficient methodology used for line-side vegetation inspection whilst on foot;
 - Vegetation management was not systematic, and work arising was not being recorded properly;
 - Vegetation was not being managed as described in NR's guidance and with no credible plan to recover the situation during 2013-14;
 - In terms of planning, there was an example of staff being unclear on what volume units had been used in the business plan - square yards or cubic yards for vegetation spraying and staff being unable to work out what resource they therefore required in order to deliver the plan. Some staff also thought that some elements of the plan had always been completely unrealistic. For example, there was an instance where a large amount of herbicides had been planned, but very little had been completed with no prospect of obtaining the on track plant required for the task;
 - Last year the National Inspection Report, and NR's Off Track Asset Policy advocated what could be delivered in terms of vegetation clearance by use of the Bushfighter machinery. This year, discussions revealed that nationally at the time of the inspections a large number of the Bushfighters were awaiting repair, having ingested materials such as scrap rail. This revealed an apparent vulnerability to disablement by scrap and the extent of the

⁵ NRIP End of year national report – off track. March 2014.

scrap seemingly buried in undergrowth is concerning given the emphasis placed on mechanisation as a way of achieving efficiencies in CP5; and

- Inspectors were surprised to learn in one DU that as far as adhesion risk is concerned, managers felt that this should not feature in prioritisation, which would only occur when vegetation started striking the trains 'because of the damage that could be done to the rolling stock.

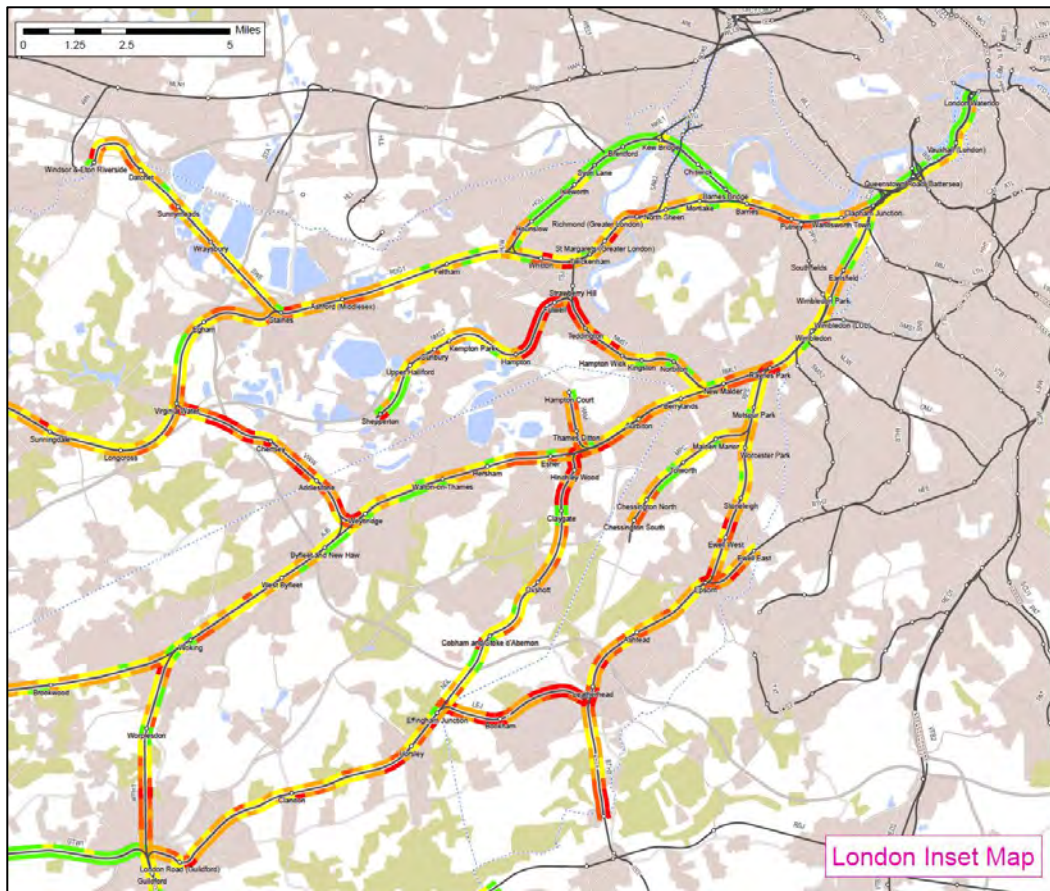
Preparation for 2013-14

173. Despite an improvement on 2012, performance in autumn 2013 was not as good as expected. Leaf fall was broadly comparable to last year, but treatment trains were less reliable and adhesion conditions worse. Adhesion delays were also higher than last year. However, there were fewer overruns this year (but more Wrong Side Track Circuit Failures).
174. A number of work streams were in place since the start of 2012 to prepare for autumn 2013 and the future. Furthermore, bespoke project plans were incorporated within these work streams to facilitate progress tracking and completion. Specific projects included the ongoing three year programme of Multi-Purpose Vehicle (MPV) fleet to improve overall reliability and full replacement of internal and external high pressure hoses in MPV and Rail Head Treatment Train (RHTT) fleet to give greater durability (following a higher than normal number of failures in 2012).
175. In 2013, five locations experienced a change of supplier for the maintenance and operation of autumn and winter fleet. TOCs and FOCs were concerned about this, stating that insufficient time and resources were available to get the suppliers up to speed for the start of autumn. To help overcome this, the prospective suppliers were given advance verbal notice of their contract success to give additional time to mobilise for autumn. All routes have confirmed that seasonal preparation plans for autumn 2014 are progressing according to plan.
176. Common themes that TOCs identified for the autumn 2013 planning included wheel set management, wheel slide protection and sanding systems. These have been addressed in various ways including additional services, staff recruitment and increased contingency.
177. NDS and routes have also taken part in an exercise at NR's Westwood training facility to share knowledge, experience and understanding of working together to deliver autumn mitigation. This was attended by management, fleet engineers and seasonal controllers. The key output from this session was a heightened awareness of the criticality of seasonal delivery and the need for accurate and timely information.
178. Poor drainage has been a problem which affected the network in various ways, which may not be obvious at first. For example; track flooding, traction power supplies, signalling and telecoms were also affected. Poor drainage also contributes to track geometry deterioration and a reduction in ballast life and NR was slow to identify and assess its drainage assets. To date they have still only carried out detailed condition inspection on about 40% of its assets, the rest are? in an unknown condition. Poor drainage has had a material impact on

performance during extreme weather. During 2013-14 we had 138 earthworks failures which were related to poor condition, poor drainage, and weather or vegetation damage.

Performance in 2013-14

179. We spoke to a number of TOCs who all stated that they felt vegetation management was insufficient over all sectors and was generally approached as a group of small work packages rather than having any strategy driving the work.
180. Our safety inspectors have been informed by the Forestry Commission that they have been postponing works (especially harvesting operations in coupes adjacent to rail lines) due to the difficulties in engaging with NR. The Forestry Commission is one of NR's largest lineside neighbours. Our safety inspectors have also expressed concerns themselves that NR are reactive rather than proactive in dealing with off track matters.
181. NR have told us in the past that they also suffer from trees falling from third party land, and we have anecdotal evidence from TOCs that NR are reluctant to enter third party land to proactively cut down threatening trees. Section 14 of the Railway Regulation Act 1842, allows NR to enter adjoining land to carry out repair works or to prevent accidents, and therefore we are of the view that trees falling off third party land are something that NR needs to manage better.
182. Vegetation management is a problem that has built up over a period of time. During the St Jude storms (Oct 2013) over 100 trees fell on the line, a number of the trees were not on NR property but this does not account for all the problems. The map overleaf is an extract of London area from the Wessex route vegetation map (as at June 2013). It clearly shows a number of areas in red where trees are encroaching the line (i.e. within the 5m stipulated in the asset policy and standards). This has not only caused issues with trees on the line but wheel adhesion and wrong side failures during autumn. Also, low adhesion delays increased by 40% over 2013-14. This item currently remains on the regulatory escalator.



Picture 1 – Wessex vegetation plan – June 2013

183. We can see from the IR's analysis that NR had exceeded its planned volume of work over the last couple of years. However, it raises the question on the robustness of the planning processes considering the implied size of the backlog in this area.

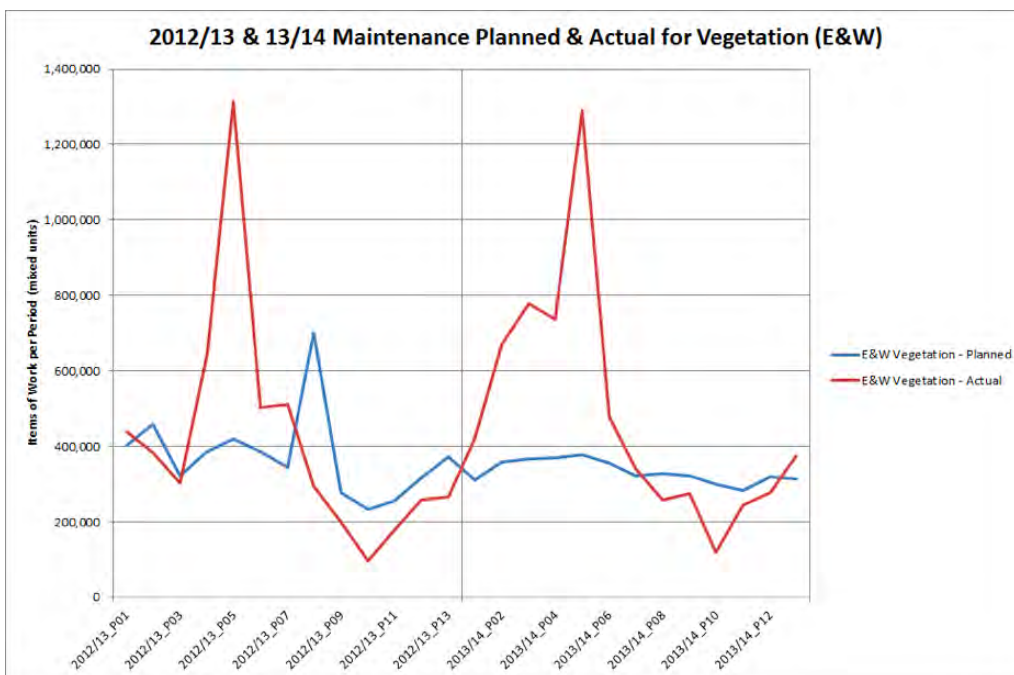


Chart 21 - Planned & actual vegetation maintenance

The LD Sector

184. All of the LD sector TOC's we spoke to felt that autumn preparation had been inadequate. De-wirements due to trees on the OHLE were highlighted. However, Virgin Trains stressed that the London North Western (LNW) route had made significant progress in vegetation management in 2013-14.

The LSE sector

185. The LSE sector TOCs also felt autumn preparation was poor. However, FCC specifically told us that LNE had made some significant improvements in 2013-14. RHTT operation being undertaken by TOCs was a benefit that was starting to make positive contributions.

Regional Sector

186. Again, there was a view that more could have been done in this sector. London Midland had a significant amount of issues in the Birmingham suburban area that impacted on other TOCs who operate in this area.

Our assessment

187. It is evident that vegetation management is approached in an un-systematic manner and this view is supported by the TOCs that we spoke to who cited examples of seasonal delivery specialist posts being vacant on routes.
188. Furthermore, the TOCs that we spoke to continue to highlight that NR, despite making a much improved effort in 2013-14, failed to adequately manage vegetation. Examples were given of the Overhead Line on the ECML coming down after contact with trees. And whilst some trees are on third party land, NR still has legal powers of entry if it needs to cut down a tree that poses an imminent threat to the railway.
189. While progress throughout the control period was slow, 2013-14 showed a marked improvement in vegetation management, and given constraints with the supply chain, we do not feel that there was much we could reasonably expect NR to have done in this year. The main cause of problems was in fact the backlog from the earlier years of CP4.

9. Traffic Growth

Traffic growth in CP4

190. NR has consistently highlighted growth, beyond the levels forecasted in its 2009 delivery plan, as a contributory factor for its failure to achieve its regulatory performance targets. They have stated that the level of traffic growth has meant that it delivered more trains on time, in absolute terms, than the CP4 determination required it to.
191. The table below shows that passenger journeys have increased across all sectors in CP4.

1.	LD	LSE	Regional
2008-09	109.4 million	854.3 million	302.8 million
2013-14	129.2 million	1,107.8 million	350.8 million

Table 14 - Passenger numbers

192. Despite this, the chart below shows that the traffic growth experienced in 2013-14 was consistent with the levels predicted in NR's LD recovery plan:

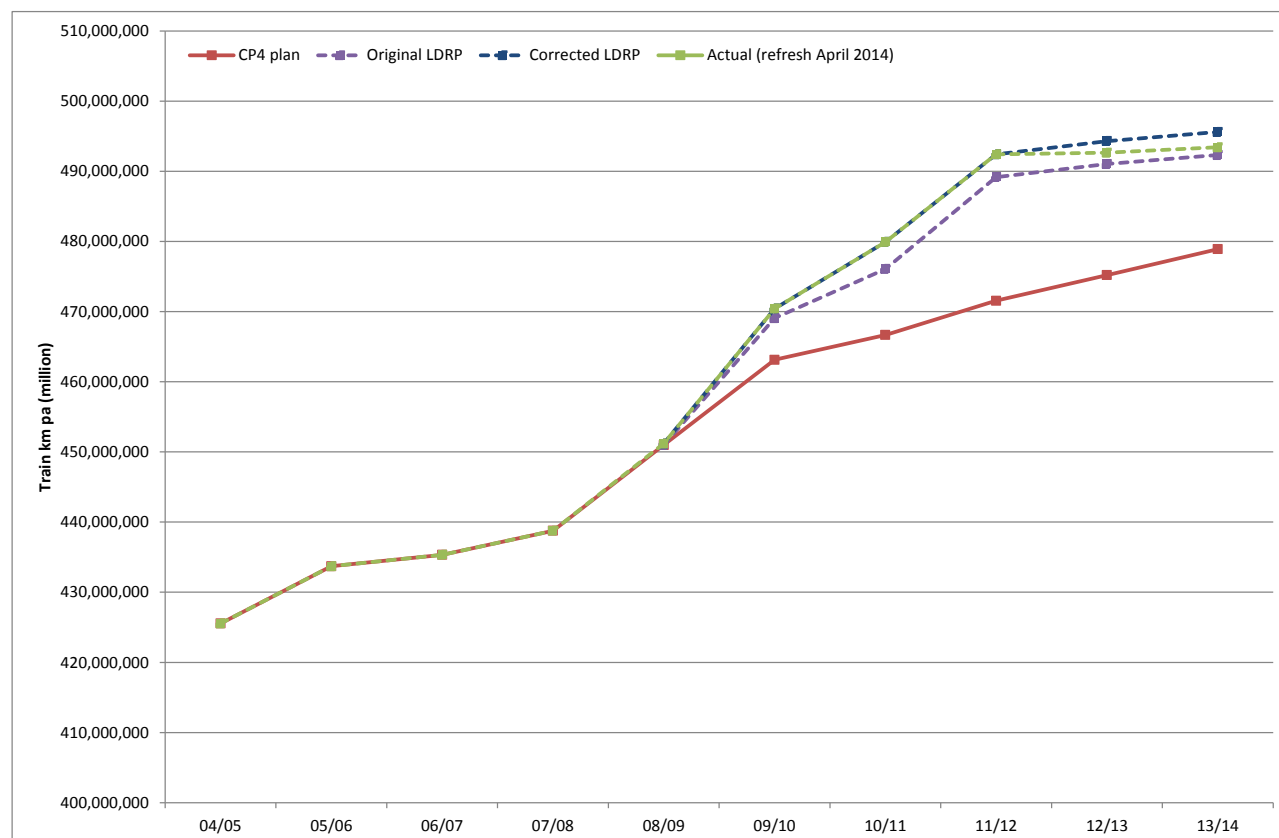


Chart 22 - Predicted and actual traffic growth

193. This graph demonstrates that although the level of growth is greater than assumed in the CP4 delivery plan it is lower than was assumed in the sector recovery plans and therefore would have a significant impact on performance delivery beyond the levels assumed in its recovery plans. Further, there has been a significant flattening of the rate of growth in the last years of CP4, as growth was accommodated more through train lengthening.

194. The network continued to be affected by key points of congestion, such as:

LSE sector:

- The BML north of Purley;
- Parks Bridge Junction to London Bridge;
- Surbiton to Waterloo;
- Witham to Liverpool Street; and
- Milton Keynes to Euston;

LD / Regional

- Birmingham New Street.

195. In July 2013 we noted, in relation to NR's comments about traffic growth, that:

- whilst traffic growth is a factor impacting performance, NR should have been able to deal with its consequences, and was funded to manage such risks;
- NR had told us that the actual 2012-13 traffic growth was lower than it had forecast in the LDRP, therefore traffic growth was not a factor for considering why NR missed its targets in 2012-13;
- in addition, growth was taken into account in determining the PR08 regulatory targets and in its own Strategic Business Plan submission for PR08, NR stated it would be able to manage; and
- NR has also previously acknowledged to us that it has to do more to be more resilient to rapid growth.

Our assessment

196. We do not believe that since we made the comments above, the levels of growth experienced have changed to materially impact on our conclusion. Traffic volumes have actually grown very little in the last two years of CP4.

197. Therefore, we do not consider that growth experienced was beyond the limits that NR was funded to deal with and that it therefore should have accommodated this. It is also worth noting that the regional performance recovery did not make any reference to the need to deal with traffic growth, and the LSEP only made a very brief reference to it, in the context of the impact that it had had on performance. Traffic growth in the LD sector was less than forecast and is therefore not a consideration. It would therefore appear that NR was not specifically developing plans to ensure performance impact of traffic growth was effectively mitigated.

198. in summary, NR should have been able to deal with the levels of growth seen in CP4 and we would concur with their admissions that whilst traffic growth had been greater than assumed at the last review, it was their responsibility to find solutions which enable them to collectively respond to this opportunity in a way which does not unduly compromise performance.

199. We believe that, as traffic growth had flattened by 2013-14, NR's timetables, capability and infrastructure should have ensured that growth was effectively accommodated. The increasing levels of train planning delays would indicate that this is not the case.

10. Other Factors

Sub threshold delays

200. Sub threshold delays are delays of less than 3 minutes that are not attributed to a perpetrator, but can cumulatively lead to PPM failures. In its CP4 performance assessment document, NR stated that there had been an increase in sub threshold delays. They further stated that the causes of this were probably representative of the wider saturation of the network and the drive for efficiency and marginal improvements.

201. The charts below demonstrate clearly that the number of PPM failures caused by sub-threshold delays has increased through CP4.

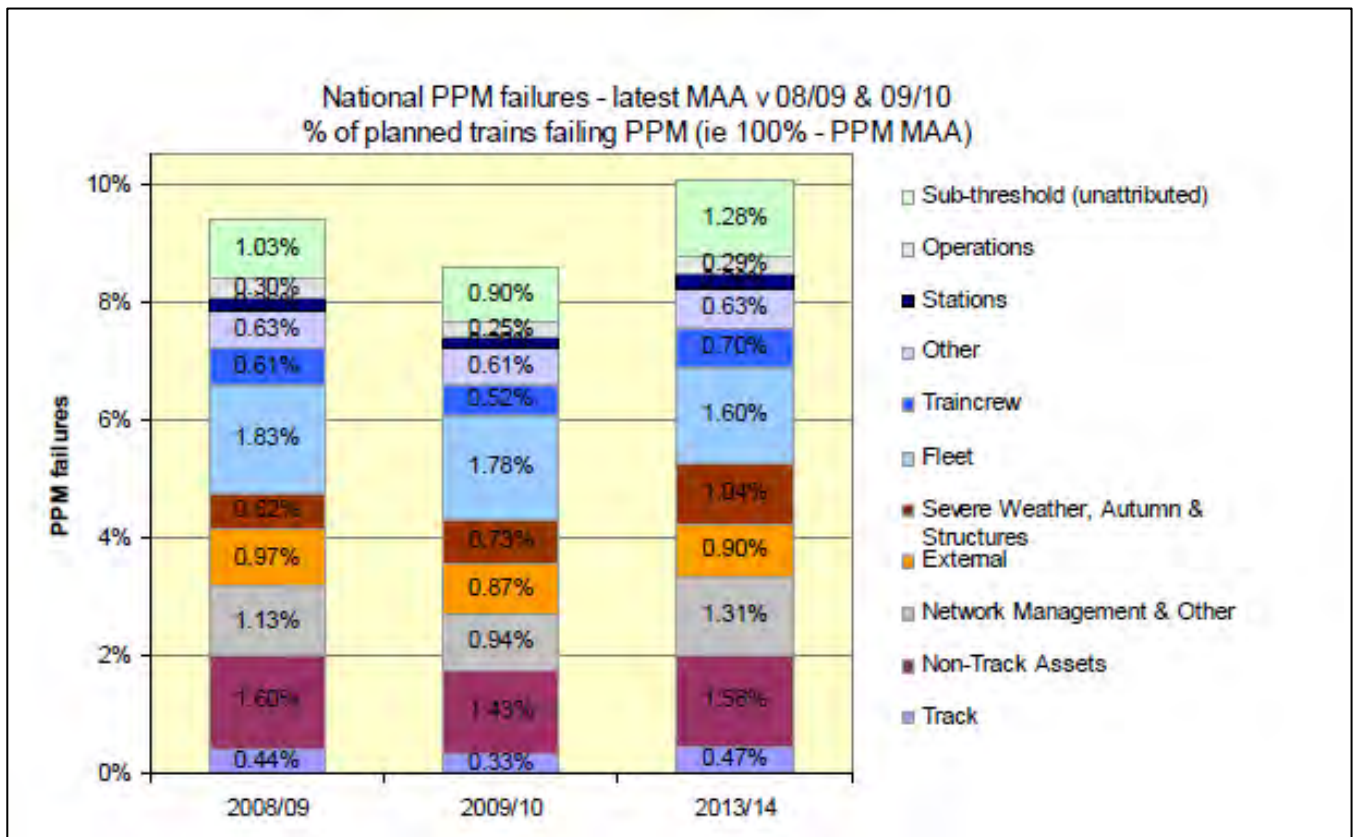


Chart 23 – PPM Failures due to sub threshold delays

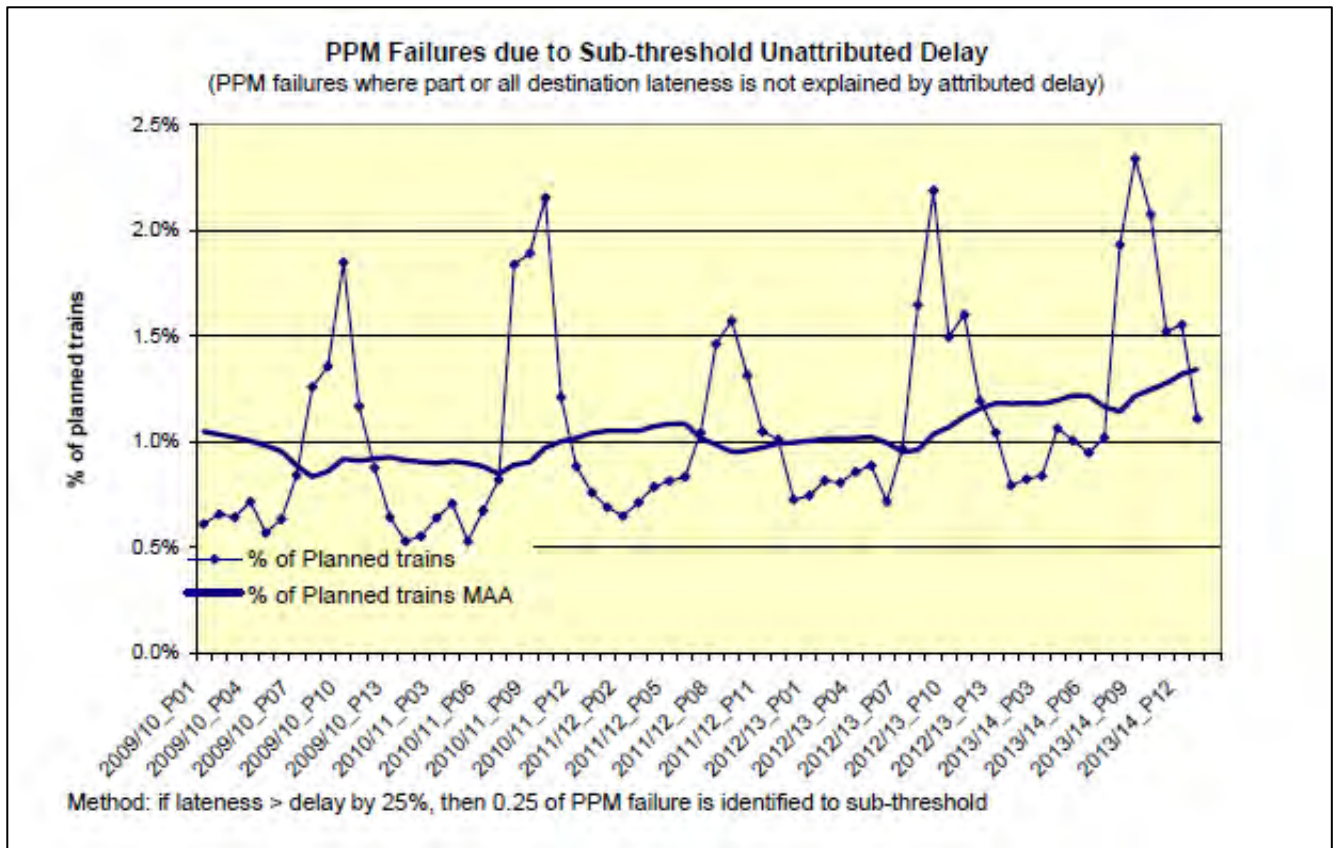


Chart 24 – PPM failures due to sub-threshold delays

202. Being able to find a clear reason for the increase in sub threshold, is not within the scope of this investigation. However, we must acknowledge that the number of PPM failures caused by sub threshold delays has continued to increase. NR and the wider industry need to work together to find more granular levels of data that can better explain the reasons for these occurrences

Unexplained & un-investigated delays

203. The charts overleaf show the numbers of delay minutes which have been attributed to unexplained and un-investigated delays in all sectors throughout CP4.

204. Unexplained delays are delays which have been investigated at level one TRUST delay attribution, but where no cause could be identified.

205. Un-investigated delays are delays which have not been investigated and have been coded as an incident which is left unresolved.

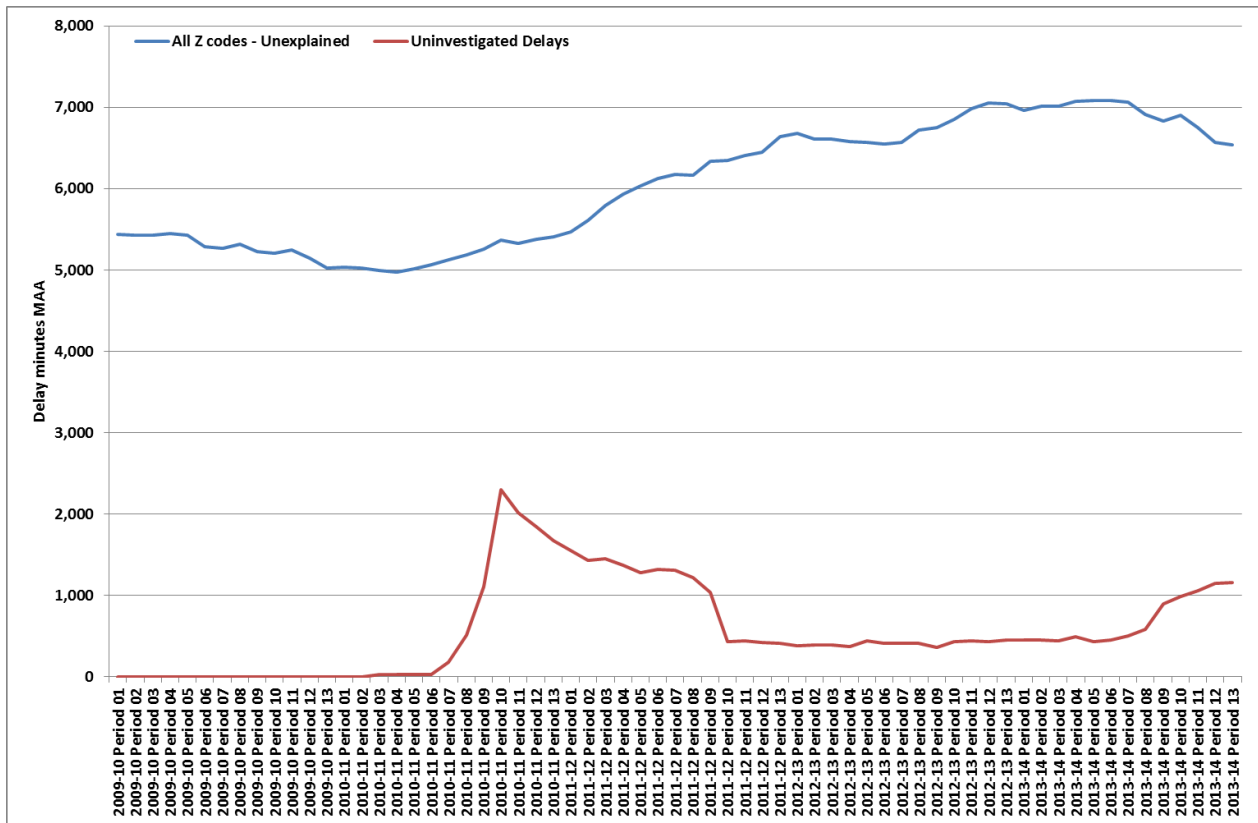


Chart 25 – LD Sector OU and ZZ delays.

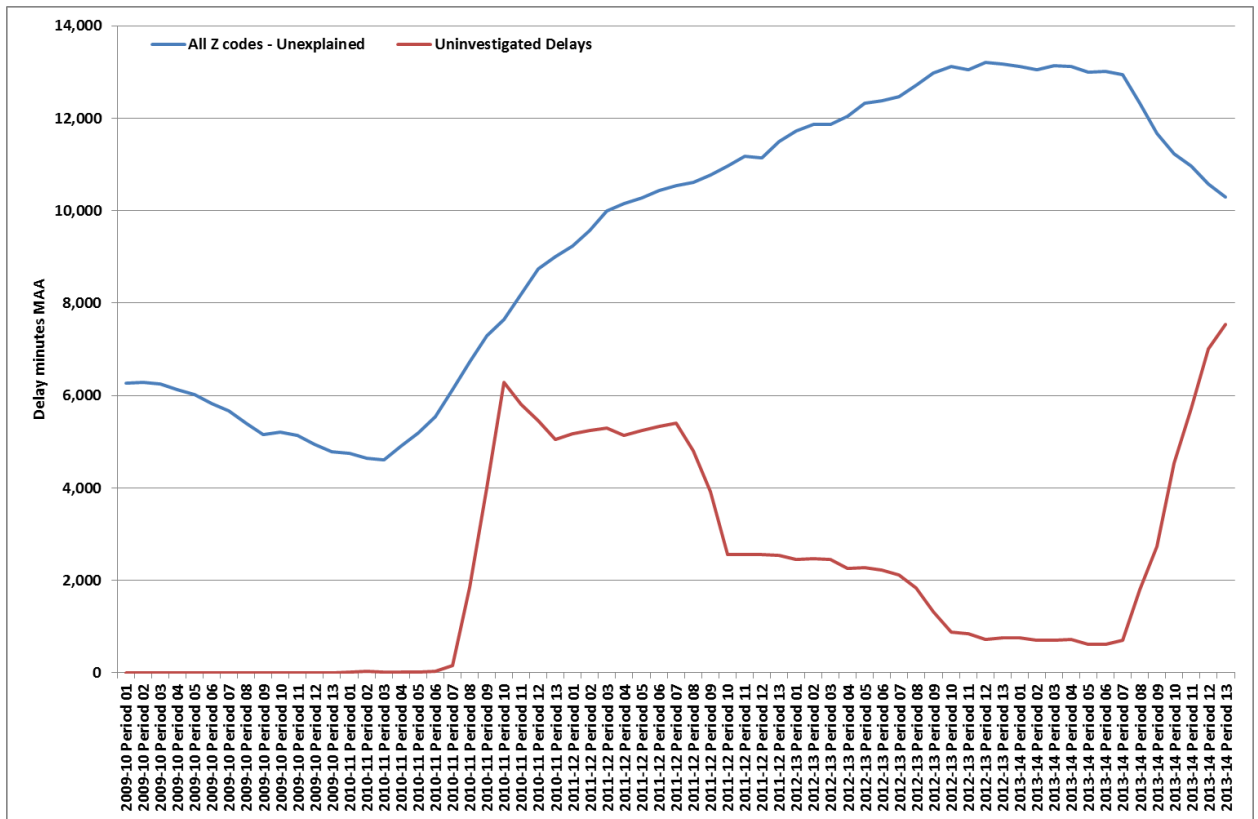


Chart 26 - LSE Sector OU and ZZ delays.

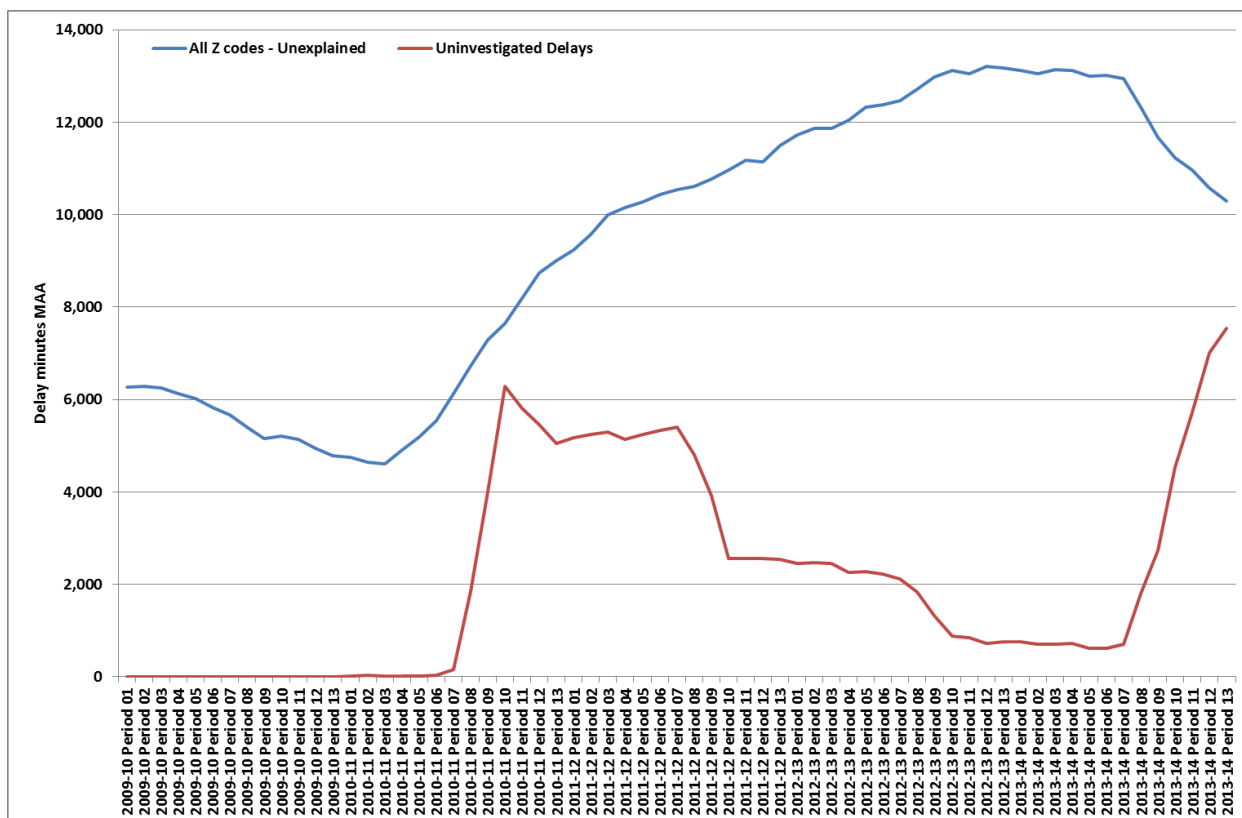


Chart 27 – Regional Sector OU and ZZ delays.

- 206. Nationally unexplained delays were 2.0% worse than JPIP target, but 11.3% better than 2012-13. This may however be explained by an attribution policy change in 2013-14 where unexplained delays were first coded to TOCs as either a TO (TOC to explain), TG (Driver) or RZ (Stations) rather than just being coded to NR's ZZ code.
- 207. In 2013-14, un-investigated delays nationally were 408% worse than JPIP target, with particular issues on the Wessex and Sussex routes. We understand that both of these routes have suffered from shortfalls in delay attribution staff. Disruption on the Wessex route appears to have been managed by the route team initially coding incidents "management trust incident notification" and then, at a later date splitting the incident into the individual delays relating the root cause event as and when it was identified, although not all delay notifications can be accounted for and there is some data lost. The Sussex route appears to have favoured doing commercial splits, where the delay is split, usually 50/50 with the train operating companies. This leads to data integrity issues and, in both cases this means that the data used to underpin performance activities is incomplete.

Our assessment

- 208. The volume of PPM failures caused by unexplained delays is clearly an issue that needs addressing through better collation and usage of attribution data. Given the capability of industry systems and practice to provide relevant granular data, it is clear that wholesale change is needed to delay attribution to drive this forward. The volumes of un-investigated delays are no doubt a result of staff shortages, particularly on Wessex and Sussex routes and if these shortages remain unchecked, NR will not have quality data on which to base performance improvement activities.

Part F - Industry engagement feedback

The table below summarises the TOCs we engaged with as part of our investigation:

TOC	Date	TOC Attendees	ORR Attendee	Notes
London Midland	08/01/14	Tom Joyner	Richard Fisher	Initial meeting followed up with informal meet 23/5/14
South Eastern	04/02/14	Richard Dean	N.Fisher, A Price.	Tripartite NR meeting. Follow up call with R Fisher 5/6/14
Arriva Trains Wales	10/02/14	Daniel Welsh	Richard Fisher	
Southern	24/03/14	David Scorey	Richard Fisher	Further Tripartite meeting on 23/5/14
East Midlands Trains	23/04/14	Ian Smith, Pete Glass.	Richard Fisher	
First Great Western	30/04/14	David Tuney (Joint NR/TOC).	Richard Fisher	
Chiltern	07/05/14	Andrew Munden	Richard Fisher	
First Capital Connect	16/05/14	Richard Rowlands	R.Fisher, L Deadman.	
First TPE	20/05/14	Ian Humphreys, Pete Sharpe.	Richard Fisher	
Cross Country	21/05/14	Will Rogers, Pauline Tonge.	Richard Fisher	
East Coast	28/05/14	Karen Duffy.	Richard Fisher	
Northern	28/05/14	Alan Chaplin, Jason Wade.	Richard Fisher	
Virgin Trains	04/06/14	M. Hoptroff, J. Dunster, P. Broadley.	Richard Fisher	
C2C	10/06/14	Andrew Monk	Louise Deadman	
Greater Anglia	16/06/14	Brian Haddock and Tim Jones	Louise Deadman	
LOROL	27/06/14	Maureen Dominey	Louise Deadman	
South West Trains		TBA	TBA	

Table 15 – TOC engagement

1. The Long Distance Sector

209. We spoke to many TOCs about the impact of weather in the LD sector and also saw first-hand the impact of the bad weather over the year. While the impact of extreme weather on First Great Western's (FGW) LD services, and to a lesser extent Cross Country was genuinely severe, there was a feeling as a whole that more could have been done, and many TOCs told us that target setting for weather delays was not entirely proper.
210. The issue with target setting that was highlighted by both CrossCountry and FTPE is that NR uses an average of weather impact based on the actual is from the previous years in the control period, and then manually add in additional minutes for risk. The problem here is that the weather target will always increase, rather than decline with the aid of performance improvement schemes.
211. Most of the operators that we spoke to, stated that they felt weather impact had been made worse by poor seasonal preparation and management by NR. Autumn seasonality was also cited in the sector as an area where NR needed to improve. East Coast noted that trees coming into contact with overhead line equipment caused many dewirements which had affected their performance. On-the-other-hand, Virgin Trains noted that NR were much improved in vegetation management in 2013-14.
212. All of the operators also highlighted asset failures that had particularly damaged their performance. East Midlands trains were clear that the base assets were a problem, failures in overhead line and points as well as TSRs were really impacting upon the performance. TPE also highlighted overhead line defects, the issue mainly being reactionary delays, as FTPE run very few electric trains. TPE also expressed concern with train detection delays. Virgin trains stated that the LDRP was „light“ on asset interventions, and pointed out that it was the secondment of their Chief Operating Officer to NR that was the

catalyst for NR to finally develop some asset plans to recover performance on the LNW route.

2. The LSE sector

213. Over the course of 2013-14, we have had call-in meetings with NR for performance for Southern, Southeastern as well as a meeting with the Wessex Alliance to discuss poor performance in the sector.
214. FCC spoke to us about the concerns that they had with NR's seasonal preparation, in particular its assertion that that leaf fall was not that bad, contrary to the autumn season which was very poor. FCC also demonstrated its argument that traffic growth was not as significant a problem as NR say it is. They showed us data, which demonstrates the increase in delay per incident had been significantly higher than what is a relatively static traffic growth. Both FGW and Southeastern felt that NR can make progress with autumn if it were funded to do so.
215. Southern, Southeastern and FCC all expressed concerns about the impact of major projects on their routes. The remodelling work at London Bridge has had a significant impact on the TOCs, in terms of network capability and also possession overruns.
216. While Chiltern were the only franchise to achieve its performance targets, the TOC highlighted some areas of best practice in their operation from which the rest of the industry could benefit.

3. The Regional Sector

217. London Midland spoke to us about the impact of major engineering projects on their operation. London Midland have suffered delays due to the Birmingham New Street remodelling project, owing to changes in train crew accommodation which invalidated London Midland's diagrams. This operator has also demonstrated to us how reduced operational capacity at Birmingham, has impacted on services whilst platforms have been out of commission. This operator also expressed concerns about the adequacy of NR 's autumn management.
218. East Midlands Trains also had problems with major projects, with Nottingham resignalling requiring them to run a very resource intensive timetable and make significant alterations to empty coaching stock movements in order to run their basic services.
219. The impact of major projects has also affected Northern, who have stated that they suffer from some very bad possession overruns, with a consistent theme being that possession planning is inadequate. When we spoke to Northern, this operator repeated the concerns of the LD sector operators, in that NR are padding the targets for external and weather delays. Northern stressed that non track assets had a significant impact on their performance, and they also questioned the network resilience to weather. Northern also said they felt response staff shortages may be causing an increase to the delay incident.

Part G - Summary Conclusions

The LD Sector

220. At the end of 2013-14, year 5 of CP4, the LD sector recorded the highest variance to target for PPM MAA of 5.1pp. The CaSL MAA performance was 1.0 pp worse than target.
221. Passenger satisfaction with train punctuality/reliability was statistically significantly lower than for the same time last year, (autumn 2012) and had fallen by 3% to 84%, ending the steady upward trend that had occurred over the last few years.
222. In assessing factors affecting performance which were all or in part outside of NR's control in 2013-14, we adjusted 16 days and 3 periods for extreme weather, resulting in a 1.1pp improvement in performance and an end of year PPM MAA of 88.0%. However, performance still remained 4.0pp below NR's regulatory target.
223. TOC on self delays affected performance in 2013-14, with FTPE suffering from traincrew availability issues earlier in the year, which impacted on their performance figures. We calculate that this had an impact of 0.26pp on the LD sector's PPM MAA.
224. The final adjusted PPM MAA for the LD sector was 88.5%, which was still a 3.5pp variance to target. Our investigation has highlighted the following factors which might account for the reasons why NR missed its target:
- Under-delivery: The evidence suggests that NR were unable to develop Base + and Base ++ initiatives quickly enough to close the gap in 2013-14. This is supported by both the IR findings as well as our own observations that no new programmes were added to Base+ and Base++ sections of the sector recovery plans. The IR review also noted that delivery of milestone plans for the Base+ programmes was routinely reported, and identified significant numbers of milestones missed against plan. The IR stated that in his opinion the slipped milestones were not consistent with a well-controlled major infrastructure programme and a culture of over optimism and constant re-planning for slippage;
 - Asset management: The LD operators advised us that NR were putting a lot of attention into performance planning reform and right-time railway approaches, but were failing to adequately prevent asset failures, especially overhead line, train detection and signalling faults;

It was also suggested that there was little evidence of best practice sharing between NR routes, with LNE and LNW identified as having opportunities to share best practice, especially in relation to resolving overhead line faults; and

- whilst there are areas which can be identified as being outside of NR's control, which affected performance delivery in 2013-14 there is evidence that there was areas such as asset maintenance and recovery plan benefits that were not delivered effectively.

The LSE Sector

225. The LSE sector actual PPM MAA performance was 3.4pp below target. The CaSL MAA performance was 1.1pp worse than target.
226. In the LSE sector, we identified a total of 18 days and 3 periods of extreme weather, resulting in a 1.5pp improvement in performance and increasing the end of year PPM MAA to 91.2%. This was the greatest improvement in PPM MAA out of all sectors, however it was still 1.8pp worse than the end of year regulatory target.
227. The final adjusted PPM MAA for the LSE sector was 91.4%, which was still a 1.6pp variance to target. Our investigation has highlighted the following factors which might account for the reasons why NR missed its target:
- Under-delivery: As per the LD sector, NR was unable to develop Base + and Base ++ initiatives quickly enough to close the gap in 2013-14. The IR review noted that delivery of milestone plans for the Base+ programmes was routinely reported, and identified significant numbers of milestones missed against plan. The IR stated in his opinion the slipped milestones were not consistent with a well-controlled major infrastructure programme however, noted that the nature of the programs and the pressure on NR's teams to plan and deliver schemes combined to create a culture of over optimism and constant re-planning for slippage;
 - Un-investigated delays: In 2013-14, un-investigated delays were 408% worse than in 2012-13. These delays have been a consistent problem in the LSE sector, and in particular the Wessex and Sussex routes. We understand that both of these routes have suffered from shortfalls in delay attribution staff. Further, disruption on the Wessex route appears to have adopted a policy of recoding incidents from incident management "tins" into their root cause event at a later date, while the Sussex route appears to have favoured doing commercial splits. In both cases, it is questionable whether the integrity of the data can be maintained after the initial delay causing event Train planning delays, increased proportionately more in LSE; and
 - Asset management: The lack of information about the performance and failure modes of specific assets has been a perennial problem for NR. This has meant that NR have continued to be a reactive „find and fix“ organisation throughout CP4. Electrification renewals were generally poorly managed and unplanned TSRs have also been steadily increasing over CP4. The LSE operators we spoke to had a variety of comments regarding NR's performance delivery. A common theme was track caused delays, and several operators expressed concern about track delays and a lack of track renewals, and the conflicting resourcing challenges of maintenance activity and the major projects such as Crossrail and Thameslink.
228. Given the evidence set out it would suggest that NR did not do everything reasonably practicable to deliver its performance targets in the sector in the final year of CP4.

The Regional Sector

229. The Regional sector achieved its CaSL MAA target in 2013-14 however the PPM MAA was 1.0 percentage point difference below target.
230. This sector was less impacted by extreme weather, with only 10 days and 3 periods being adjusted. As a result, there was an improvement of 0.1pp, increasing the end of year PPM MAA to 91.1%. This was still 0.9pp adrift of the regulatory target.
231. In the regional sector in 2013-14, our assessment showed TOC on self delays were a bigger issue than other sectors. London Midland had a 1.45pp PPM MAA loss from traincrew caused cancellations, equating to a 0.3pp loss from the sector. We also estimate that London Midland's inability to recover the train service during disruption could account for another 0.3pp off the sector target.
232. Further, East Midlands Trains had to contend with reduced infrastructure around the period of the Nottingham re-signalling project which required stock and crew diagrams to be amended and impacted on this operators' performance. Northern Rail also suffered many cancellations as their traincrew were disrupted whilst travelling to work, and also on their 'pass' rides by the FTPE resource availability problems that affected the LD Sector.
233. Taken as a whole, we estimate the impact of these issues in the regional sector is approximately 1pp of NR's PPM. The same percentage of the gap from delivery of 2013-14 PPM target.
234. Taken as a whole we estimate that the impact of these issues equates to a final adjusted PPM MAA for the regional sector of 92.2%, which was 0.2pp above the target. We therefore believe that NR has done everything reasonably practicable to achieve its target in relation to the regional sector.

Part H - Freight Sector Performance

1. Performance Against Freight Delay Minutes

The CP4 output

235. The CP4 target for freight was measured in NR caused delay minutes, normalised for every 100km of trains ran. This equated to a CP4 exit target of 2.94 delay minutes/100km.

Enforcement action

236. In December 2011 our Board found NR in breach of condition 1 of its network licence and imposed a Freight Performance Order (FPO) on 19th January 2012 (later amended on 23 April 2012) which required NR to establish a Freight Recovery Board (FRB) for its freight customers, which has a remit to agree reasonably practicable steps NR should take to remedy the licence breach.

237. Consequently the FRB was able to develop and agree with NR a detailed freight performance recovery plan with milestones across a range of areas, including better data, management of assets and incidents and timetabling, with a focus on strategic freight corridors. We were pleased with the progress of this board as a remedy and there was a resulting improvement in performance. In September 2012, we therefore confirmed that NR had complied with the FPO.

238. We welcomed the continuation of the board format in the freight community, which converted from recovery board to a Freight Joint Board (FJB). FOCs have continued to monitor and challenge the continued delivery of the agreed recovery plan monthly, as well as reporting progress quarterly to the National Task Force (NTF). We have continued to keep the sector under review and expect and encourage FOCs to alert us to any serious delivery issues.

The CP4 outturn

239. At the end of CP4, NR did not achieve its target, recording 3.70 delay minutes for every 100km. This is a variance to target of 24.6%. The FRB had forecast a delay per 100km of 3.15 which had also not been realised.

240. However, we acknowledge that the Hatfield Colliery landslip closed a main freight artery for almost five months. This had a major impact on the freight outputs that we measure. We also acknowledge that as with passenger services, we need to consider the impact of extreme weather, especially around periods at the end of 2013-14.

241. In addition, we acknowledge that there are limitations around the CP4 performance measure of freight delays per 100km, as this measure is about delay minutes en-route and not lateness at destination. This means that the measure lacks credibility with the freight community as a freight service could, and often do, accumulate delay minutes en-route yet arrive on time at their destination.

242. Delay per 100km also becomes more volatile with fewer trains on the network, which means that the use of emergency timetables has a more pronounced impact on performance recorded against this measure.
243. At the end of period 12, the Freight Performance Measure (FPM) MAA, which tracks trains arriving at its destination within 10 minutes of scheduled arrival time, was 0.7pp worse than target and at the end of the year was only 0.1pp worse than target. While we acknowledge that periods 8, 9 and 10 showed a weather related decline, performance has been solid. The industry prefers this measure as it is more reflective of its customers' requirements.
244. Due to the limitations surrounding freight delays per 100km, in CP5 we are using a new Freight Delivery Metric (FDM). The FJB has been "shadow running" this measure and at the time of our correspondence with the FJB was tracking at 93.57⁶%. This means that in 2014-15, at the end of period 1, freight performance will likely be running ahead of the regulated output.

Industry engagement feedback

245. Given the likelihood of non-delivery of the freight delay output target we wrote to the FJB in February 2014 (see annex C) asking if it had any concerns and / or views on whether we should investigate NR's performance delivery in the freight community
246. We received a comprehensive response from the FJB in March 2014, in which the Board's Chair stated that he did not consider that we should investigate freight performance. The FJB stated that the below target freight performance had not caused serious customer issues.

Our assessment

247. Given the feedback We have obtained from the FJB, and also in light of our own analysis which demonstrates the impact of both the severe weather in periods 8, 9 and 10 and the impact of the Hatfield Colliery Landslip, we propose not to further investigate NR's failure to meet its regulated output for Freight.
248. Our view is also informed by the following:
- that any action we take as part of the wider CP4 performance investigation and CP5 performance plan, will bring benefits to the whole industry including the freight sector; and
 - that at the start of CP5 freight performance measured by the new FDM was better than the regulatory target of 92.5%.

⁶ Letter from FJB to Richard Fisher

Part I – Annexes

A. Data charts and detailed analysis

a) Regulatory targets and NR forecasts

The CP4 regulatory targets for PPM MAA and CaSL MAA for each sector are shown in table 1 below. All forecasts are based on a 90% confidence level.

	LD		LSE		Regional	
	PPM MAA (%)	CaSL MAA (%)	PPM MAA (%)	CaSL MAA (%)	PPM MAA (%)	CaSL MAA (%)
2009-10	88.6%	4.9%	91.5%	2.3%	90.5%	2.6%
2010-11	89.8%	4.5%	92.0%	2.2%	91.0%	2.5%
2011-12	90.9%	4.2%	92.4%	2.1%	91.5%	2.4%
2012-13	91.5%	4.0%	92.7%	2.0%	91.9%	2.3%
2013-14	92.0%	3.9%	93.0%	2.0%	92.0%	2.3%

Table 16: CP4 regulatory targets

NR's sector PPM MAA forecasts for the end of 2013-14 are presented in tables 2 to 4 below.

LD	End of CP4 PPM MAA forecast	Percentage point variation to CP4 target	Percentage point variation to JPIP target
LDRP*	90.6%	-1.4pp	+1.5pp
2012-13 Q4 report	89.1%	-2.9pp	0.0pp
2013-14 Q1 report	89.0%	-3.0pp	-0.1pp
2013-14 Q2 report	88.5%	-3.5pp	-0.6pp
2013-14 Q3 report	87.5%	-4.5pp	-1.6pp
2013-14 Q4 Actual	86.9%	-5.1pp	-2.2pp

Table 17: NR PPM MAA forecasts from the LD sector plan and quarterly reports

* Based on the Base, Base+ and Base++ (combined) forecast quoted in the 2012-13 Q3 report. There was no such forecast in the LDRP as delivery of the Base+ and Base++ plans were not fully quantified at the time of publication.

LSE	End of CP4 PPM MAA forecast	Percentage point variation to CP4 target	Percentage point variation to JPIP target
LSERP*	92.8%	-0.2pp	+0.6pp
2012-13 Q4 report	91.7%	-1.3pp	-0.5pp
2013-14 Q1 report	91.8%	-1.2pp	-0.4pp
2013-14 Q2 report	91.6%	-1.4pp	-0.6pp
2013-14 Q3 report	90.4%	-2.6pp	-1.8pp
2013-14 Q4 report	89.6%	-3.4pp	-2.6pp

Table 18: NR PPM MAA forecasts from the LSE sector plan and quarterly reports

* Based on the Base, Base+ and Base++ (combined) forecast quoted in the 2012-13 Q3 report. There was no such forecast in the LSERP as delivery of the Base+ and Base++ plans were not fully quantified at the time of publication.

Regional	End of CP4 PPM MAA forecast	Percentage point variation to CP4 target	Percentage point variation to JPIP target
RRP	92.4%	+0.4pp	-0.1pp
2013-14 Q1 report	92.1%	+0.1pp	-0.4pp
2013-14 Q2 report	91.7%	-0.3pp	-0.8pp
2013-14 Q3 report	91.2%	-0.8pp	-1.3pp
2013-14 Q4 report	91.0%	-1.0pp	-1.5pp

Table 19: NR PPM MAA forecasts from the Regional sector plan and quarterly reports

As a result of the continued poor performance during 2013-14 Network Rail revised down their end of CP4 forecasts for each sector. The forecast for the LD sector was revised down a total of 3.1pp from the LDRP to the 2013-14 Q3 report, meaning the CP4 target would be missed by 4.5pp and the end of year JPIP target by 1.6pp. The Network Rail forecast for the LSE sector at the end of 2013-14 Q3 was revised down by 2.4pp compared to the LSERP, 2.6pp worse than the CP4 target and 1.8pp worse than the end of year JPIP target. Regional sector did not see variation from target worsen to the same extent as the other two sectors but at the end of 2013-14 Q3 the Network Rail forecast for Regional sector was 91.2%, 1.2pp lower than the RRP forecast resulting in the end of CP4 target being missed by 0.8pp and the JPIP target by 1.3 pp.

Charts 28 to 30 below present PPM MAA for the three sectors against target through the control period. Charts for individual train operators PPM MAA performance against target are included at the end of this Annex.

This table shows that Network Rail's base (JPIP) targets were lower than the regulated targets, and that actual delivery was less than the lower JPIP targets. Actual delivery includes the LDRP Base+ and Base++ actions.

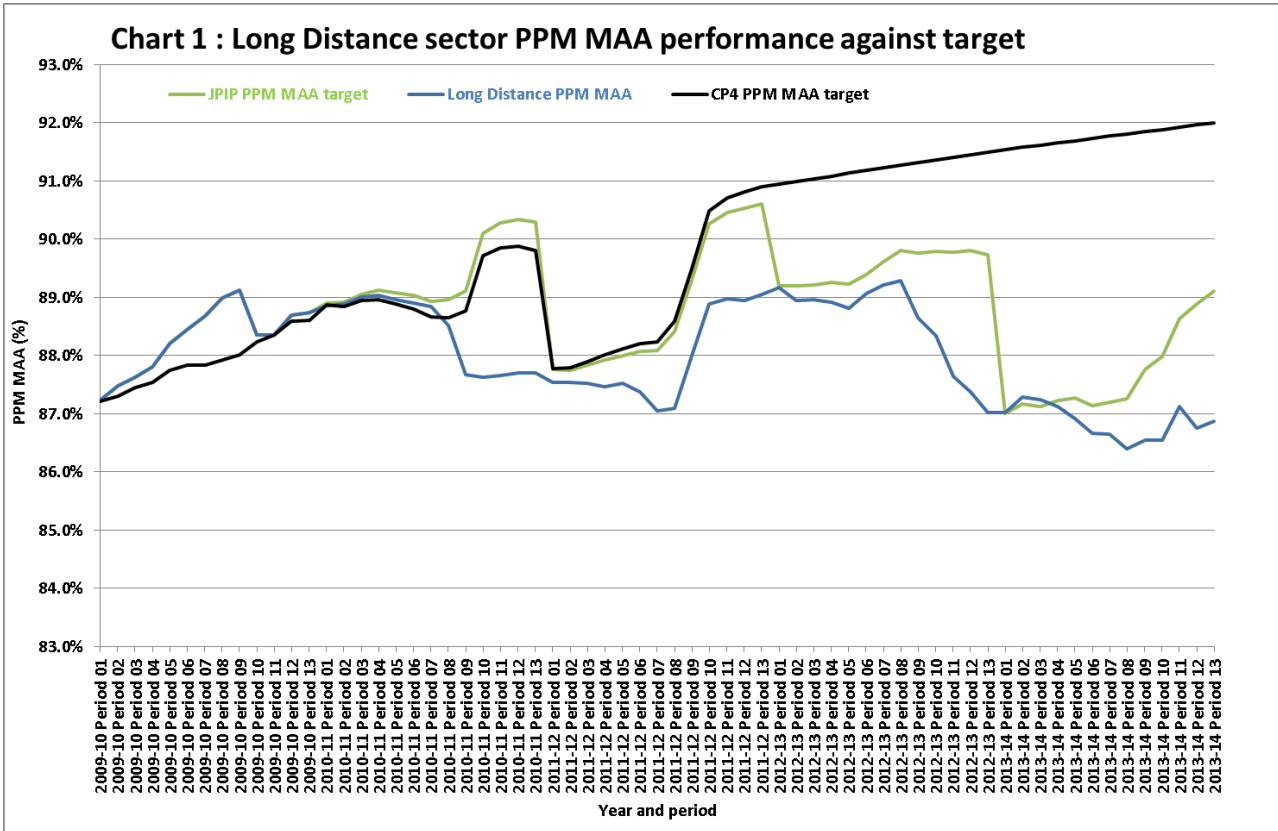


Chart 28 - LD, LSE and Regional sector PPM MAA performance against target

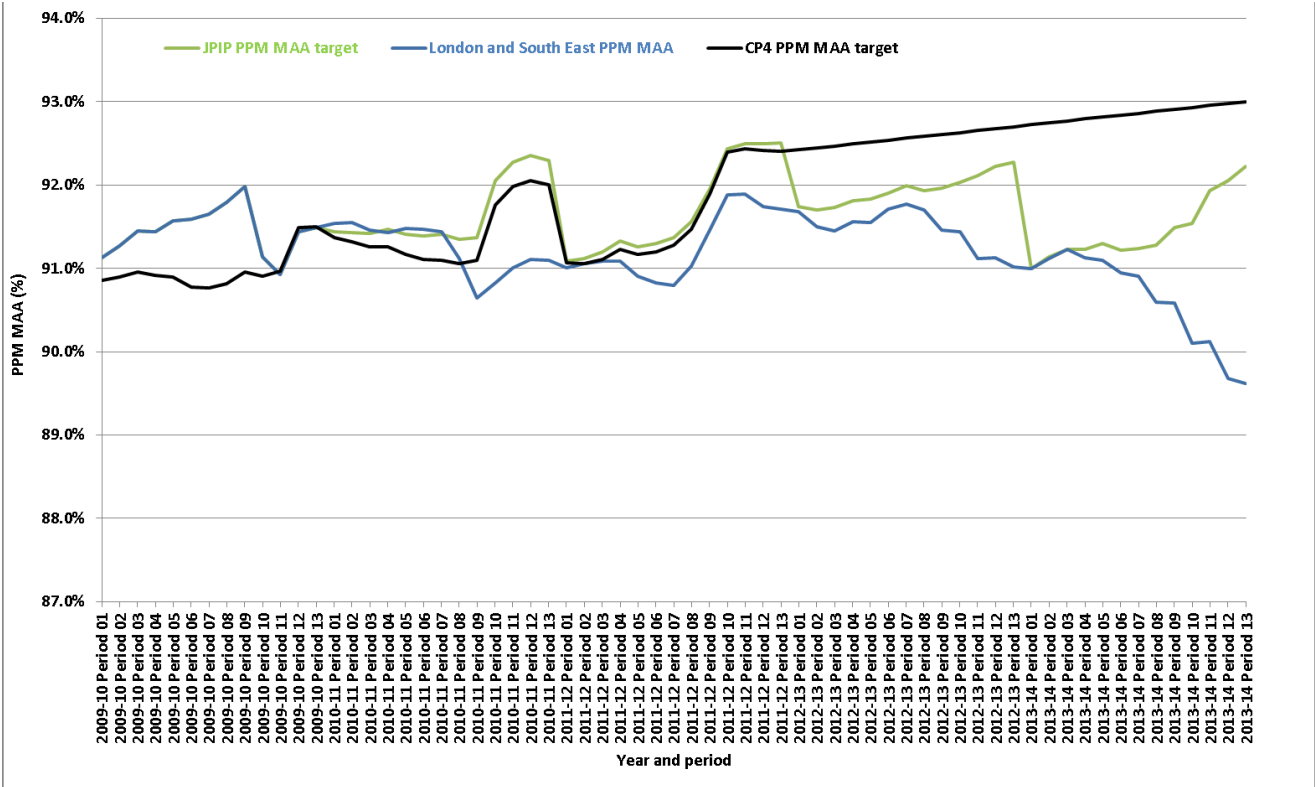


Chart 29 - LSE sector PPM MAA performance against target

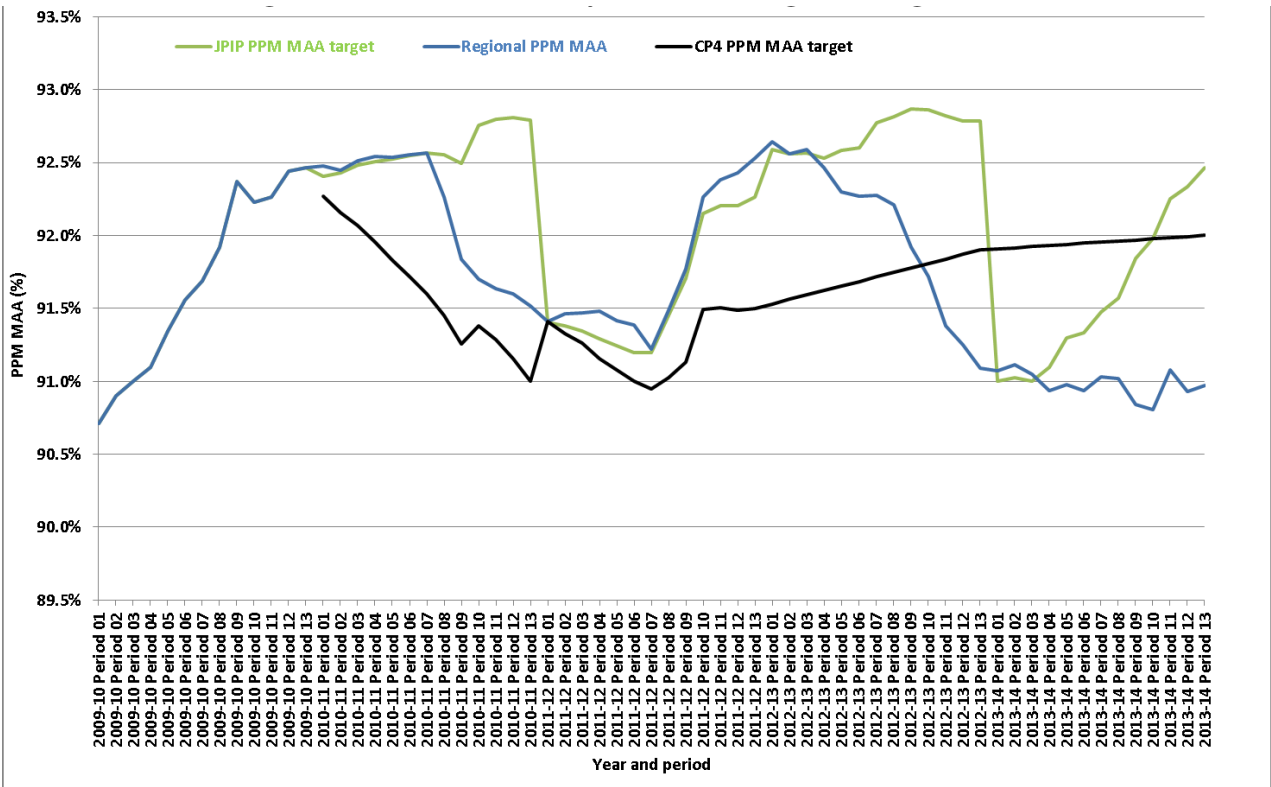


Chart 30 - Regional sector PPM MAA performance against target

The LSE sector, like the LD sector has lower JPIP targets than the regulated outputs, and these targets were not met through actual delivery. The regional sector JPIP target should have surpassed the regulated output, but a delivery shortfall in this sector meant that this target was not attained. We recognise some of these factors were outside of Network Rail's control.

LD sector

All the LD operators ended 2013-14 worse than their JPIP and CP4 targets. East Coast had the greatest variance against CP4 target at, 6.9pp and Grand Central was the operator with the largest variation from their profiled JPIP target, finishing the year 4.8pp adrift of target. Cross Country was the franchised operator with the greatest variation to JPIP target at 3.6pp (table 5). No LD sector operators met their PPM MAA target in 2013-14.

Train Operator	PPM MAA (P13)	PPM MAA end of year CP4 target	Percentage point difference end of year CP4 target	PPM MAA end of year JPIP target	Percentage point difference end of year JPIP target
Cross Country	86.7%	91.3%	-4.6pp	90.3%	-3.6pp
East Coast	84.2%	91.1%	-6.9pp	87.0%	-2.8pp
East Midlands Trains*	90.9%	no target	-	93.8%	-2.9pp
First Great Western*	81.8%	no target	-	85.2%	-3.4pp
First TransPennine Express	90.4%	94.0%	-3.6pp	91.5%	-1.1pp
Greater Anglia*	88.4%	no target	-	89.0%	-0.6pp
Virgin Trains	85.8%	90.9%	-5.1pp	86.6%	-0.8pp
Grand Central	80.7%	83.9%	-3.2pp	85.5%	-4.8pp
First Hull Trains	82.0%	88.4%	-6.4pp	83.8%	-1.8pp

Table 20: LD performance against end of year target by TOC

* PPM MAA figures based on LD sector component only. There are no CP4 targets for the sector components of multi-sector TOCs.

Analysing the causes of delay across the LD sector (table 6), delay minutes for 2013-14 were lower than in 2012-13 for severe weather, autumn & structures (3.1%), for non-track assets (1.4%) and for fleet delays (4.6%). All of the other categories experienced an increase in delay minutes with traincrew having the largest increase (15.9%). During the year delays in non-track assets category were the largest cause of delay minutes at 19.6%, followed by fleet delays at 17.3%.

JPIP category	Responsible owner	2012-13	2013-14	Variance against 2012-13	Proportion of total 2013-14 delay minutes
Externals	NR	372,800	381,561	+2.3%	11.7%
Network management/ other	NR	486,387	515,144	+5.6%	15.7%
Non-track assets	NR	651,991	642,714	-1.4%	19.6%
Severe weather, autumn & structures	NR	361,179	350,220	-3.1%	10.7%
Track	NR	237,342	272,695	+13.0%	8.3%
Fleet	TOC/FOC	592,398	566,507	-4.6%	17.3%
Operations	TOC/FOC	73,634	87,094	+15.5%	2.7%
Stations	TOC/FOC	67,468	76,138	+11.4%	2.3%
TOC other	TOC/FOC	193,024	201,793	+4.3%	6.2%
Traincrew	TOC/FOC	151,028	179,614	+15.9%	5.5%
Total	-	3,187,250	3,273,479	+2.6%	100.0%

Table 21: LD sector delay minutes by JPIP category

The poor performance in NR delay minutes shown in table 22 above is also seen in the moving annual average of delay minutes by category which shows an increase over 2013-14 for all categories with the exception of severe, weather, autumn and structures and non-track assets in the later part of 2013-14.

The above adjustments have an impact on the reasonable sum calculation under the LD final order. The adjustments will reduce it, to only take account of NR on TOC delay minutes and only 50% of external delay minutes over target.

Analysing total NR caused delay minutes to LD train operators during 2013-14 Cross Country, who operate 19.0% of services in the sector, were the victim of the most minutes with 530,279 minutes (24.5% of Network Rail delay to the sector), followed by Virgin Trains with 448,098 minutes and First Great Western LD services with 347,500 minutes..

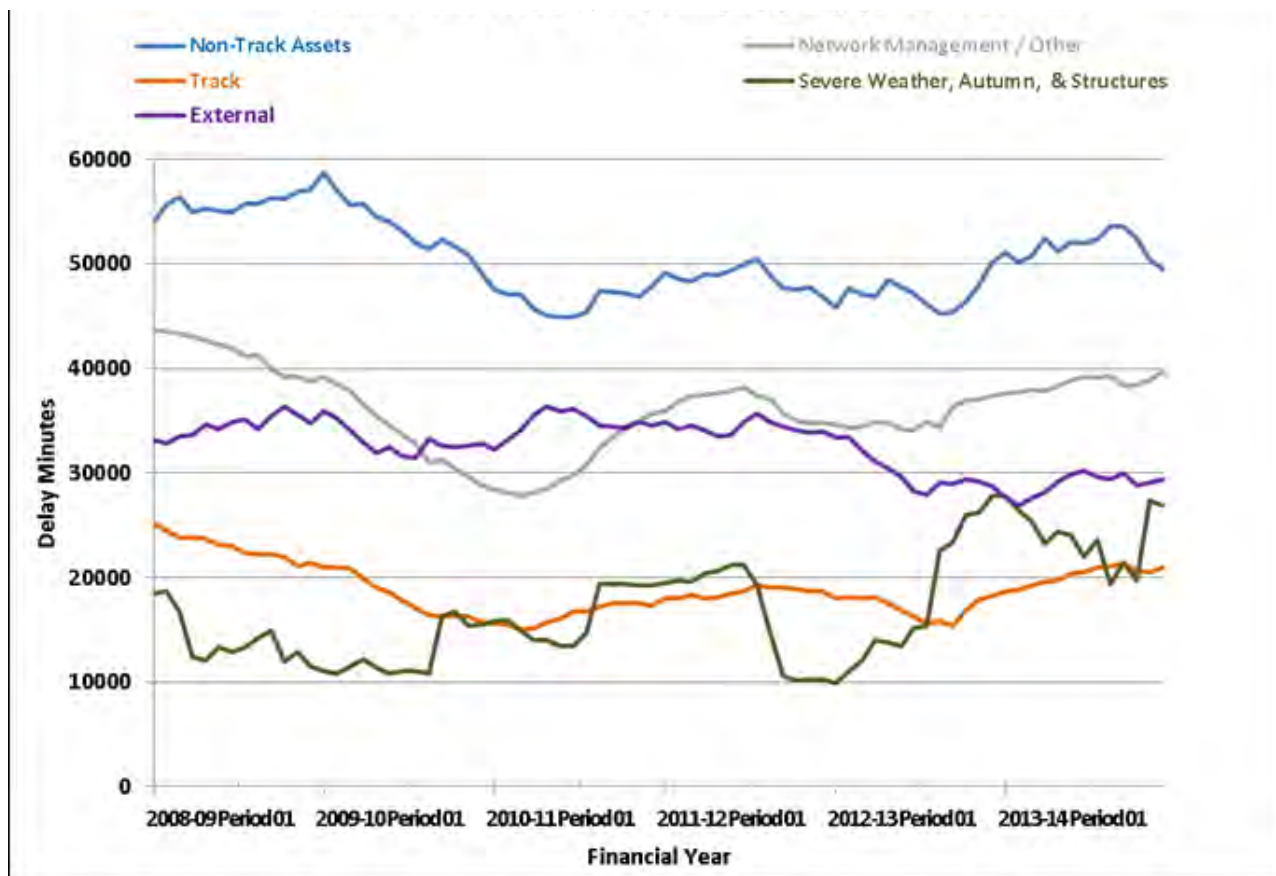


Chart 31 – Total NR delays by category – LD sector

Train Operator	NR delay minutes	Percentage of NR delay minutes	Percentage of LD sector trains planned
Cross Country	530,279	24.5%	19.0%
East Coast	246,890	11.4%	9.1%
East Midlands Trains	202,353	9.4%	12.9%
First Great Western	347,500	16.1%	13.3%
First TransPennine Express	276,002	12.8%	19.2%
Greater Anglia	54,400	2.5%	4.8%
Virgin Trains	448,098	20.7%	19.8%
Grand Central	34,539	1.6%	1.0%
First Hull Trains	22,274	1.0%	0.8%

Table 22: LD sector delay minutes by train operator

LSE sector

C2c and London Overground were the only franchised LSE operators to end 2013-14 better than their CP4 targets (table 8). London Overground was 1.5pp better than CP4 target at 96.1pp and c2c was 1.4pp ahead of target at 96.7%. First Capital Connect had the greatest variance to CP4 target ending 2013-14 at 86.1%, 6.8pp worse than CP4 target. First Capital Connect was also the

operator with the largest variation from their profiled JPIP target, finishing the year 4.6pp worse than target.

Train Operator	PPM MAA (P13)	PPM MAA end of year CP4 target	Percentage point difference end of year CP4 target	PPM MAA end of year JPIP target	Percentage point difference end of year JPIP target
c2c	96.7%	95.3%	+1.4pp	97.2%	-0.5pp
Chiltern	94.9%	95.9%	-1.0pp	94.0%	+0.9pp
First Capital Connect	86.1%	92.9%	-6.8pp	90.7%	-4.6pp
First Great Western*	88.6%	no target	-	91.1%	-2.6pp
Greater Anglia*	91.9%	no target	-	91.9%	-0.1pp
London Midland*	84.0%	no target	-	87.2%	-3.2pp
London Overground	96.1%	94.6%	+1.5pp	97.0%	-0.9pp
Southeastern	89.0%	92.8%	-3.8pp	92.8%	-3.8pp
Southern	85.8%	91.9%	-6.1pp	89.5%	-3.7pp
South West Trains	89.7%	93.3%	-3.6pp	92.6%	-2.9pp
Heathrow Express	93.8%	93.3%	+0.5pp	95.6%	-1.7pp

Table 23: LSE sector performance against end of year target by TOC

* PPM MAA figures based on LSE sector component only. There are no CP4 targets for the sector components of multi-sector TOCs.

Analysing the causes of delay across the LSE sector (table 32), delay minutes were lower in 2013-14 than in 2012-13 for non-track assets (0.6%), fleet delays (3.4%) and for other delays relating to train operating companies (4.3%). All of the other categories experienced an increase in delay minutes with severe weather, autumn & structures having the largest increase (34.3%). During the year delays for network management/other category were the largest cause of delay minutes at 18.8%, followed by non-track assets at 17.5%.

JPIP category	Responsible owner	2012-13	2013-14	Variance against 2012-13	Proportion of total 2013-14 delay minutes
Externals	NR	481,426	593,111	+18.8%	10.6%
Network management/ other	NR	877,250	1,052,081	+16.6%	18.8%
Non-track assets	NR	981,733	976,070	-0.6%	17.5%

Severe weather, autumn & structures	NR	424,256	645,639	+34.3%	11.6%
Track	NR	337,869	338,091	+0.1%	6.1%
Fleet	TOC/FOC	823,837	796,403	-3.4%	14.3%
Operations	TOC/FOC	200,913	202,172	+0.6%	3.6%
Stations	TOC/FOC	172,933	180,766	+4.3%	3.2%
TOC other	TOC/FOC	425,770	408,350	-4.3%	7.3%
Traincrew	TOC/FOC	371,223	389,218	+4.6%	7.0%
Total	-	5,097,210	5,581,901	+8.7%	100.0%

Table 24: LSE sector delay minutes by JPIP category

The poor performance in NR delay minutes shown in table 24 above is also seen in the moving annual average of delay minutes by category which shows an increase over 2013-14 for all categories with the exception of track assets.

Analysing total NR caused delay minutes to LSE train operators during 2013-14 Southern, who operate 18.7% of services in the sector, were the victim of the most minutes with 810,753 minutes (22.5% of Network Rail delay to the sector), followed by South West Trains with 677,744 minutes and Southeastern services with 626,533 minutes.

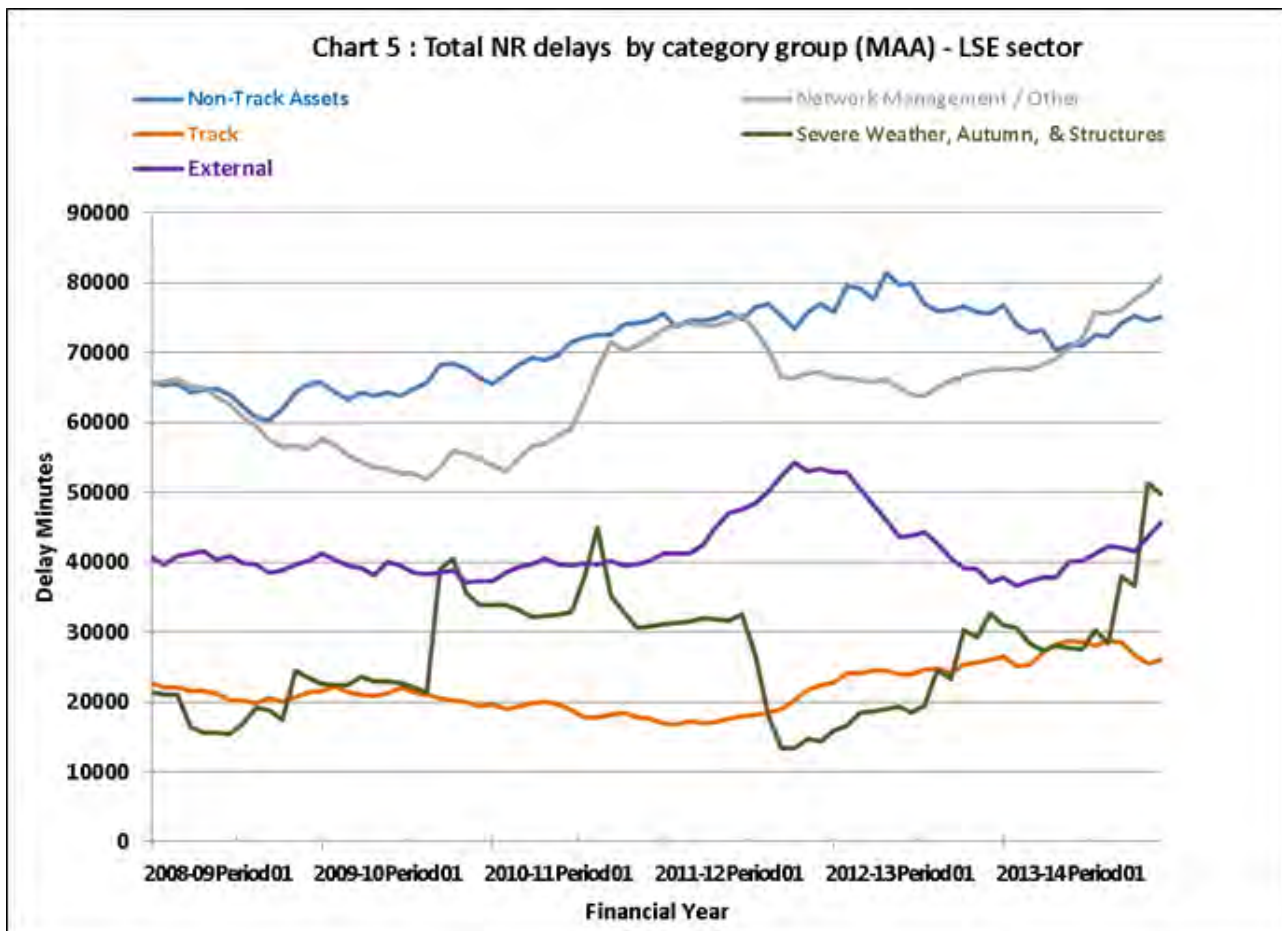


Chart 32 – Total NR delays by category – LSE sector

Train Operator	NR delay minutes	Percentage of NR delay minutes	Percentage of LSE sector trains planned
c2c	35,896	1.0%	2.8%
Chiltern	86,033	2.4%	3.3%
First Capital Connect	407,607	11.3%	9.4%
First Great Western	288,195	8.0%	6.5%
Greater Anglia	1407,947	11.3%	15.1%
London Midland	154,876	4.3%	2.5%
London Overground	78,967	2.2%	9.3%
Southeastern	626,533	17.4%	16.9%
Southern	810,753	22.5%	18.7%
South West Trains	677,744	18.8%	14.0%
Heathrow Express / Connect	30,417	0.8%	1.3%

Table 25: LSE sector delay minutes by train operator

Regional sector

Compared to the CP4 targets (for which only Arriva Trains Wales, Northern Rail and Merseyrail have targets) Northern Rail was the only regional operator to miss its end of year CP4 target (0.8pp). Both Arriva Trains Wales and Merseyrail were better than their CP4 targets at 0.4pp and 0.6pp respectively (table 112). All regional operators ended 2013-14 worse than JPIP target and London Midland had the greatest variance against JPIP target at 4.0pp worse than target.

Train Operator	PPM MAA (P13)	PPM MAA end of year CP4 target	Percentage point difference end of year CP4 target	PPM MAA end of year JPIP target	Percentage point difference end of year JPIP target
Arriva Trains Wales	93.1%	93.5%	-0.4pp	94.1%	-1.0pp
East Midlands Trains*	91.6%	no target	-	92.3%	-0.7pp
First Great Western*	89.2%	no target	-	92.2%	-3.0pp
London Midland*	86.5%	no target	-	90.5%	-4.0pp
Northern Rail	91.0%	91.8%	-0.8pp	91.7%	-0.7pp
Merseyrail	95.8%	95.2%	+0.6pp	96.0%	-0.2pp

Table 26: Regional sector performance against end of year target by TOC

* PPM MAA figures based on Regional sector component only. There are no CP4 targets for the sector components of multi-sector TOCs.

Analysing the causes of delay across the Regional sector (table 26), delay minutes were lower in 2013-14 compared to 2012-13 for non-track assets (1.1%), for severe weather, autumn & structures (7.8%) and for fleet delays (4.7%). All of the other categories experienced an increase in delay minutes with delays relating to stations showing the largest increase (13.6%). During the year fleet delays were the largest cause of delay minutes at 20.9%, followed by non-track assets at 16.0%.

JPIP category	Responsible owner	2012-13	2013-14	Variance against 2012-13	Proportion of total 2013-14 delay minutes
Externals	NR	303,053	330,711	+8.4%	10.0%
Network management/ other	NR	464,438	489,278	+5.1%	14.7%
Non-track assets	NR	537,756	532,061	-1.1%	16.0%
Severe weather, Autumn & structures	NR	341,108	316,400	-7.8%	9.5%
Track	NR	157,472	161,711	+2.6%	4.9%
Fleet	TOC/FOC	727,683	695,103	-4.7%	20.9%
Operations	TOC/FOC	105,362	121,217	+13.1%	3.6%
Stations	TOC/FOC	150,677	174,389	+13.6%	5.2%
TOC other	TOC/FOC	218,686	243,027	+10.0%	7.3%
Traincrew	TOC/FOC	243,343	259,557	+6.2%	7.8%
Total	-	3,249,575	3,323,452	+2.2%	100.0%

Table 27: Regional sector delay minutes by JPIP category

The poor performance in NR delay minutes shown in table 27 above is also seen in the moving annual average of delay minutes by category which shows an increase in 2013-14 for network management/ other, track and severe, weather, autumn and structures (for the latter part of 2013-14). Delay minutes for externals have remained steady for the second half of the year.

Analysing total NR caused delay minutes to Regional train operators during 2013-14 Northern Rail, who operate 42.6% of services in the sector, were the victim of the most minutes with 792,008 minutes (43.3% of Network Rail delay to the sector), followed by London Midland regional services with 359,625 minutes.

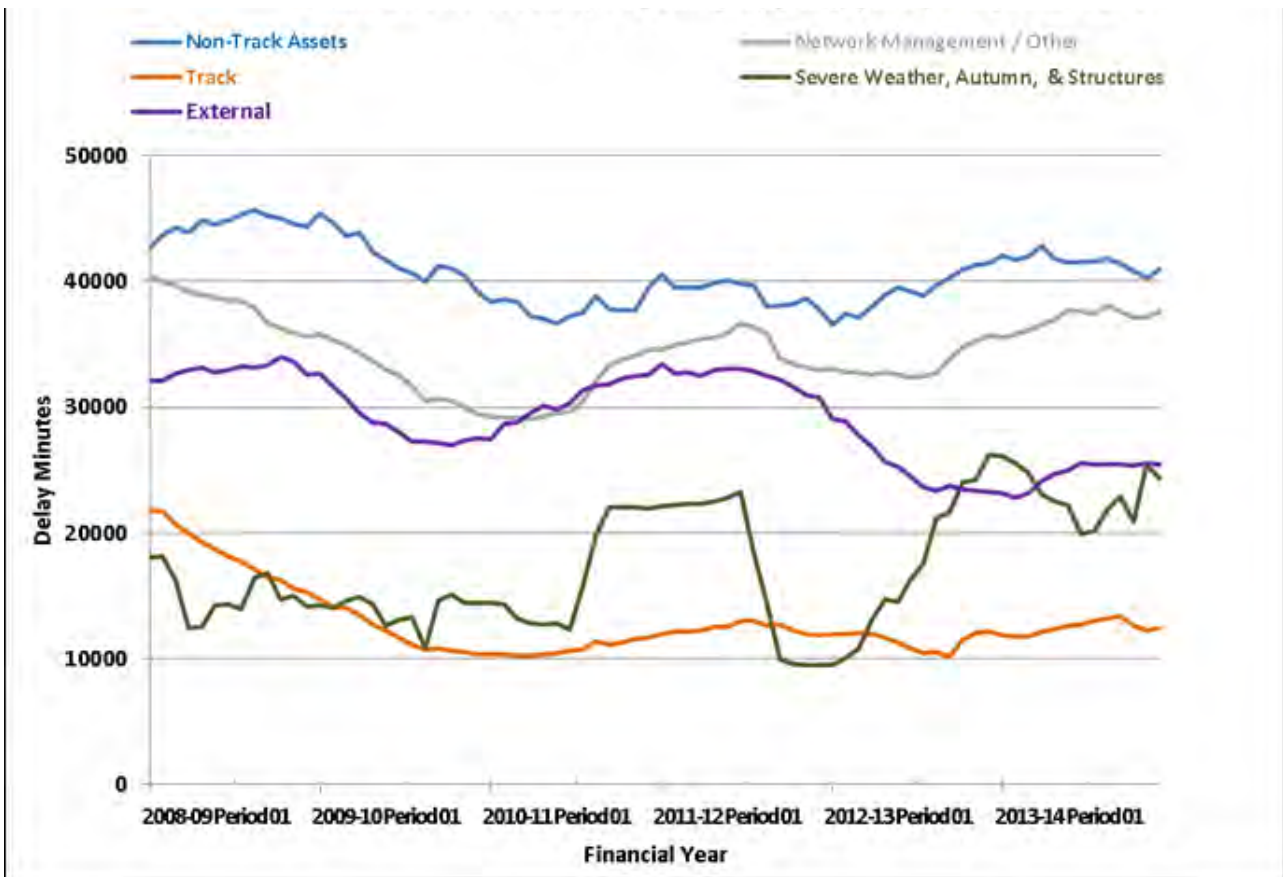


Chart 33 – Total NR delays by category – Regional sector

Train Operator	NR delay minutes	Percentage of NR delay minutes	Percentage of Regional sector trains planned
Arriva Train Wales	328,689	18.0%	16.5%
East Midlands Trains*	93,193	5.1%	4.4%
First Great Western*	205,879	11.2%	9.2%
London Midland*	359,625	19.6%	16.5%
Northern Rail	792,008	43.3%	42.6%
Merseyrail	50,767	2.8%	10.8%

Table 28: Regional sector delay minutes by train operator

East Midlands Trains (LD element) PPM MAA performance against target

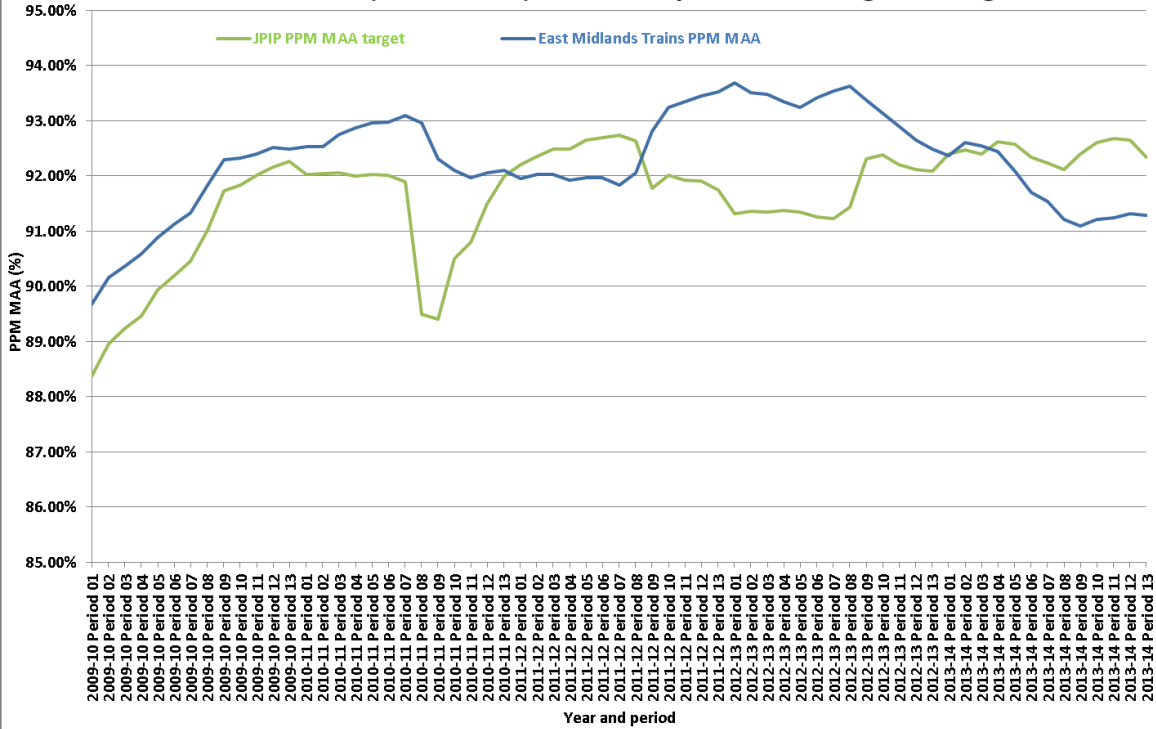


Chart 36

First Great Western (LD element) PPM MAA performance against target

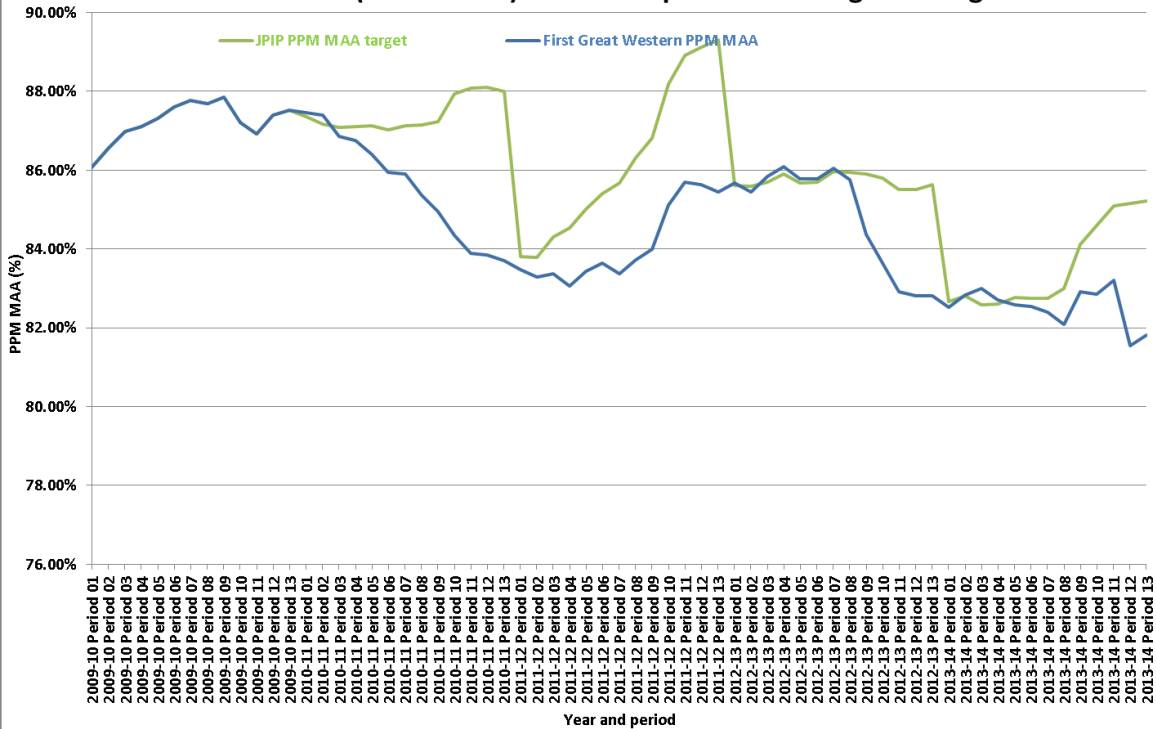


Chart 37

First TransPennine Express PPM MAA performance against target

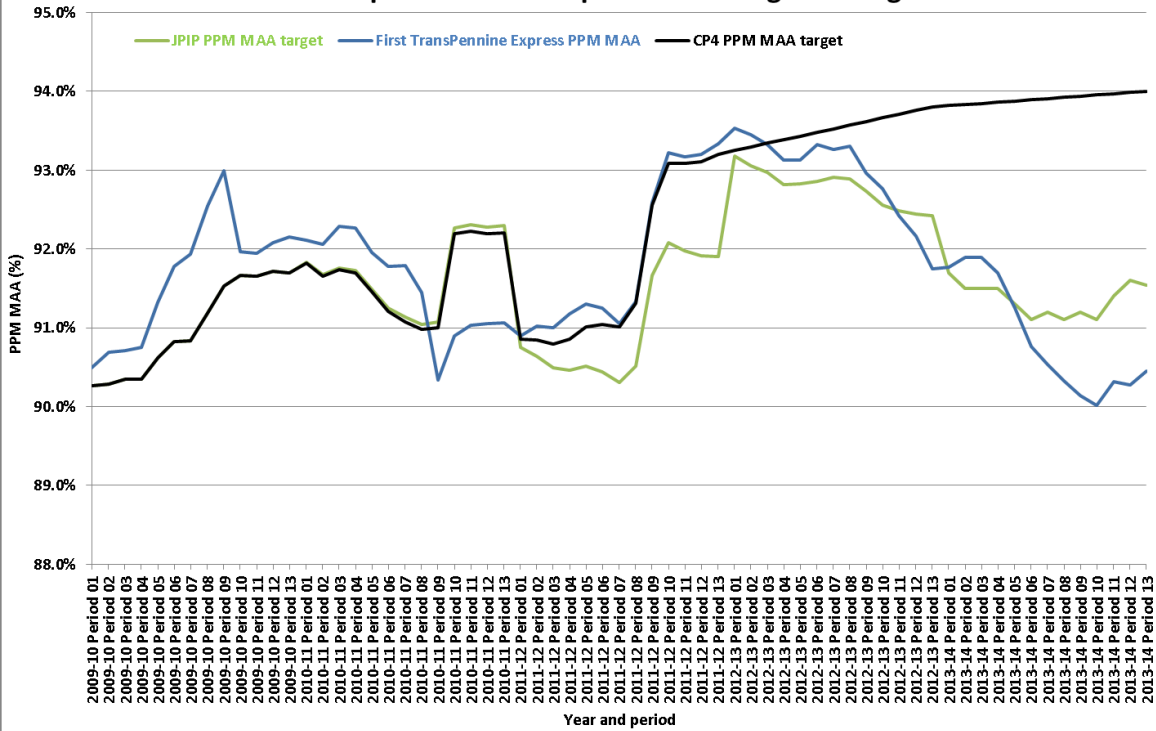


Chart 38

Greater Anglia (LD element) PPM MAA performance against target

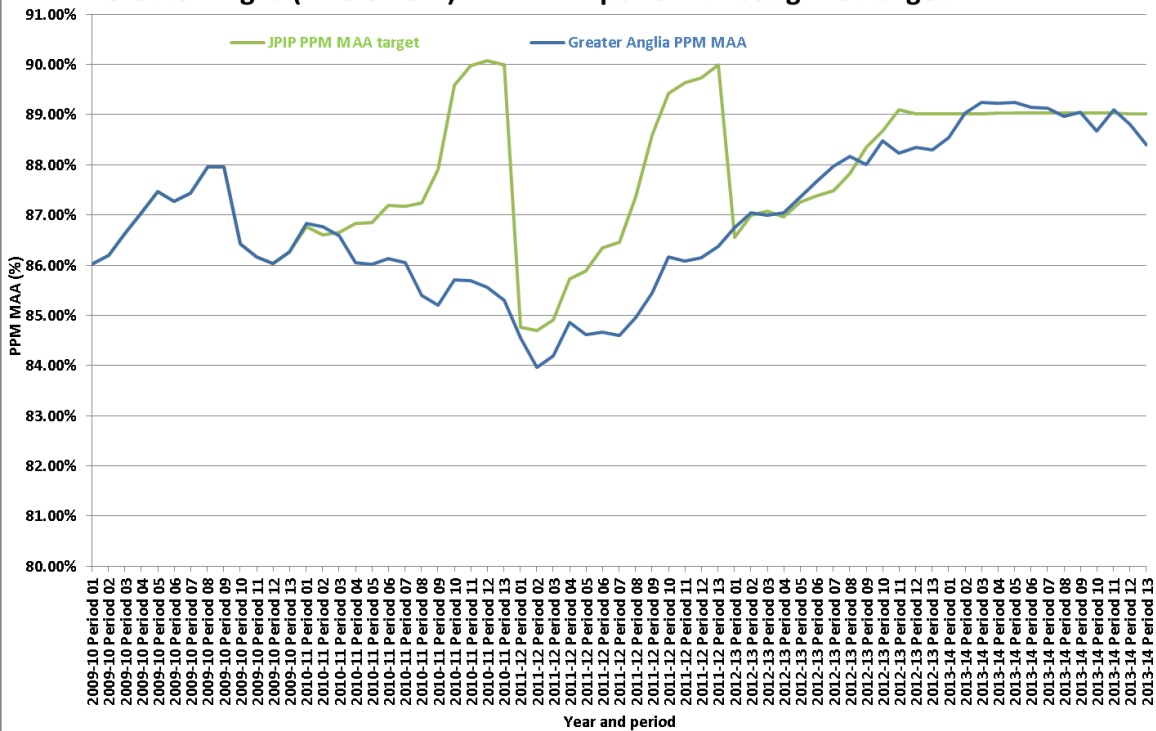


Chart 39

Virgin Trains PPM MAA performance against target

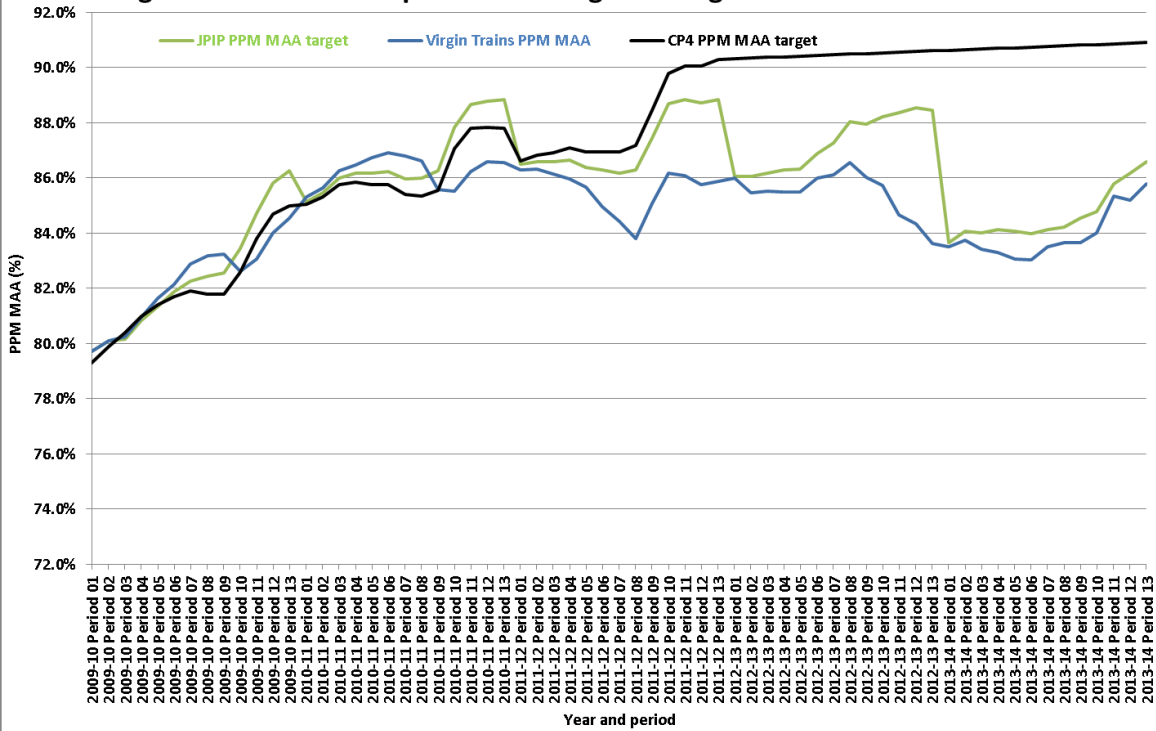


Chart 40

Grand Central PPM MAA performance against target

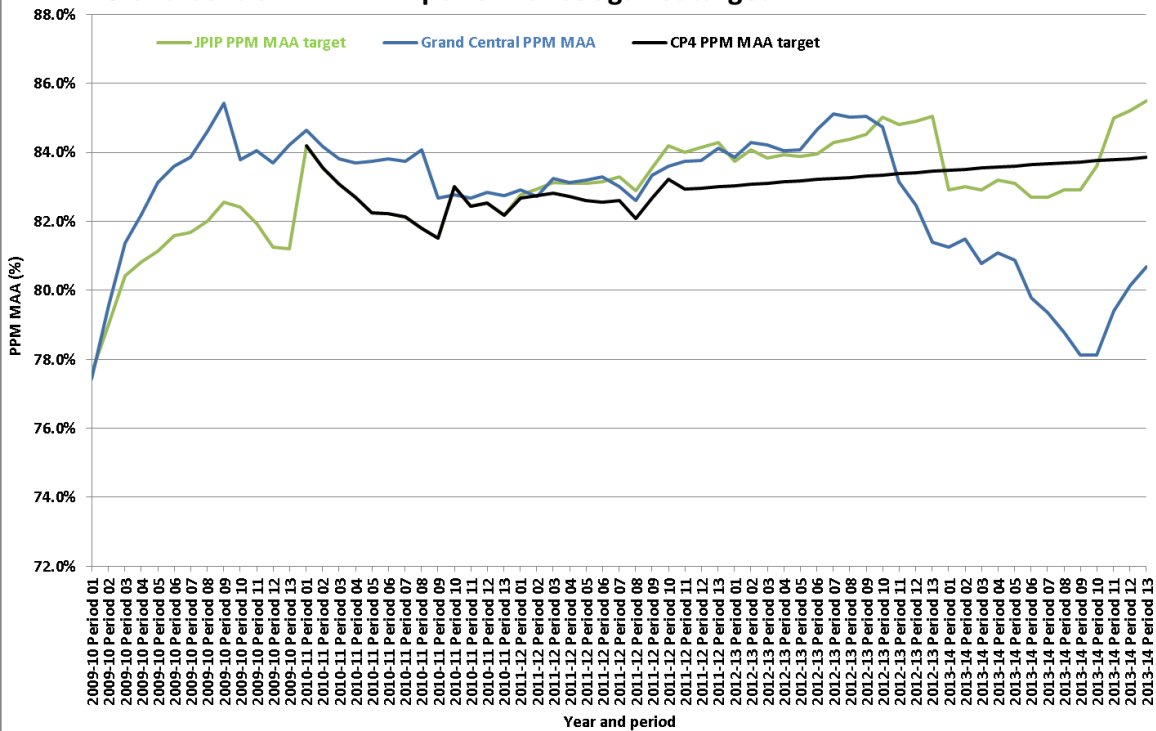


Chart 41

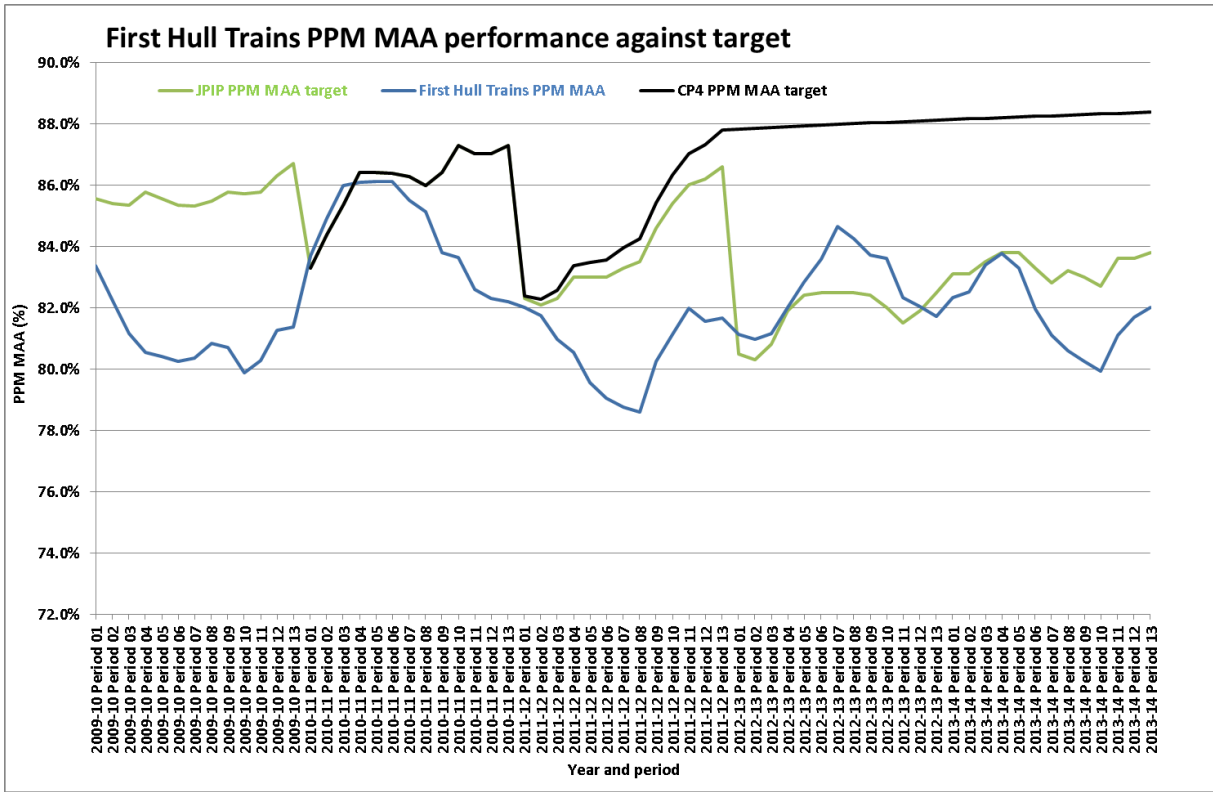


Chart 42

LSE sector

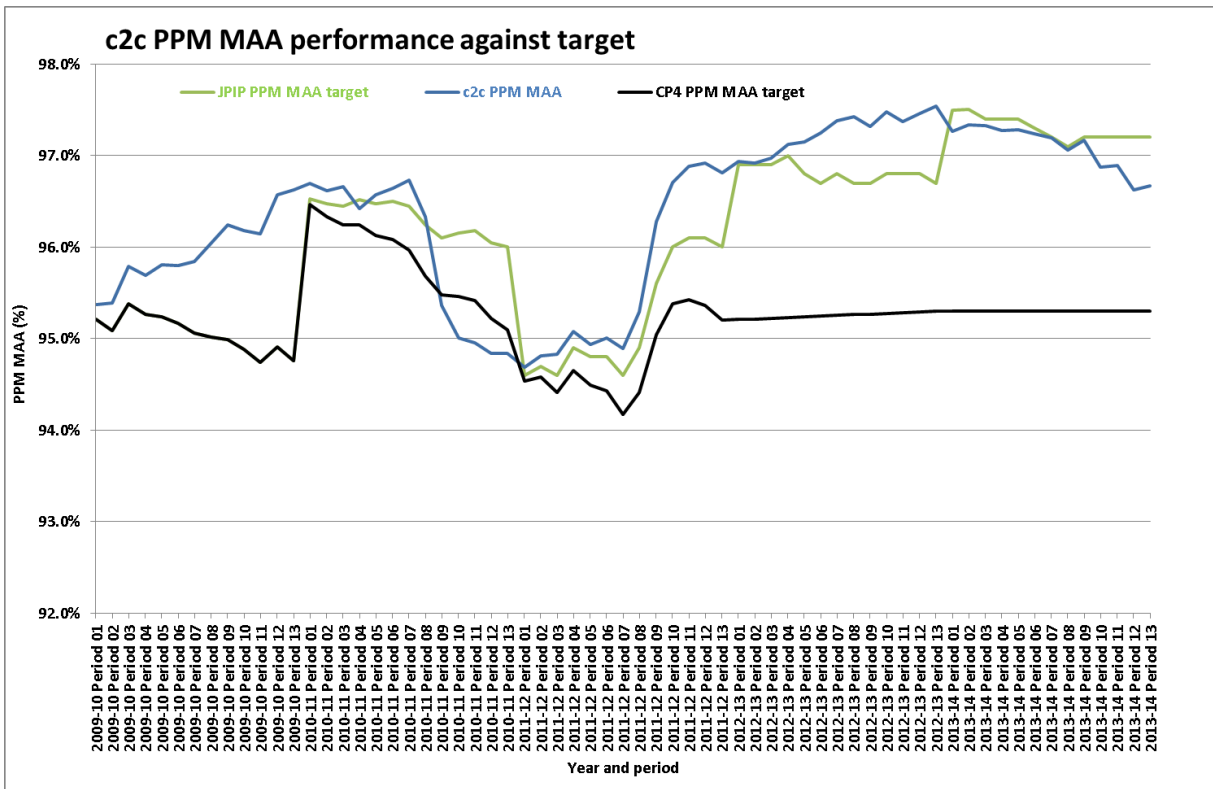


Chart 43

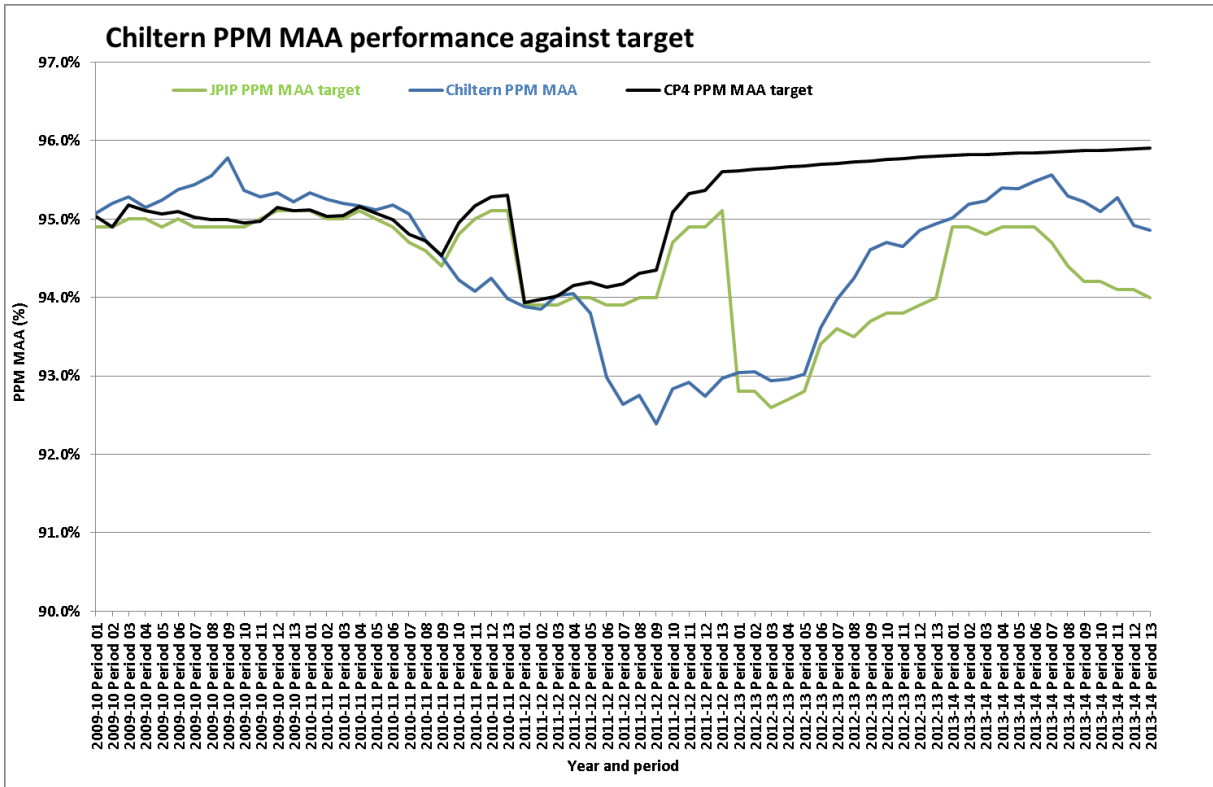


Chart 44

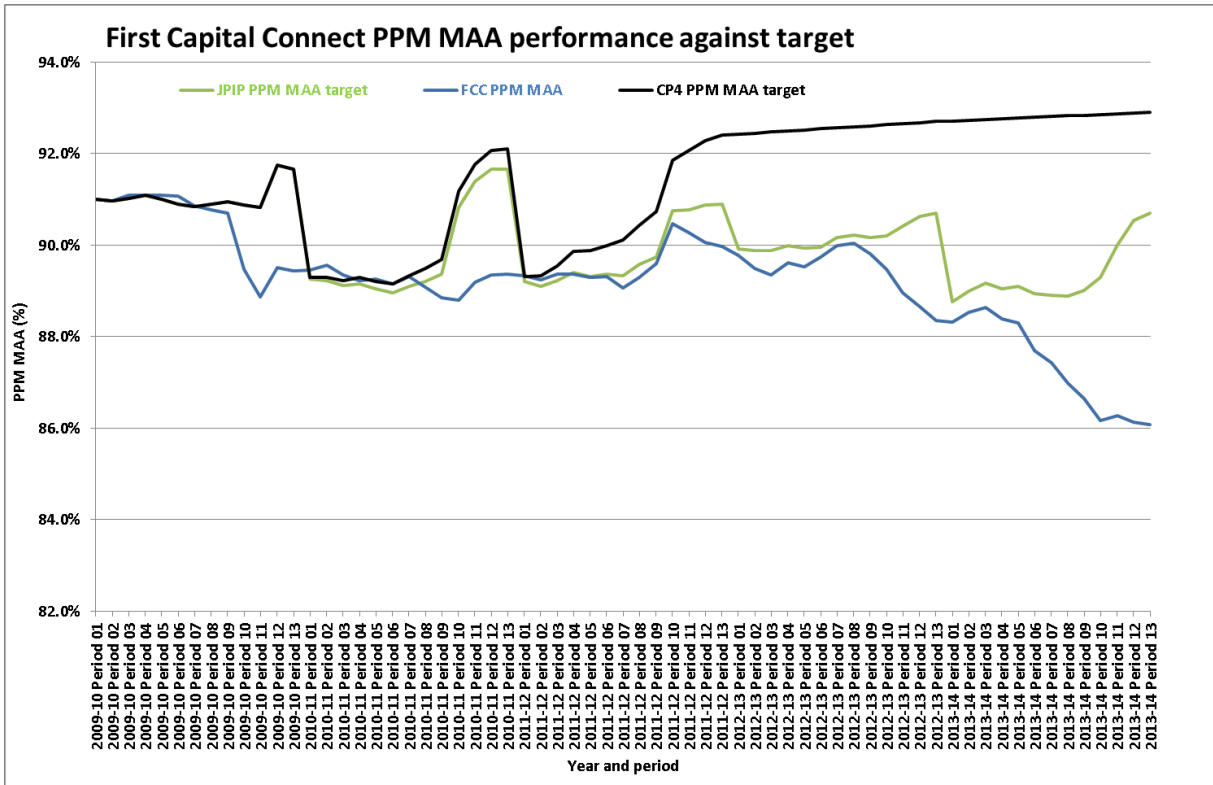


Chart 45

First Great Western (LSE element) PPM MAA performance against target

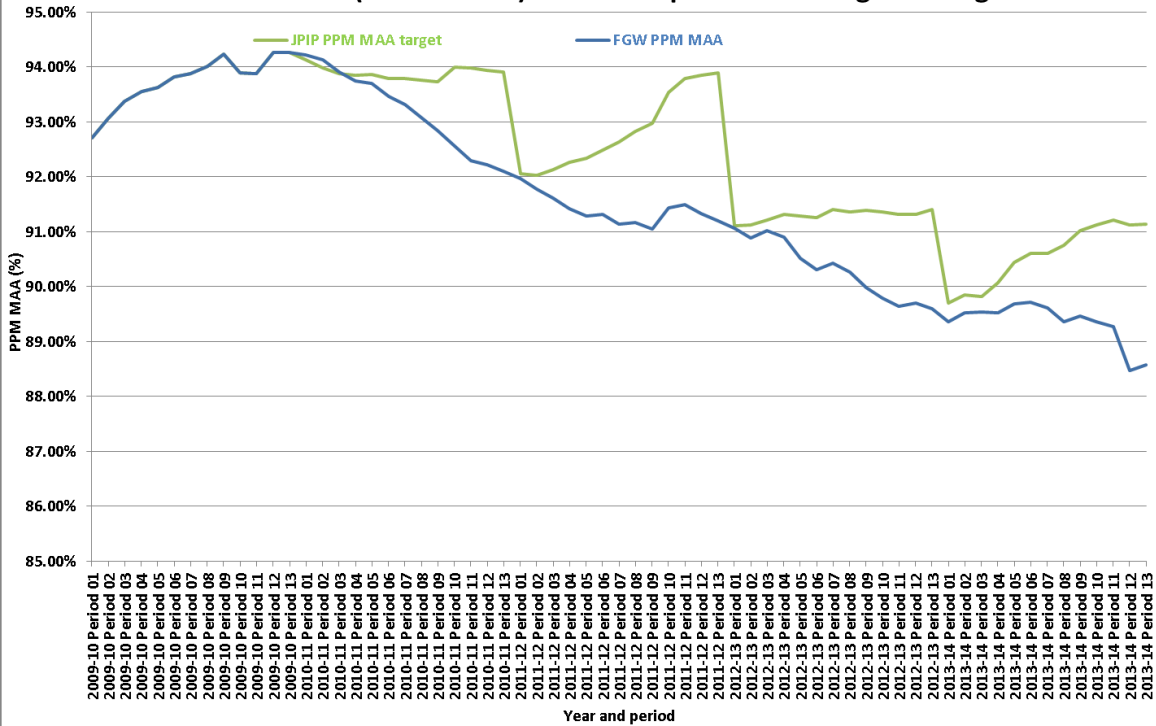


Chart 46

Greater Anglia (LSE element) PPM MAA performance against target

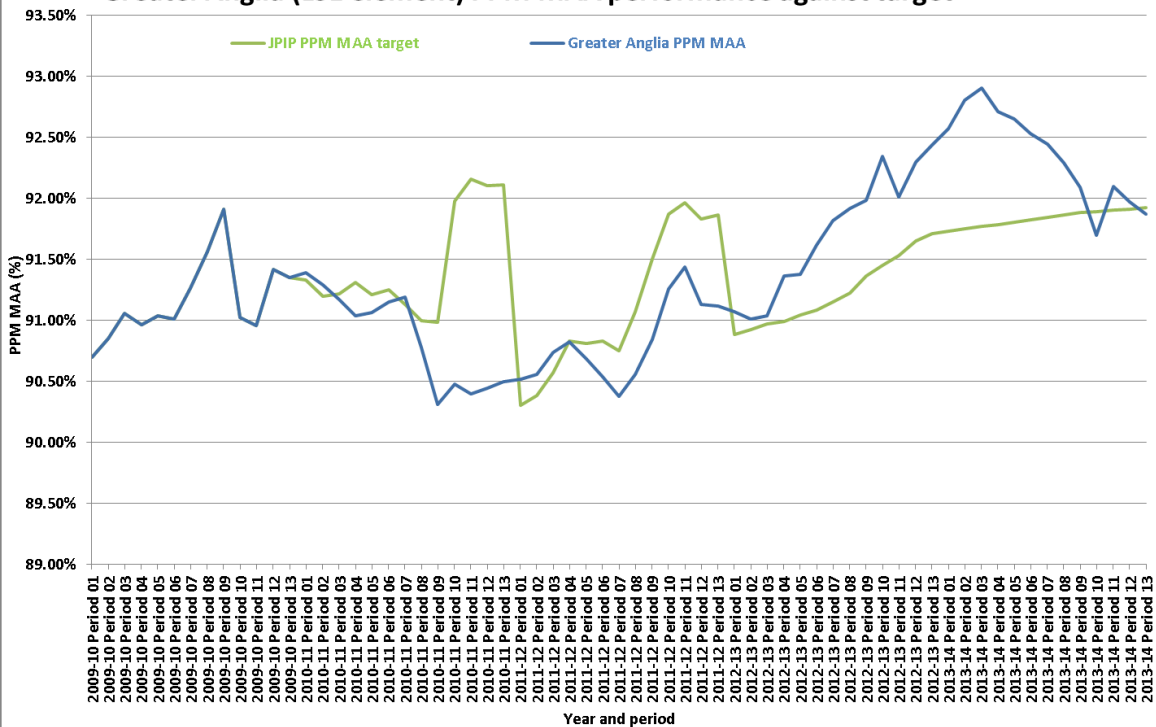


Chart 47

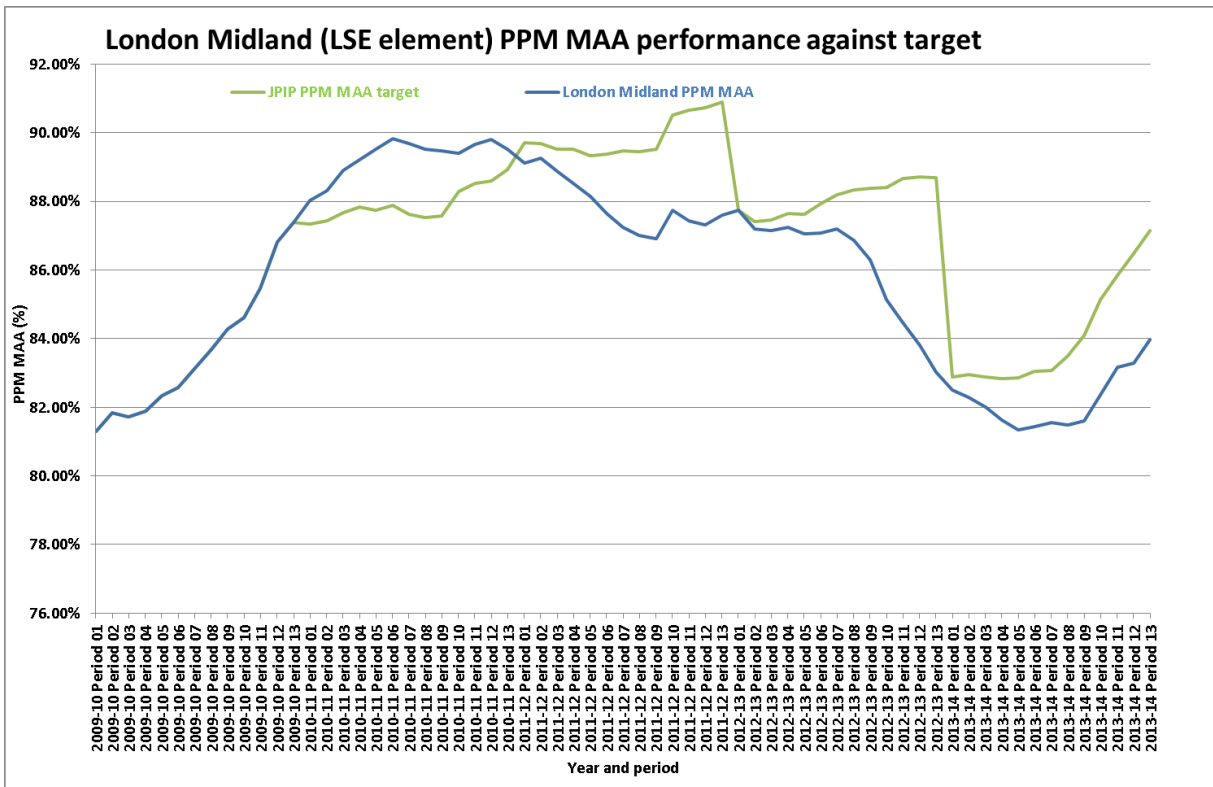


Chart 48

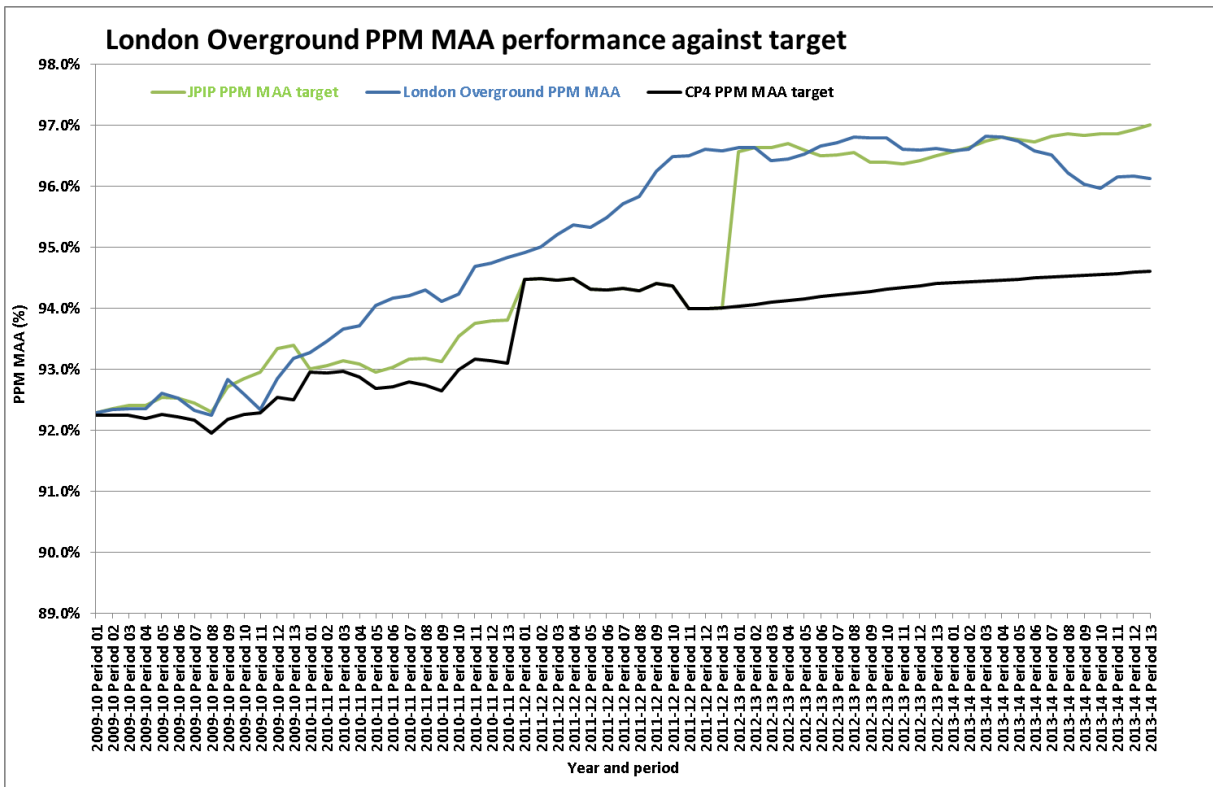


Chart 49

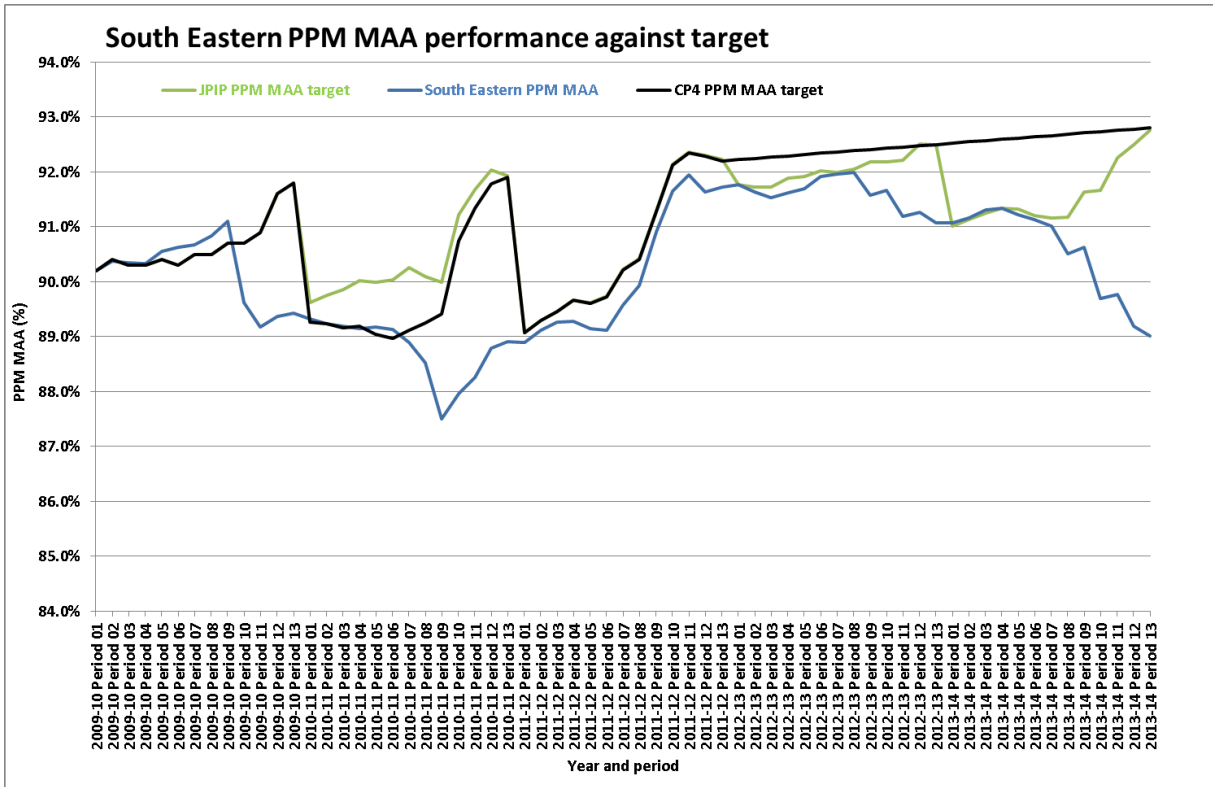


Chart 50

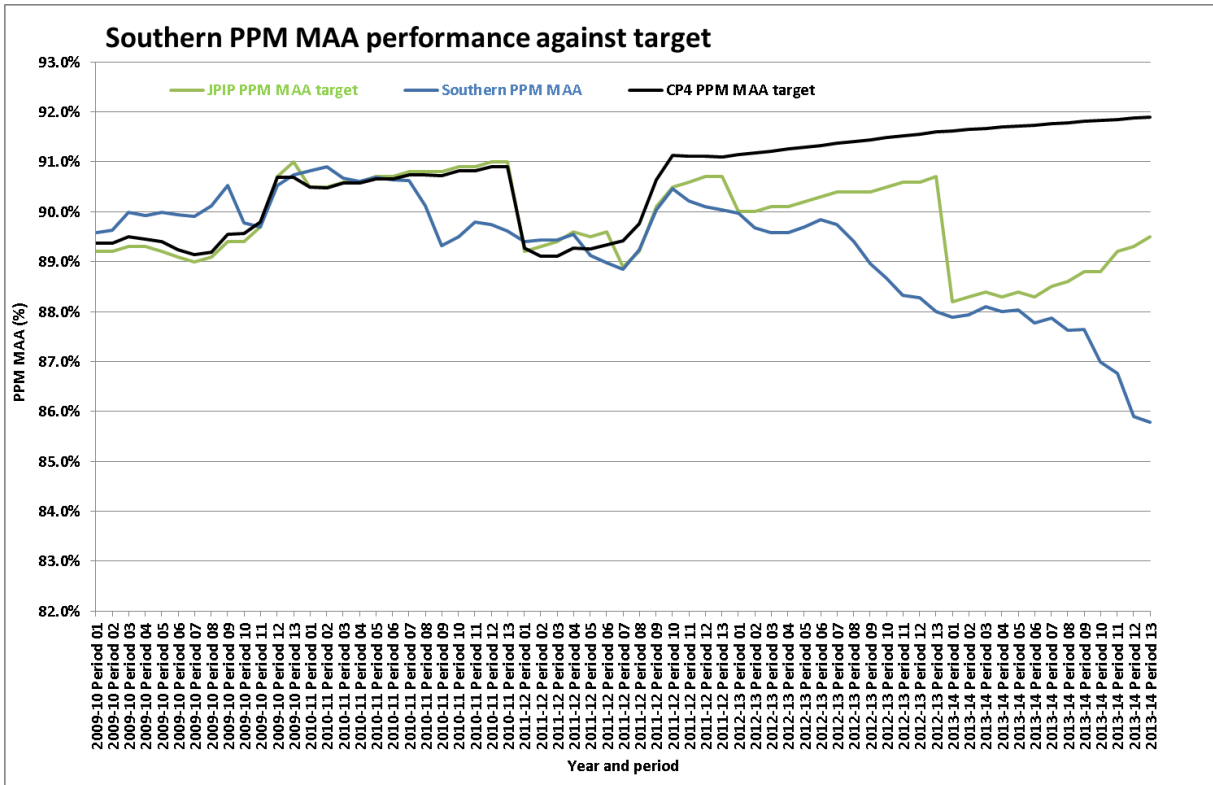


Chart 51

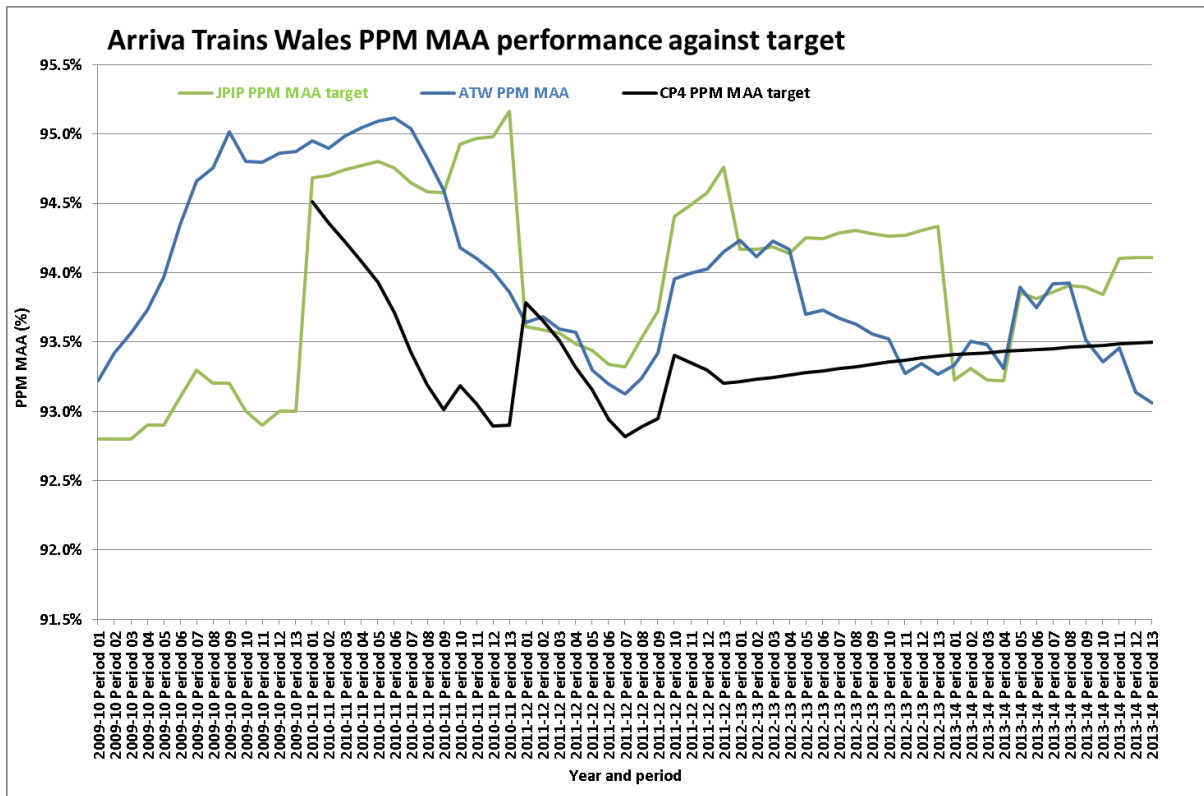


Chart 54

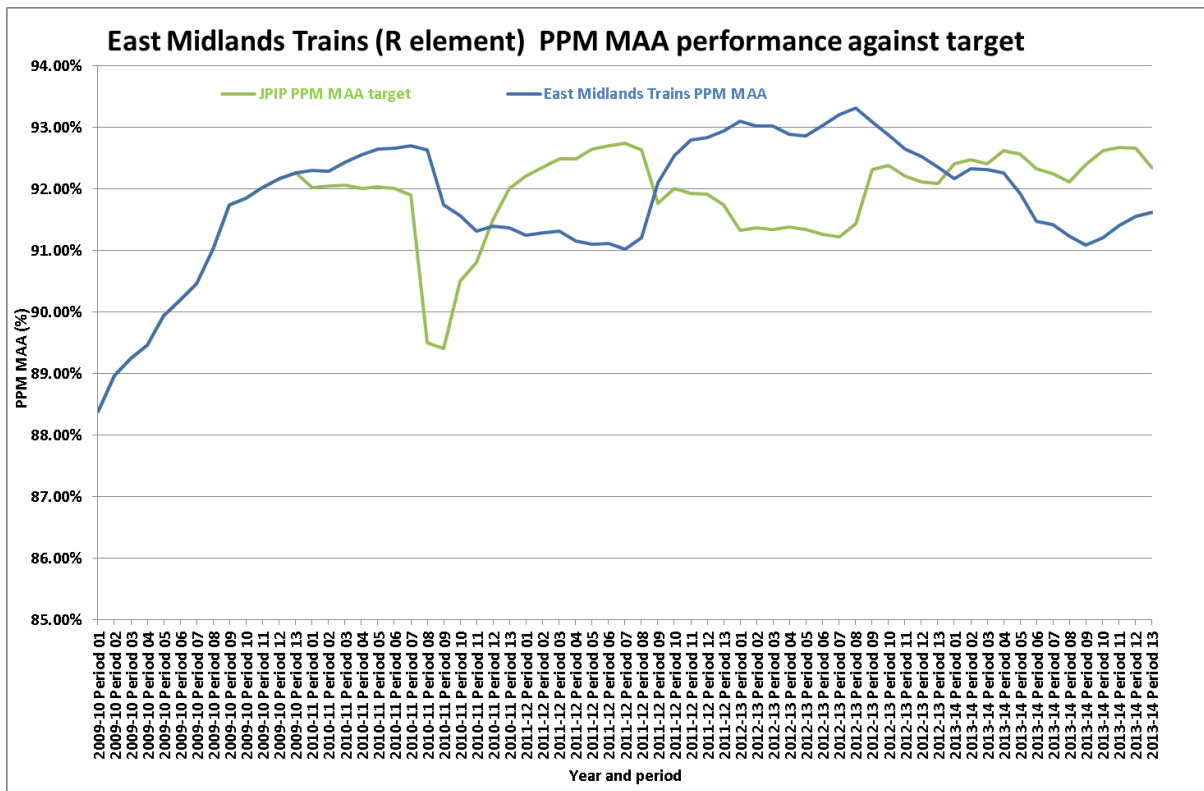


Chart 55

First Great Western (R element) PPM MAA performance against target

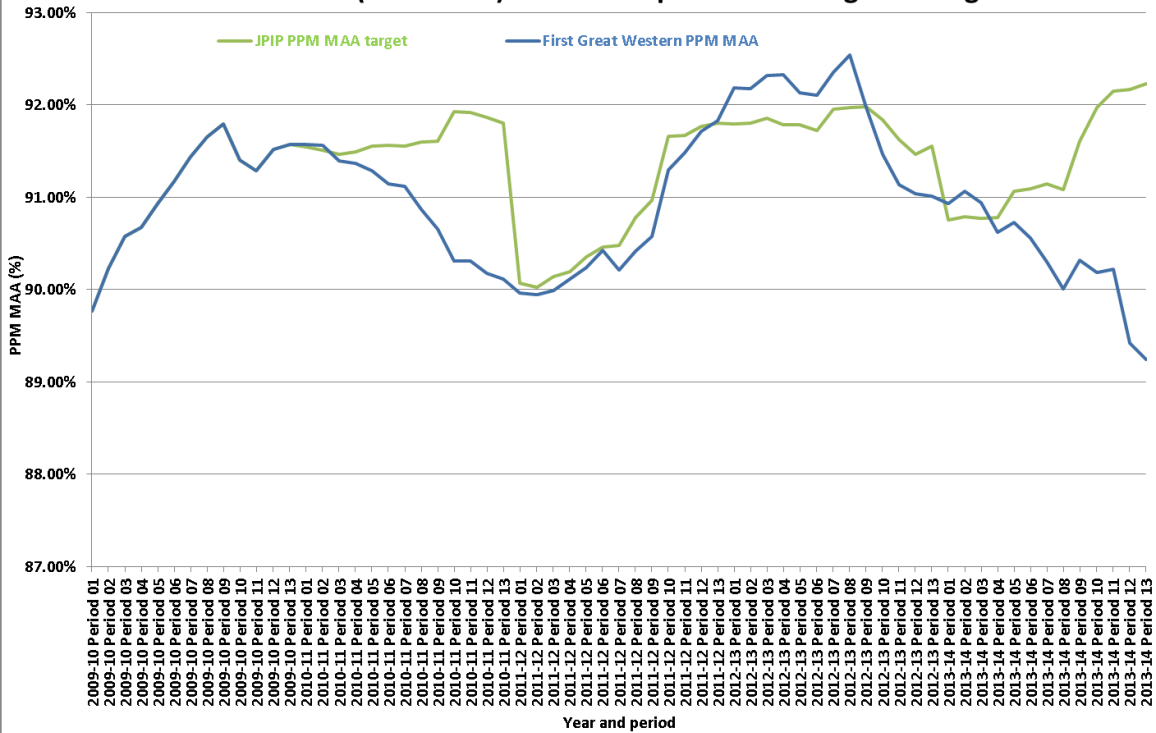


Chart 56

London Midland (R element) PPM MAA performance against target

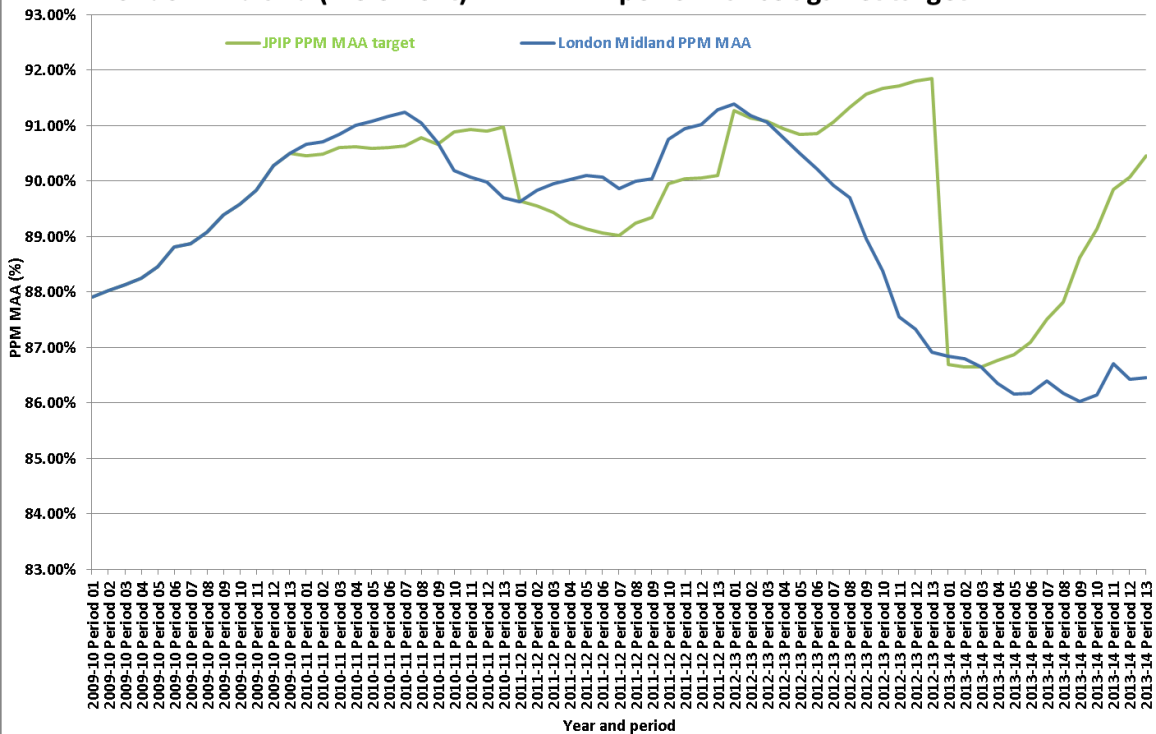


Chart 57

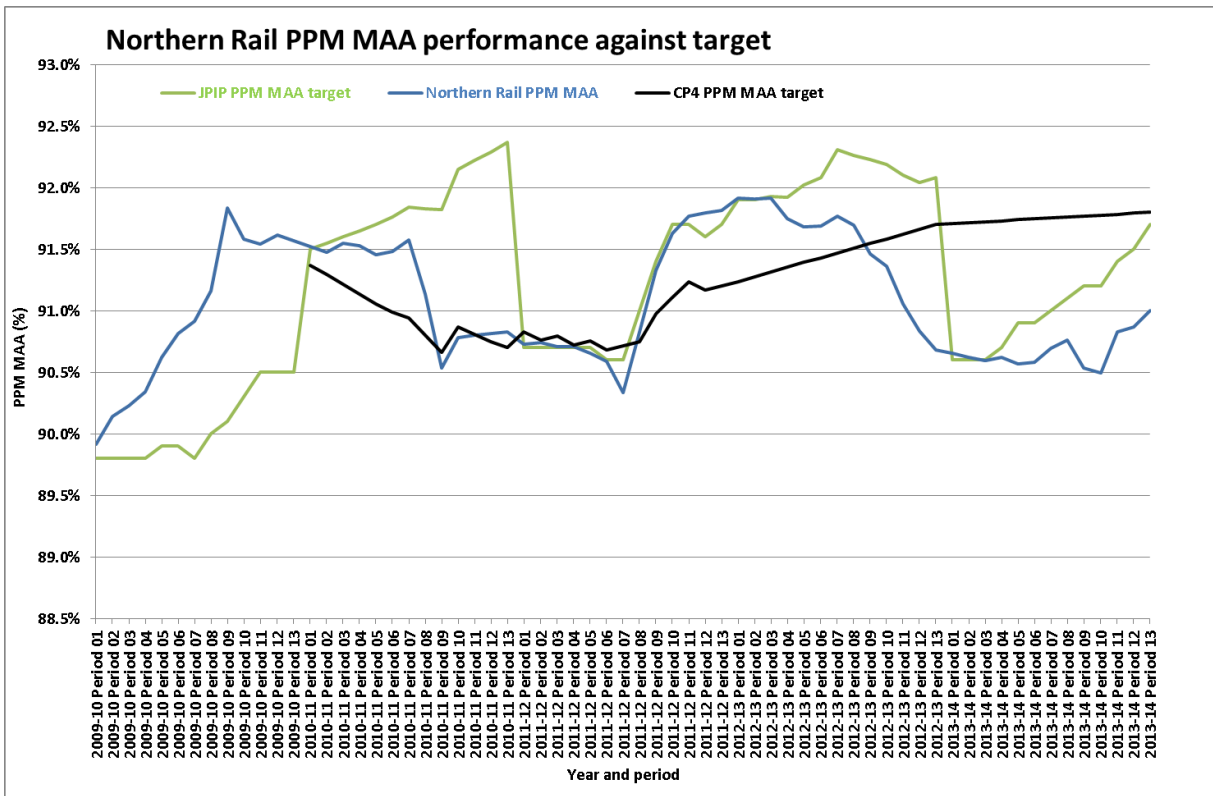


Chart 58

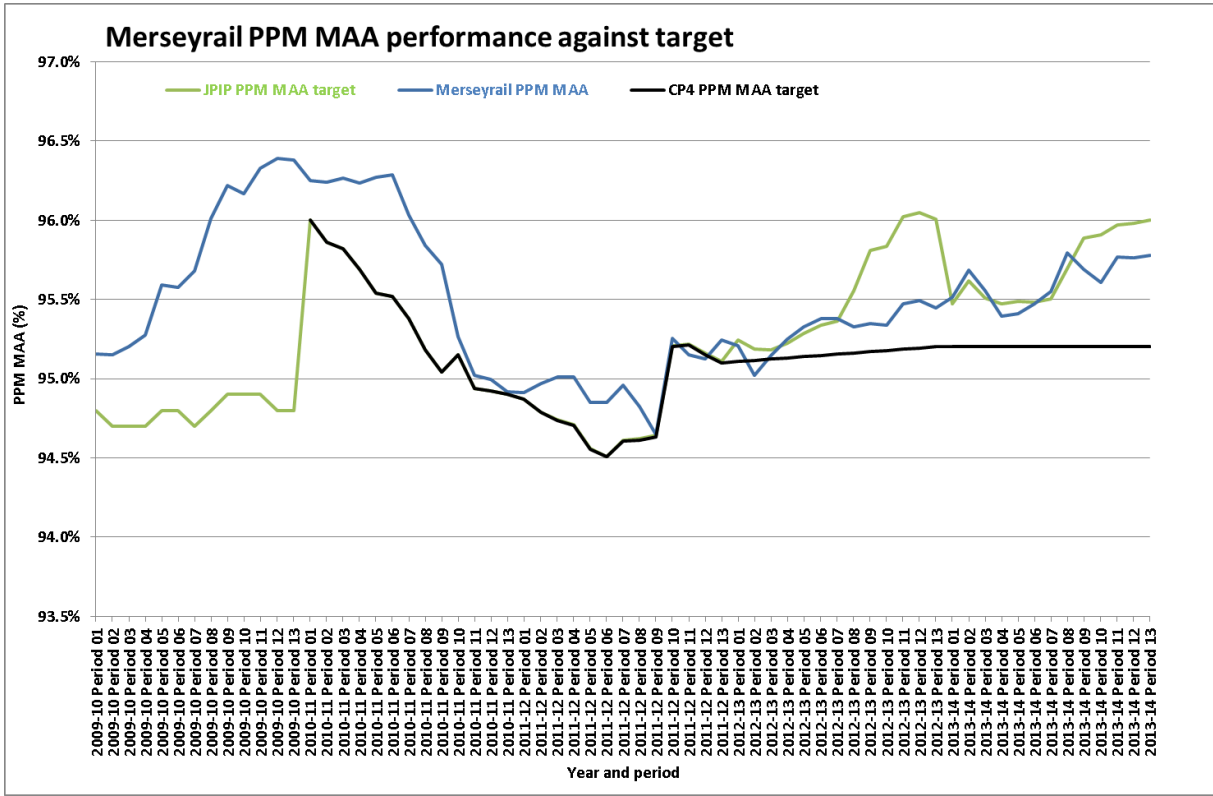


Chart 59

Annex B - Independent reporter's mandate and report



JN5115 - CN030
Operational Performar

Annex C - Relevant Correspondence

Alan Price
Director, Railway Planning and Performance
Telephone 020 7282 3825
alan.price@orr.gsi.gov.uk



Mr Robin Gisby
Managing Director, Network Operations
Network Rail Infrastructure Limited
Kings Place
90 York Way
London, N1 9AG

25 March 2014

Dear Robin

Investigation into Network Rail's delivery of its regulated performance targets 2013-14 (Long Distance, London and the South East and Regional sectors and Scotland)

As you are aware performance in all sectors continues below the levels Network Rail has been funded to achieve for passengers in 2013-14.

We will carry out a full assessment of Network Rail's performance against its regulatory targets at the end of the control period (31 March 2014), focussing in particular on whether Network Rail has done everything reasonably practicable having regard to all the relevant circumstances to deliver its regulated performance targets in these sectors and Scotland.

This letter provides information about the scope of our performance investigations and next steps.

Long Distance

A final order is already in place in relation to Long Distance PPM performance for 2013-2014. This includes provision for a reasonable sum payable at the end of the period if Network Rail fails to meet the regulated target, depending on the level of PPM Network Rail actually achieves and the extent to which it was reasonably practicable to do so having regard to all the relevant circumstances. The amount of any sum may be reduced to the extent that ORR reasonably considers it was not reasonably practicable to achieve the PPM output having regard to all relevant circumstances.

Network Rail should provide a quarter 4 report covering Long Distance performance, and any other data or representations it wishes to make. Our order specifies that any representations should be submitted by 30 April 2014.

However, I am aware that the quarter 4/year end assessment for all the other sectors and Scotland is due to be provided by 25th April. If it would be simpler (or avoid duplication) for the company to produce a single report, we would have no objection if you chose to provide NR's quarter 4 and its representations in relation to long distance as part of the 25th April document



9030107

Head Office: One Kemble Street, London WC2B 4AN T: 020 7282 2000 F: 020 7282 2040 www.rail-reg.gov.uk

you are otherwise producing, provided it is clear what you are asking us to take into account for the purposes of the long distance order.

London and South East, Regional sectors and Scotland

This investigation will focus on performance in 2013-14 and an assessment of whether Network Rail did everything reasonably practicable to achieve the regulated outputs for these sectors and Scotland.

We will engage with Network Rail to understand the reports and plans you have provided. We will also seek views from relevant operators.

We will take account of Network Rail's quarterly reports provided to us to date and in the quarter 4/year end assessment due to us by **25 April**. This assessment should include any other relevant information for our consideration.

We may also commission the independent reporter to provide us with an assessment of the delivery and impact of the actions in your recovery plans. As usual we will agree a remit with you in advance.

We consider it to be in the interests of the industry and public to conclude these matters in a timely way and hope that Network Rail will cooperate to ensure we can conclude these matters promptly following the end of the control period.

A copy of this letter will be put on our website.

Yours sincerely,



Alan Price
Director, Railway Planning and Performance



Mr Alan Price
Director, Railway Planning and Performance
Office of Rail Regulation
One Kemble Street
London
WC2B 4AN

Kings Place
90 York Way
London
N1 9AG
Tel: 0203 356 9171

8th April 2014

Dear Alan

Investigation into Network Rail's delivery of its regulated performance targets 2013-14 (Long Distance, London and the South East and Regional sectors and Scotland)

Thank you for your letter of 25 March 2014 setting out the scope of your proposed investigation into the various shortfalls in our delivery of train performance. I note that Nigel Fisher has written in similar terms to our Scotland route and set out a little more detail of what he expects us to provide.

I agree with your suggestion that we should provide a summary for each of the four sectors by 25 April. I would also ask you to note that this will indeed be a summary of the key trends and our response as I would hope that ORR is already sufficiently informed of the relevant detail.

Let me first confirm that we accept the extent of our responsibility for the missed regulated targets in CP4. With regard to the Long Distance sector we will be noting in particular the impact of:

- Growth which has caused a disproportionate effect on PPM despite the progress we have made on delay minutes when normalised by train miles
- Large incidents across a range of delay categories
- Extreme weather and how on occasion we and the operators have consciously run the network for capacity rather than performance.

We feel it is important to recognise these issues perhaps even more so than when your final order was issued.

In discussing our performance across the other sectors, and especially L&SE, we will be taking in to account the impact of extreme weather over the last few months. You will have seen that this has caused a decline in the CP4 out turn from a predicted 91.2% at the end of period 7 to an actual 90.0%. Across the business we are very disappointed that despite all our efforts to restore performance during the first half of 13/14 our actual delivery has been affected so dramatically. We are however grateful that ORR has recognised the efforts of our staff in keeping the railway open in very difficult circumstances.

When considering the implications of missing the LSE targets we would also like ORR consider as reparations, the investments we are already making to improve the resilience of the network to climate change and more extreme weather. Of the £75m we set aside for the L&SE recovery plan some £4m of improvements in resilience have already been delivered. We will increase this expenditure following the outcome of the work that John Halsall's SCMT is leading, to ensure future performance is safeguarded , over and above the condition based renewals that we are funded for in the CP5 Determination.

Yours sincerely,



Robin Gisby
Managing Director, Network Operations

July 2012 Long distance enforcement order



Richard Price
Chief Executive
Telephone 020 7282 2006
Fax 020 7282 2043
E-mail richard.price@orr.gsi.gov.uk

23 July 2012

Sir David Higgins
Chief Executive
Network Rail Infrastructure Limited
Kings Place
90 York Way
London
N1 9AG

Dear David,

Enforcement order relating to long distance performance in 2013-14.

Thank you for letter of 22 June 2012 in response to our proposal to make an enforcement order in respect of long distance performance in 2013-14. We welcome your commitment to get as close to the regulatory target as possible. Following our consultation, we are now making the order with no amendments. A copy of the order is attached in the annex to this letter. Our reasons for making the order and the explanation of how we calculated the reasonable sum are set out in my letter of 29 May 2012¹.

As you know we take performance seriously and expect you to do everything possible to deliver the commitments that you were funded for. The size of any penalty now depends on how well Network Rail performs against those commitments.

We will be monitoring delivery of the plans carefully. You have asked that the monitoring regime for this order does not become a distraction so that you can concentrate on delivering the plan. We have agreed a suitable level of monitoring with you including delivery of quarterly reports against the plan.

You have also asked if we will take severe weather and the increase in suicides and cable thefts into account in assessing whether Network Rail has met the target to the greatest extent reasonably practicable. We would expect to consider changes in factors outside Network Rail's control in making this assessment, but also the extent to which these could have reasonably been foreseen, and reasonably practicable actions taken to mitigate their effects (either through advance precautions or effective response).

¹ The 29 May 2012 letter can be found on our website at:

<http://www.rail-reg.gov.uk/upload/pdf/290512-performance-breach-letter.pdf>



You suggested that we amend the enforcement order to allow some flexibility to accept 'reparations' in lieu of a penalty if Network Rail does not meet the target. We believe that in many cases reparations are the right approach and so have just consulted on changes to our penalties statement on this. We will be concluding on this shortly. However, we consider in this case that it is necessary to focus on the incentive effect of the sliding scale penalty in the order and it would not be appropriate to consider changing that at the end of the process. As I said at the start of this letter, the amount of the penalty, and therefore the loss to the industry, depends on Network Rail's performance against its commitments.

We note your comment that you do not agree that the maintenance-restructuring and operating costs reductions may have led to cuts being made too soon. We had reached this view from the slides you submitted to us on 31 March this year as well as from several meetings with your team. We are encouraged by your statement that productivity improvement has now accelerated to expected levels.

The order concerns performance in 2013-14. But as we said when we proposed the order, delivery of the joint performance improvement plan commitments in the current year, 2012-13, is essential. There is a varied picture in the first three periods, with an improving picture for many train operators but problems on Virgin Trains and Cross Country Trains. We believe the secondment of Chris Gibb to help you improve performance on the West Coast route is a really good and imaginative step, and we understand it is already beginning to make a difference. Cross Country only signed a JPIP for periods one to four and clearly you will need to agree a plan for the rest of the year as a matter of urgency. Finally, I must emphasise that we will continue to monitor the position across the sector carefully and we will take further action in respect of 2012-13 if we are satisfied you are not complying with your licence obligations.

I am publishing this letter.

Yours sincerely



Richard Price

Annex A –enforcement order

RAILWAYS ACT 1993

SECTION 55

FINAL ORDER

- A. In the 2008 periodic review Network Rail Infrastructure Limited (Network Rail) agreed to deliver annual public performance measures (PPM) in relation to passenger train services classified as the long distance sector. For this sector Network Rail is obliged to deliver a PPM of at least 92% for the year 2013-14 (“the period”). Delivery of the 92% 2013-14 PPM (“the output”) is a reasonable requirement of persons providing railway services and funders under condition 1 of Network Rail’s network licence which means that Network Rail must achieve it to the greatest extent reasonably practicable having regard to all relevant circumstances.
- B. The Office of Rail Regulation (ORR) is satisfied that Network Rail is likely to contravene condition 1 of its network licence (“the likely contravention”) in that it is not likely to deliver the output and is not currently proposing to take all necessary steps to deliver the output to the greatest extent reasonably practicable having regard to all the circumstances in that:
- (a) The long distance plan delivered to ORR in compliance with the order of the 19th January 2012 (‘the Long Distance Sector Plan’) shows Network Rail has only a 10% confidence of delivering the output;
 - (b) The initiatives in the plan designed to improve performance for the period are not sufficiently developed to demonstrate that Network Rail is and will be taking all necessary steps to deliver the output to the greatest extent reasonably practicable taking into account all relevant circumstances; and
 - (c) ORR has concluded that further work could be carried out to accelerate delivery of initiatives in the plan designed to improve performance in the period so increasing the chance of Network Rail delivering the output
- C. Having had regard to the matters set out in section 55(1) of the Railways Act 1993 (the Act), ORR considers it is requisite for it to make a final order for the purpose of securing Network Rail’s compliance with condition 1.
- D. ORR is satisfied that:

- (a) the duties imposed on it by section 4 of the Act do not preclude the making of this order, and
 - (b) the most appropriate way of proceeding is not under the Competition Act 1998.
- E. Having regard to all the circumstances and, in particular, the factors set out in section 55(3) of the Act, it does not appear to ORR that it is requisite that a provisional order be made.
- F. ORR need not consider, under section 55(5B) of the Act, the appropriateness of making this order because:-
- (a) ORR is not satisfied that Network Rail has agreed to take, and is taking, all such steps as appear to ORR for the time being to be appropriate for Network Rail to take for the purpose of securing or facilitating compliance with condition 1; and
 - (b) ORR is not satisfied that the contravention will not adversely affect the interest of users of railway services or lead to an increase in public expenditure.

Therefore:

1. In respect of the likely contravention, pursuant to section 55 of the Act, ORR requires Network Rail to take all necessary steps to ensure it delivers the output to the greatest extent reasonably practicable having regard to all relevant circumstances. This should include, in particular:
 - a. Continuing to work with industry to further review and develop:
 - i. the initiatives outlined in the Long Distance Sector Plan which relate to delivery of the output and;
 - ii. any additional initiatives which, following consultation with industry, Network Rail reasonably concludes are requisite to enable it to achieve the output to the greatest extent reasonably practicable having regard to all relevant circumstances

(together 'the initiatives')
 - b. The delivery of the initiatives.
2. If, at the end of the period, ORR is satisfied that Network Rail has failed to achieve the output, Network Rail shall pay to the Secretary of State within one month of ORR's demand, a monetary penalty of £1.5m for each tenth of a

percentage point by which it fails to achieve the output at the end of the period. This penalty may be reduced to the extent that ORR reasonably considers it was not reasonably practicable to achieve the output having regard to all relevant circumstances

3. For the purposes of the calculation in paragraph 2 above, the PPM Network Rail achieves at the end of the period will be rounded up to the nearest tenth of a percentage point.
4. Network Rail will deliver to ORR, at quarterly intervals within the period and in 2012-13, a report detailing its progress in delivering the initiatives. These reports may include representations regarding the extent to which it was not reasonably practicable to make progress towards achieving the output in that quarter, having regard to all the circumstances.
5. The content of these reports will be considered by an independent reporter appointed in accordance with condition 13 of Network Rail's Network Licence who will be instructed to comment, in particular, on Network Rail's progress in delivering the initiatives against the timetable set out in the Long Distance Sector Plan.
6. Network Rail shall deliver to ORR, within one month of the end of the period, any representations it wishes to make in respect of its delivery of the output and the extent to which it was not reasonably practicable to achieve the output having regard to all the circumstances.
7. Nothing in this order shall be taken to permit Network Rail to breach any licence, contractual or other legal obligation.
8. In this order, 'industry' means any passenger or freight train operating company or any body representing such companies.

This order shall have immediate effect.



Richard Price

Chief Executive

Annex D - Letter to John Thompson ref Further Performance Fund

Richard Fisher

Rail Delivery Manager
Telephone 020 7282 3989
E-mail Richard.Fisher@orr.gsi.gov.uk

19 August 2013
John Thompson
Industry Performance Relationship Manager
Network Rail
The Quadrant
Milton Keynes
MK9 1HA

Dear John

Performance improvement funding in CP4

Thank you for welcoming me to Milton Keynes on 6 August to discuss Network Rail's use of the various performance funds in CP4. I appreciate the time you took explaining to me where funds had been spent. We also discussed your wish to rollover part of the New Performance Fund into CP5.

Generally I felt that Network Rail's approach to the allocation of the performance funds was sound, although I have a few areas that require clarification:

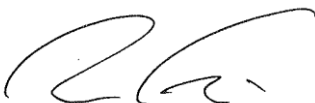
- You gave examples where Network Rail had used performance funding to provide wheel lathes for TOCs. Where you are confident performance will benefit and lower whole industry costs will result, this seems a reasonable use of performance funds. However, I would like to understand how you will evaluate these benefits and what commercial arrangements will apply if a Network Rail funded wheel lathe capacity is later used to provide profitable services to third parties; and
- You were unable to give details of how £10m of Performance Recovery Funding allocated to the West Coast main line had been used. As mentioned I intend to meet the West Coast Reliability Programme Team and will discuss this with them directly.

Separately, you asked if an element of the £50m of new performance funding can be rolled over into CP5. The answer is no; the fund was provided to deal with performance issues in CP4. Our final determination will deal with performance in CP5.

Current performance is poor and there is a real danger that all GB sectors will miss the regulated outputs that Network Rail has been funded to deliver. In order to improve the position, we expect to see Network Rail taking very deliberate action - and right now. Therefore, I suggest that Network Rail and its customers immediately work together to identify where the funds already made available can sensibly be used to improve performance. I expect that by **30 September 2013** you will be able to provide me with a breakdown of further schemes, including a brief description, cut in date, cost value and a quantified benefit. My expectation is that Network Rail will be able to demonstrate clearly how the remaining value of the new performance fund will be used to bridge the gap between current performance and the regulated outputs. For the avoidance of doubt, a performance scheme must be delivering benefits by the 31 March 2014 to be funded from the CP4 performance fund.

Please feel free to contact me if you wish to discuss this matter further. I am copying this e-mail to Gary Cooper and the Managing Directors of the Train Operating Companies you serve.

Yours Sincerely



Richard Fisher

Annex E – NR Q4 performance report



Alan Price, letter to
(CP4 Performance Ass

Annex F Methodology and assumptions used in the mitigation calculations

Weather

Weather data was taken from Meteo Group who provided data from a number of weather stations across Great Britain. ORR assigned these stations to a specific sector based on NR's mapping of weather station to NR route.

Weather stations	Route	Sector	Comments
Durham	LNE	LD	
Keswick	LNW	LD	
Bedford	East Midlands	LD	
Cardinham, Bodmin	Western	LD	
Lyneham	Western	LD	
Andrewsfield	Anglia	LSE	
East Malling	Kent	LSE	
Herstmonceux, West End	Kent	LSE	
Charlwood	Sussex	LSE	
Hurn	Wessex	LSE	
Wisley	Wessex	LSE	
Nottingham, Watnall	East Midlands	R	Slightly higher proportion of Regional services
Waddington	LNE	R	
Coventry, Coundon	LNW	R	Slightly higher proportion of Regional services
St Athan	Wales	R	

The measures included in the Meteo Group data were 24hr precipitation (mm) and maximum gust (mph). If either of these measures were above the thresholds detailed in the table below, they were deemed to be extreme. These thresholds were calculated based on the 95th percentile.

Sector	24 hour precipitation (mm)	Max gust (mph)
LSE	9.6	38.7
LD	10.4	42.3
Regional	8.5	40.8

Individual days that were affected by extreme weather were adjusted based on the average for that specific day throughout CP4.

Due to the nature of the weather during periods 10, 11 and 12 of 2013-14 (i.e. ground water kept rising and flooding got more severe days after the severe weather event), the entire period PPM was replaced by calculating the average variance to JPIP for each sector during periods 1-9 of 2013-14 and measuring that against the JPIP targets for periods 10, 11 and 12.

The methodology for weather adjustment was agreed with NR in April 2014.

Further mitigations

NR is assumed to be responsible for 50% of external delay minutes. We took this view since these delays are not entirely within Network Rail's control, although it can take actions to make them less likely and to mitigate their impact.

Delay minutes to PPM conversion is uniform across all asset groups (i.e. if external delay minutes were 20% over target, they were assumed to be responsible for 20% of the excess PPM).

Each of the mitigations for the reasonable sum calculations (externals and extreme weather) in the LD sector were calculated from the gross sum (£1.5m for each 0.1pp adrift of target) rather than an adjusted sum.