

**Network Rail Monitor (Great Britain)**  
**Quarter 4 - 2005-06 (ending 31 March 2006)**



Key Performance Indicators (KPIs)		2005-06				2005-06	
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Year End Actual/Total	Year End Target
<b>1 - Safety Risk # *</b>	Actual	78.5	78.8	79.1	79.6	n/app	n/app
(RSSB train accident precursor measure (composite))	Previous Year's Actual	79.7	76.9	76.2	76.6		
<b>2 - Passenger Train Performance **</b>	Actual	84.3	85.1	85.5	86.4	86.4	85.5
(Public Performance Measure (PPM) (MAA))	Network Rail Target	84.0	84.7	85.2	85.5		
<b>3 - Network Rail Delay Minutes (Passenger and Freight)</b>	Actual 4-weekly Average	0.81	0.78	0.94	0.65	10.5	11.3
(No. of Delay Minutes (millions) attributed to Network Rail causes)	Profile of ORR Target	0.83	0.90	0.93	0.79		
<b>4 - Asset Failures</b>	Actual 4-weekly Average	4,623	4,431	4,263	4,072	56,432	n/av
(No. of infrastructure incidents)	Previous Year's Actual	4,895	4,783	4,145	4,320		
<b>5 - Asset Stewardship Index (ASI) *</b>	Actual	0.87	0.84	0.83	0.80	0.80	0.85
(Composite of 7 asset condition measures)	Network Rail Target	0.88	0.86	0.86	0.85		
<b>6 - Activity volumes (Track Renewals Only)</b>	Actual Cumulative	98.5	96.8	96.5	106.1	106.1	100
(% Activity compared with plan)	Network Rail Target	100	100	100	100		
<b>7 - Financial efficiency index (FEI)</b>	Actual Cumulative	478	924	1,508	1,974	1974	2,037
(Adjusted cost of Operations, Maintenance and Track Renewals)	Network Rail Target	470	941	1,567	2,037		
<b>8 - Expenditure variance</b>	Actual Cumulative	-8.2	-10.9	-10.6	-6.1	-6.1	n/app
(% Variance from Network Rail's budgets)	N/A	0	0	0	0		
<b>9 - Financing</b>	Actual	74.7	75.2	76.7	78.6	78.6	80.6
(Debt to RAB (Regulatory Asset Base) ratio) (%)	Network Rail Budget	75.6	76.6	78.4	80.6		
<b>10a - Customer satisfaction (TOCs)</b>	2006 MORI survey	n/app	n/app	n/app	-0.30		
(Train operator satisfaction)	2005 MORI survey	n/app	n/app	n/app	-0.47		
<b>10b - Customer satisfaction (FOCs)</b>	2006 MORI survey	n/app	n/app	n/app	-0.99		
(Freight operator satisfaction)	2005 MORI survey	n/app	n/app	n/app	-0.87		
<b>11 - Supplier satisfaction</b>	2006 MORI survey	n/av	n/av	n/av	-0.06		
(Major supplier satisfaction)	2003 MORI survey	n/av	n/av	n/av	-0.30		

KPI 1 the RSSB data on which this measure is based has been restated for the last two years.

For KPIs 1,3,4,5, 7 and 9 a decrease over time denotes improvement.

For KPIs 2 and 10 an increase over time denotes improvement.

KPIs 3 and 9, in Q1, had errors in the data, figures have been corrected to reflect this.

Figures in the Monitor are the latest available and may be subject to subsequent update. In particular the Q4 figures are subject to year end verification.

**Key:-**

- On or better than target
  - 0.1-10% worse than target
  - More than 10% worse than target and clear cause for concern (otherwise yellow).
  - n/app Information not applicable
  - n/av Information not available at the moment
- For **Expenditure variance** (KPI 8) only.
- Within 5% of budget
  - Between 5 and 9.9% above or >5% below budget
  - 10% or more above budget and clear cause for concern (otherwise yellow).

**Data Notes**

Where an indicator is shown to be red, ORR will assess the reasons for this and determine the extent to which there is cause for concern and what Network Rail needs to do to improve the situation.

# Safety data is measured monthly and published by RSSB three monthly.

All other data is four-weekly based. There are 13 four-week periods in a financial year. The period quarters are set out below.

<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
<b>P1-3</b>	<b>P4-6</b>	<b>P7-10</b>	<b>P11-13</b>

\* Snapshot at the end of that Quarter (Measures 1&5).

\*\* Moving Annual Average - total for previous 13 four weekly periods divided by 13. (This definition of MAA makes it a lagging indicator). Latest quarter is a provisional estimate.

Figures in the Monitor are the latest available and may be subject to subsequent update.

**Targets**

The 'actual' data is compared with the appropriate ORR target where one has been set. Otherwise Network Rail's own internal target (to meet Network Rail's required overall outputs as set by ORR) is used. Where this is not available or appropriate the data for the corresponding period in the previous year is used as the comparator.



## KPI 1. Safety Risk

In the Railway Strategic Safety Plan 2005, the rail industry committed to maintaining the current level of safety performance in areas considered to be well under control, while working for continuous improvement in other priority risk areas.

The train accident Precursor Indicator Model (PIM), which is managed by the Rail Safety and Standards Board (RSSB), measures the risk per million train miles of a train accident, e.g. collisions, derailments, fires or striking a road vehicle at a level crossing. The measure incorporates 82 precursor events in eight groups. Around 65% of the risk arises from events largely under the control or the responsibility of Network Rail, e.g. track geometry, infrastructure failures, environmental factors (such as flooding or land slips) and minimising level crossing misuse.

The PIM risk indicator was set to a reference value of 100 at the end of March 2002 and it provides a measure of the change in risk relative to this level. A reduction in the index is therefore beneficial, denoting a reduction in risk.

Note: the RSSB data on which this measure is based has been restated.

At the year end the PIM was over 20 points better (i.e. lower) than the reference level of March 2002. However over the last 12 months the PIM has shown a slight deterioration. Most of the improvement since 2002 is due to the introduction of the Train Protection and Warning System and the subsequent reduction in signals passed at danger.

The largest contributor to the risk of train accidents is now misuse by road users of level crossings. The risk from this has been increasing over the last 12 months, offsetting continuing improvements in the other precursors; SPADs, infrastructure failures, objects on the line and rolling stock failures.

Level crossing misuse is a difficult area to tackle, as many of the risk control measures lie outside the direct control of the rail industry. The rail industry in its Railway Strategic Safety Plan 2006 has committed itself to maintaining the level of safety performance in areas where it is managed well, and to delivering continuous improvement in priority risk areas, wherever it is reasonably practicable to do so.

ORR will be developing policy positions on key risks such as level crossings and working with all industry stakeholders to improve level crossing safety.

## **KPIs 2. & 3. Train Performance**

Following the Government's Rail Review, Network Rail took over responsibility for whole-industry performance reporting from the Strategic Rail Authority (SRA) from April 2005, and under its Network Licence is responsible for facilitating railway service performance.

Train performance is reported using two indicators.

The public performance measure (PPM) is the percentage of scheduled franchised passenger trains arriving at their destination within a specified lateness margin (typically five or ten minutes). This measure captures all cancellations and delay causes (Network Rail, train operators and others).

The Network Rail Delay Minutes indicator is the total number of minutes delay to passenger and freight trains, where the cause of delay is attributed to Network Rail.

### *PPM*

This measure continues to improve and now stands at 86.4% for the full year. It compares well with Network Rail's 85.5% target and improved from 83.6% at the end of 2004-05 and 85.5% (refreshed) from Q3.

There is some variation between the TOCs. There have been signs of recovery in the performance of Central Trains, Virgin West Coast and TransPennine Express. However, First Great Western intercity services continue to lag some way behind the rest of the industry and there are few visible signs of improvement. ORR's investigation into performance on the Western route is seeking to understand underlying causes; what actions are in hand to improve performance; and how Network Rail is fully meeting its obligations to lead improved performance across all industry parties.

### *Network Rail Delay Minutes*

Delay attributable to Network Rail continues to fall and the company is delivering better performance than the target set in ORR's Access Charges Review 2003 (ACR2003). The annual number of delay minutes for 2005-06 was 10.5 million. This compares favourably with the target of 11.3 million minutes set in ACR2003 and the 11.5 million minutes recorded in 2004-05.

Network Rail is still responsible for just over half the delay minutes to passenger trains (53%). Although Network Rail Delay Minutes have reduced, this proportion remains unchanged from Q3 and compares with 51% in 2004-05. This is because there have also been significant reductions in minutes delay attributed to the TOCs.

Network Rail's improvements have been achieved both by reducing the number of delay incidents that occur and by reducing the number of delay minutes for each incident.

The main causes of Network Rail delay are within the Non-Track Assets Group, which includes track circuit, points and signaling failures and Management Control issues that include timetable planning and possession problems. These categories have shown an improvement in the year. Together they represent 64.7% of all Network Rail delay.

#### KPI 4. Infrastructure Assets – Asset Failures

The performance of the fixed infrastructure (track, bridges, signalling etc.) is reported using two indicators: Asset Failures and the Asset Stewardship Index (ASI).

Asset Failures: the total number of incidents causing train delay attributable to Network Rail. This measures the performance of assets where failure is known to directly delay trains.

The total number of asset failures recorded in the year was 56,432; 3.7% better (lower) than last year's figures.

Overall the delay caused by infrastructure failures dropped by 7.2% compared with 2004-05. In 2005-06, the top six causes of infrastructure failure accounted for 72.1% of the total delay attributable to Network Rail:

		Delay Mins (thousands)
• Track Circuit Failures	6.3% better	947
• Track Faults (inc. broken rails)	8.1% worse	927
• Points failures	5.2% better	839
• TSRs due to condition of track	7.9% worse	586
• Signal Failures	11.5% better	392
• Other infrastructure failures	12.1% better	387

Track Faults (including broken rails) are worse than last year, with 8.5% more incidents and 8.1% more delay minutes, but the latter are 25.6% better than 2003-04. ORR has discussed this with Network Rail, has noted their initial explanation and awaits further details.

Network Rail is meeting all of its ACR2003 track targets with the exception of broken rails. The target of 300 was missed by 6.0% with a year-end total of 318 (down from 322 in 2004-05) and a peak in recent times of 952 in 1998-99.

The number of temporary speed restrictions (TSRs) fell to a year-end figure of 409 compared with 470 in 2004-05 (457 in 2003-04). However, the delay per incident for

Condition of Track TSR is 20.9% worse in the year. Therefore, despite a 10.7% reduction in volume of TSRs, there was an overall increase in consequential delay minutes of 7.9%. ORR is following this up with Network Rail.

Increasing numbers of TSRs have been a particular cause of an increase in delays on the Settle to Carlisle line. Rapid deterioration in track geometry late in Q3 and in Q4 (possibly related to an increase in heavy freight) caused rapid increases in TSRs and led to Network Rail taking an emergency blockade. ORR is concluding an investigation into the circumstances and a review of Network Rail's asset management processes.

### **KPI 5. Infrastructure Assets - Asset Stewardship Index**

The ASI is a composite index that includes seven elements (e.g. track geometry) where degradation is more gradual and does not necessarily cause train delays. This established measure has been adopted on an interim basis but ORR intends to work with Network Rail to develop an indicator which covers a wider range of infrastructure assets and which has no overlap with the asset failures measure.

At the end of the quarter, only broken rails were worse than target (refer to section 4 for context), and the composite figure at the end of the quarter is 5.9% better than target. The year end target itself has again been slightly tightened by Network Rail (from 0.86 to 0.85). Overall, the KPI improved by 8.0% over the year.

### **KPI 6. Activity Volumes**

ORR believes that Network Rail should have a consistent means of comparing the volume of the various classes of work that it carries out on the network with its business plan. While Network Rail can analyse its expenditure by class of work, at present it can only provide a detailed measure of the volume of track renewals.

The 2005-06 *Network Rail Monitors* have therefore reported actual volumes delivered compared to these planned track renewal volumes. Network Rail's *Business Plan 2006* includes planned activity volumes for about 40 different renewal activities covering all the main asset categories. ORR will discuss with Network Rail the most appropriate way of combining these to produce a composite activity measure for future use in the *Monitor*.

#### *Track renewals*

Network Rail delivered 106.1% (2,419 km) of its planned plain line renewals during the year. The rate of switch and crossing renewal remained similar to last quarter and concluded the year at 413 of the 425 units planned (97.2%).

## KPI 7. Financial Efficiency Index (FEI)

This index shows changes in Network Rail's operating, maintenance and plain-line track renewal expenditure, normalised to take account of changes in the volume of work required.

Total maintenance expenditure is 'normalised' for the change in equated track miles (a measure of track type, length, traffic tonnage and speed). Plain-line track renewals expenditure is normalised for changes in the volume of track renewed.

Because this index has many shortcomings, ORR is publishing it in the *Network Rail Monitor* only until a more accurate unit cost-based efficiency measure has been developed. This replacement will allow a more comprehensive analysis of Network Rail's progress towards meeting the ACR2003 efficiency targets.

At the end of the year, Network Rail was 3% better than budget on the FEI target.

## KPI 8. Expenditure Variance

This compares Network Rail's cumulative year-to-date and full-year forecast expenditure on operations, maintenance, renewals and enhancements against the company's own budgeted expenditure.

Note: in 2004-05 the Expenditure Variance metric included net payments under Schedules 4 and 8, but these categories are not included in the *Network Rail Monitor* for 2005-06.

Full year expenditure			Variance %	
Actual (£m)	Budget (£m)	ACR2003 Determination (£m)	Actual against Budget	Actual against ACR2003 Determination
5,409	5,763	5,749 <sup>1</sup>	-6.1	-6

### *Comparison of full year actual against budget expenditure*

For the year as a whole, total expenditure was £354 million (6.1%) below budget. The majority of the underspend against budget was accounted for by enhancement expenditure, which was £217 million (35%) below the budget of £623 million.

Expenditure on renewals was £20 million (1%) below the budget of £2,693 million. However, there were some significant variances against the budget for different asset categories; in particular there were overspends (excluding West Coast

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<sup>1</sup> These figures are in 2005-06 prices.

renewals) on track of £103 million (15%), stations of £33 million (25%), depots of £24 million (150%), electrification of £9 million (20%), structures of £4 million (1%) and other renewals of £9 million (18%).

There were also underspends against budget on signalling of £51 million (15%), telecoms of £70 million (34%), information systems of £19 million (18%), West Coast renewals of £61 million (8%) and plant and machinery of £1 million (1%).

Controllable operating expenditure (OPEX) was £72 million (8%) under budget and maintenance was £37 million (3%) under budget. Non-controllable OPEX was £8 million (3%) under budget.

As part of our policy on the monitoring and treatment of underspend, in the *2006 Annual Assessment of Network Rail* we will assess the extent to which total underspend represents improvements in efficiency beyond the targets set at the ACR2003 or deferral or de-scoping of work. Network Rail's analysis of the unaudited figures suggests that the underspend was due to both deferral of activity and some unit cost efficiencies.

#### *Comparison of full year actual against ACR2003 determination*

As well as comparing Network Rail's expenditure against its own budget, we have also made comparisons of expenditure against the levels we assumed at the last access charges review.

<b>Expenditure 2005-06</b>	<b>Variance from ACR2003 Determination</b>	
Total Expenditure	-£340m	-6%
Renewals	-£230m	-8%
Controllable OPEX	-£123m	-13%
Non-Controllable OPEX	+£62m	+26%
Maintenance	-£26m	-2%
Enhancement	-£23m	-5%

The Medium-term Signalling Review funded Network Rail for £325 million in 2005-06, based on its projections in April 2005. Expenditure was £39 million less than the allowance. However, Network Rail has assured us that the scope of work for the year has been fully delivered and that the variance is due to additional efficiencies.

#### Comparison of actual against budget for Q4

Actual (£m)	Budget (£m)	Variance (£m)	Variance %
1,512	1,404	108	8

Expenditure for the quarter was £108 million (8%) above budget. This variance is mainly due to back loading of renewals expenditure. Actual renewals expenditure for the quarter was £901 million, 34% higher than budget (£673 million).

Enhancement expenditure was £107 million (69%) below budget for the quarter. In total, £79 million of this variance reflects adjustments made as a result of the reclassification of expenditure on operational property from enhancements to other categories of expenditure. This was necessary because ORR clarified that this would not qualify as investment spend under ORR's published criteria.

#### KPI 9. Financing

This indicator measures Network Rail's debt position as a percentage of its RAB. This can be considered as a proxy for the financial gearing of the company.

The actual figures are based on the statutory net debt divided by the company's own valuation of the RAB at the end of the quarter. The budget figures are calculated similarly, using budgeted debt and budgeted RAB at the end of the quarter.

Condition 29 of Network Rail's Network Licence states that it must submit a recovery plan to ORR if this measure rises above 85%.

Network Rail's debt/RAB ratio at the end of the year stood at 78.6% against a budget of 80.6%. This is within the regulatory limits and reflects the underspend against budget during the year and some movements in working capital.

## **KPIs 10a, 10b & 11. Train Operator & Supplier Satisfaction**

These indicators are based on the responses to surveys carried out by MORI on behalf of Network Rail.

A MORI customer satisfaction survey of TOCs, FOCs and Network Rail's key suppliers was carried out in Q4 of 2005-06. The Key Performance Indicator from this survey is the advocacy scale:

- +2 Advocate
- +1 Speak highly if asked
- 0 Neutral
- 1 Critical if asked
- 2 Spontaneously critical

The results from this survey showed TOCs to be on an improving trend with a score of – 0.30, compared to –0.47 in the 2004-05 survey.

The score for FOCs deteriorated from the 2005 survey (-0.99 against -0.87).

While the improvement in the TOC figure is encouraging, ORR is concerned about the levels of dissatisfaction of both TOCs and FOCs. Network Rail has identified that this is a key area to be addressed and ORR expects to see some significant improvement as a result.

The supplier satisfaction score showed an improvement from the last survey (October 2003) from –0.30 to –0.06.

### **Major Projects**

There is no single performance indicator for projects. ORR monitors projects which are specifically funded in the Access Charges Review 2003 (ACR2003), for emerging expenditure against the regulatory settlement, and for projects' delivery against their high-level objectives.

ORR has commissioned an independent Reporter to assist with the analysis and audit of investment projects, including the major projects. From the next quarter, we expect to modify the format of this section of the *Network Rail Monitor* to provide increased consistency across the portfolio of major projects and to include appropriate analysis of other key investments, such as those delivered through the new Network Rail Discretionary Fund and schemes promoted by third parties. In particular, the independent Reporter will be carrying out year-end analysis on the

major projects and a completion report on the Southern Region New Trains Project. We expect to provide a summary of this analysis in our *2006 Annual Assessment of Network Rail*.

#### *West Coast Route Modernisation*

In ACR2003, Network Rail was funded to deliver the infrastructure improvements necessary to deliver faster journey times and improved capacity introduced in a phased manner throughout control period 3 (CP3: April 2004 to March 2009).

In December 2005, the West Coast project delivered the infrastructure ready to support the new timetable. However, for some journeys the new timetable fell short of the agreed journey times despite the infrastructure being capable of supporting them. Further tightening of the timetable is planned for the June 2006 and December 2006 timetable changes, in order to deliver the full set of faster journey times. Confirmation of these improvements and later scheme commissioning dates between 2006 and 2009 are awaited from Network Rail.

The independent Reporter's analysis of Network Rail's project expenditure for the end of CP3 continues to indicate a forecast overspend, albeit within the 15% re-opener as specified in the ACR2003. Joint work with Network Rail continues to refine this forecasting method. There remain risks and opportunities in the project that could affect this overspend forecast and ORR, together with the independent Reporter, is currently working with Network Rail to understand how it is managing these issues.

The three month blockade between Sandbach and Wilmslow, which commenced on 11 December 2005 and was due to conclude on 12 March 2006, is currently forecast to over-run by approximately three months. Network Rail is forecasting part functionality to be commissioned by 11 June 2006 and has supplied no date for return to full functionality. ORR will press for the earliest possible return to full service and a thorough review of the lessons to be learned to avoid any similar situation arising in future.

#### *Southern Power Upgrade and the New Trains Project*

The main power upgrade works are now substantially complete. We will not comment further on this project in subsequent *Network Rail Monitors*, although ORR will shortly be carrying out a post-completion review of the programme, with assistance from the independent Reporter. Total costs incurred to end of year are £525 million, against the ACR2003 allowance of £625 million; the anticipated final cost for the programme is £580 million.

### *Telecommunications*

The replacement of Network Rail's Fixed Telecoms Network (FTN) and the introduction of the Global System for Mobile Telecommunications – Railway (GSM-R) train radio system will substantially replace the existing cable, transmission and radio networks. These projects were funded in the ACR2003.

The project continues to make good progress, including the following highlights:

- all 564km of route work in the Strathclyde area has been completed, with just four (of 84) masts still to be installed; and
- the cab mobile fitment programme has been accelerated by agreement between Network Rail, First ScotRail and the rolling stock operating companies (ROSCOs). By using periods when the class 320 and 156 units were already out of service for other work, the fitment plan has been brought forward by up to six months. This will allow installation on the vehicles to be used in the Strathclyde trial to be completed by the end of 2006.

### *Pollution prevention at depots*

Network Rail was funded under the ACR2003 to carry out a programme of remedial works, estimated to cost in the region of £100 million, to comply with The Control of Pollution (Oil Storage) (England) Regulations 2001 (OSR) and the Groundwater Regulations 1998. Network Rail has rationalised the remaining works into a national programme covering 91 depots and 313 other sites; this rationalisation has reduced the overall scope of the programme and its anticipated final cost. Implementation commenced in March 2006, with planned completion in December 2007. ORR will continue actively to monitor this programme, with assistance from the independent reporters.

### *Special monitoring action*

#### *Asset Register - Network Licence Condition 24*

Condition 24 of Network Rail's Network Licence requires it to establish and maintain a register of assets, including knowledge of its condition, capability, and capacity, in order to best achieve maintenance, renewal, enhancement, and operation of the network.

Network Rail has met the target dates for completing the assessment of the asset information it needs for business decisions, the review of existing information systems, the assessment of new system requirements and the production of a prioritised programme of works for data cleansing and collection. It is currently on target to meet the remaining milestones in 2006-07 for data cleansing, developing ongoing maintenance procedures and internal assurance regimes maintaining data quality. ORR plans to use an independent Reporter to assess the effectiveness of these procedures.