

**Independent Reporter A**  
Project Monitoring 2006/07  
Final Report

**Halcrow Group Limited**

**Halcrow Group Limited**  
Vineyard House 44 Brook Green London W6 7BY  
Tel +44 (0)20 7602 7282 Fax +44 (0)20 7603 0095  
[www.halcrow.com](http://www.halcrow.com)

Halcrow Group Limited has prepared this report in accordance with the instructions of their clients, ORR and Network Rail, for their sole and specific use. Any other persons who use any information contained herein do so at their own risk.

© Halcrow Group Limited 2007



# Independent Reporter A

Project Monitoring 2006/07

Final Report

## Contents Amendment Record

This report has been issued and amended as follows:

<b>Issue</b>	<b>Revision</b>	<b>Description</b>	<b>Date</b>	<b>Initial</b>
1	0	Draft for Comment	30/08/07	DS
1	1	Final Report for Comment	19/09/07	DS
1	2	Final Report	30/11/07	MG
1	3	Final Report for Publication	07/12/07	MG



# 1 Executive summary

## 1.1 Introduction

- 1.1.1 This report is Reporter A's Interim Annual Report on Network Rail's 'major projects' subject to monitoring in 2006/07.
- 1.1.2 The programme of monitoring was originally scoped by the Office of Rail Regulation in February 2006 in consultation with Network Rail, but was subsequently amended from time to time to the present scope. This report comprises individual sections providing analysis and commentary on the following projects/programmes monitored in 2006/07:
- (a) Fixed Telecom Network/ GSM-R;
  - (b) Access for All;
  - (c) National Pollution Prevention Programme;
  - (d) Self-Financing Commercial Projects;
  - (e) Network Rail Discretionary Fund;
  - (f) Third Party Schemes; and
  - (g) West Coast Route Modernisation
- 1.1.3 In conducting our reporting activity we have identified a number of underlying issues which we believe need to be addressed if the delivery of projects/ programmes is to be improved. Resolution of these issues would also improve Network Rail's efficient and effective delivery of projects/ programmes. These are identified in the report and summarised in Appendix A.

## 1.2 Project Monitoring: Analysis & Commentary

### Fixed Telecom Network/ GSM-R

- 1.2.1 Our analysis has been limited to information reported by the programme team, incorporating financial data and baselined output Key Performance Indicators (KPIs). We have monitored the 2006/07 financial variances for the GSM-R/FTN programme which shows a small (4.6%) overspend against budget. However, there is significant change in the scope and AFC which has impacted this. The routeworks outputs were on target and generating efficiencies. The node works were behind programme and showing unplanned cost slippage. The Cab Mobile enhancements were ahead of programme but shows a significant uncrystalised underspend (12.7%).

### Access for All

- 1.2.2 We have monitored the 2006/07 financial and output variances for Access for All. At the start of the programme, there was an underestimation of the time it would take to establish the programme and in particular, level of stakeholder input. This led to significant output and financial variances in the early stages of the project. Network Rail responded positively to recover the position, revising the programme and agreeing a new forecast outturn with ORR that was consistently delivered in the last four months of the year.

### National Pollution Prevention Programme

- 1.2.3 Our analysis of the output variances is limited to the monthly reporting processes. Also an assessment has been made based on the emerging progress on Primavera period project programme printouts.

- 1.2.4 We have monitored the 2006/07 financial variances for the NPPP works which shows a small underspend against forecast. However, this follows a significant reduction in AFC so the nominal saving against original budget is ostensibly rather higher. This in turn depends on the categorisation of financial variances. While savings are attributed to efficiency and acceleration, the outturn physical progress against programme does not seem to bear this out. It is therefore possible that savings may be caused by slow progress, with a risk of later increases in cost.

### Self-Financing Commercial Projects

- 1.2.5 We have monitored the 2006/07 financial and output variances for the commercial property projects. There was a significant underspend for enhancements undertaken in 2006/07 year. Incremental income and net present value of the completed portfolio was under budget. We have not been able to review the output variances as the reporting processes do not include baselined output KPIs. Definitive statements regarding the efficiency of work delivered are not possible as no unit cost, CPI or SPI statistics were reported.

### Network Rail Discretionary Fund

- 1.2.6 We have examined the overall summary of authorised and part authorised projects and their values.
- 1.2.7 We have examined the Bristol Parkway scheme and found significant savings having been obtained, largely due to market conditions driving down contractor prices, and site works that proved to be more straightforward than is normally expected for this type of work. Output variances saw a number of detail technical additions. The cost of these was not enough to outweigh the savings made in other areas. Completion delays were experienced. These were partly caused by late delivery and errors that were external to the project itself. However, the long lead times for ATP equipment, which is a requirement on this route, probably ought to have been taken into account when establishing timescales for completion. It is possible, though not proven, that sacrificing some of the project management savings could have mitigated at least some of this delay.
- 1.2.8 We have examined the Farncombe scheme and found it to have been delivered on time and within budget. Two items of budgeted expenditure might have been saved at the planning stage with a little more foresight; however this should not detract from the timely and efficient delivery of the works.

### Third Party Schemes

- 1.2.9 We have reviewed the summary documentary evidence presented by Network Rail. We have not undertaken an audit of the underlying data nor undertaken sampling exercises. At Network Rail's request, these are planned to be conducted following a forthcoming change management programme within Network Rail.

### West Coast Route Modernisation

- 1.2.10 We have monitored the 2006/07 financial and output variances for the WCRM Programme. The reporting processes of the Programme are clearly defined and appear to be robust. For WCRM there is a shortfall in scope delivery against the final forecast for the year with 51% by value being delivered against the plan (noting the comment in 4.7.19(b) above). In addition expenditure was 77.6% of the original Business Plan provision.
- 1.2.11 For the purposes of the 'Reopener Test', the combined forecast cost for the WCRM Programme and WCML Regional Renewals has remained fairly constant throughout the year. The overall underspend improved from 0.5% at the beginning of 2006/07 to 0.6% at the end.

- 1.2.12 Recent developments relating to the overall scope to be delivered by the WCRM Programme, coupled with the project management processes that are utilised by the Programme team, have generated an increased level of confidence that the outputs will be delivered. However, significant challenges remain, particularly on the Rugby Nuneaton project.

### 1.3 Reporter's scrutiny and opinion

- 1.3.1 This is the first year in which the West Coast Route Modernisation (WCRM) programme has fallen under this Reporter's remit.

- (a) In conducting our reporting activity we have been impressed with the thoroughness of the programme management and reporting regime established by the WCRM programme team. This has permitted the Reporter to obtain a detailed understanding of the reasons behind both the financial and output variances that have inevitably arisen in this complex programme of works.
- (b) Recent conclusion of the final definition of the overall scope to be delivered by the WCRM programme, coupled with the project management processes that are implemented on a day-to-day basis by the programme team, have generated an increased level of confidence that the agreed outputs will be delivered. Significant challenges do however remain, particularly on the Rugby Nuneaton project.
- (c) It is our view that the level of programme management expertise and concerted application of project management techniques, applied so successfully to this programme, should be applied in an appropriate manner on future Network Rail major programmes of work in order to increase their certainty of success. The only current programme which approaches this level of application is Fixed Telecom Network/GSM-R.

The headline management cost for the programme, at approximately 11.5%, is skewed by the allocation of costs to this management heading which, for other Network Rail programmes are absorbed within overall Network Rail operating costs, or are allocated on a project-by-project basis within the programme concerned. In the coming year the Reporter proposes to de-construct the headline management costs for the WCRM programme in order to be able to make a like-for-like comparison of management costs with other major Network Rail programmes.

- 1.3.2 In relation to other programmes of work, we have however identified a number of underlying management issues which we believe need to be addressed. Resolution of these issues would, in our view, improve Network Rail's efficient and effective delivery of projects and programmes. These are:

- (a) That reporting by Network Rail programme managers on programme expenditure and programme is frequently against global investment authorisations. Each element of a programme however is often a substantial project in its own right, and we would expect to see the project reporting regime and particularly project close out procedures, implemented in full compliance with the GRIP process in each instance. This should include completion reports to capture lessons learned and best practice that could be used in future schemes as well as reporting on any variance from programmed costs and timescales.
- (b) In a number of instances there are no baselined KPIs have been established to assist Network Rail's programme managers' in monitoring project outputs and work progress, other than achievement of each GRIP Stage gateway against a baseline programme. While reporting of financial progress through the MBR Packs is consistently comprehensive these reports do not refer to physical progress or output milestones in such a way as to make them comparable with any baselined KPIs. We would expect to see an effective reporting regime that referred to such KPIs.

## 2 Content

<b>1</b>	<b>Executive summary.....</b>	<b>5</b>
1.1	Introduction .....	5
1.2	Project Monitoring: Analysis & Commentary .....	5
1.3	Reporter's scrutiny and opinion .....	7
<b>2</b>	<b>Content .....</b>	<b>8</b>
<b>3</b>	<b>Introduction .....</b>	<b>9</b>
3.1	Background .....	9
3.2	Scope of this report.....	9
<b>4</b>	<b>Project Monitoring: Analysis &amp; Commentary.....</b>	<b>11</b>
4.1	Fixed Telecom Network/ GSM-R .....	12
4.2	Access for All .....	16
4.3	National Pollution Prevention Programme (NPPP) .....	18
4.4	Self-Financing Commercial Projects.....	21
4.5	Network Rail Discretionary Fund (NRDF).....	24
4.6	Third Party Schemes .....	31
4.7	West Coast Route Modernisation (WCRM).....	33
<b>5</b>	<b>Reporter's scrutiny and opinion .....</b>	<b>40</b>
5.1	Commentary on Project Monitoring 2006/07 .....	40
5.2	Reporter's Audit Statement.....	41
<b>6</b>	<b>Appendix A: Recommendations .....</b>	<b>42</b>
<b>7</b>	<b>Appendix B: NPPP Output Progress Schedule.....</b>	<b>43</b>
7.1	General NPPP output progress .....	43
7.2	NPPP Ground water works output progress.....	45



## 3 Introduction

### 3.1 Background

- 3.1.1 As part of the Office of Rail Regulation's Periodic Review of Network Rail's Access Charges for Control Period 2 (2000/01-2005/06), a number of changes were implemented to improve information reporting arrangements through modifications to Network Rail's network licence. These changes included a requirement to appoint Reporters (chosen by the Regulator in consultation with Network Rail) to provide an independent assessment of the robustness of Network Rail's information submissions.
- 3.1.2 Halcrow has been appointed as Reporter for Parts A and D of the services for the period December 2005 - December 2008. The Reporters and their individual areas of responsibility are shown in the Figure 3.1.1 below.

<b>Contract Schedule/ Responsibility</b>	<b>Reporter</b>
Part A: Annual Return	Reporter A (Halcrow)
Part B: Information Network	Reporter C (Scott Wilson)
Part C: Asset Management	Reporter D (AMCL)
Part D: Major Projects	Reporter A (Halcrow) <sup>1</sup>

**Figure 3.1.1 Allocation of Reporting Role to Reporters**

### 3.2 Scope of this report

- 3.2.1 This report is Reporter A's Interim Annual Report on Network Rail's 'major projects' subject to monitoring in 2006/07.
- 3.2.2 The programme of monitoring was originally scoped by the Office of Rail Regulation in February 2006 in consultation with Network Rail, but was subsequently amended from time to time to the present scope. This report comprises individual sections providing analysis and commentary on the following projects/programmes monitored in 2006/07:
- (a) Fixed Telecom Network/ GSM-R;
  - (b) Access for All;
  - (c) National Pollution Prevention Programme;
  - (d) Self-Financing Commercial Projects;
  - (e) Network Rail Discretionary Fund;
  - (f) Third Party Schemes; and
  - (g) West Coast Route Modernisation.
- 3.2.3 Our monitoring falls into three discrete categories, although in practice the outputs are similar for each.
- 3.2.4 Category A - Post-Completion Project Review
- (a) A comparison of planned expenditure and actual expenditure in total, and an explanation of any variance;
  - (b) A comparison of planned outputs with actual outputs, and an explanation of any variance; and

<sup>1</sup> Reporter B (Mouchel Parkman) retained WCRM monitoring to Nov-2006.

- (c) An assessment of the efficiency and value-for-money achieved, including an analysis of any contingencies included in price estimates against outturn costs.

3.2.5 Category B – Annual Project Monitoring

- (a) A comparison of planned expenditure and actual expenditure in total and for the year, and an explanation of any variance, and a comparison with allowed expenditure in the 2003 Access Charges Review (ACR 2003);
- (b) A comparison of planned outputs with actual outputs in the year; and an explanation of any variance; and
- (c) An estimated final cost; and
- (d) An assessment of the efficiency and value-for-money achieved.

3.2.6 Category C – On-going Project Monitoring

- (a) A comparison of planned expenditure and actual expenditure in total, for the period/quarter (depending on the individual project), and an explanation of any variance;
- (b) A comparison of planned outputs with actual outputs in each quarter and the year and an explanation of any variance; and
- (c) Where appropriate, an assessment of the efficiency and value-for-money achieved.

## 4 Project Monitoring: Analysis & Commentary

## 4.1 Fixed Telecom Network/ GSM-R

### Scope

4.1.1 The programme team is responsible for renewal of the Fixed Telecommunications Network (FTN). FTN is the basic telecommunications network that supports Network Rail's operational and business requirements. The renewals are driven by system condition, reliability and equipment obsolescence. The programme team is also responsible for installation of a new digital radio system using the global system for mobile communications for railways (GSM-R) protocol that will provide secure voice and data communication across the entire rail network and replace existing radio networks, including the National Radio Network (NRN) and Cab Secure Radio (CSR). This Cab Mobile project is an enhancement.

### Financial Variance

#### 2006/07 Year

4.1.2 The start of year budget for 2006/07 was £146.5m, comprising £138.0m renewals and £8.5m enhancements. Figure 4.1.1 shows the full year forecast was 4.6% over-budget, comprising a 5.1% renewals overspend and 12.7% enhancements underspend.

£m	Budget	Actual	Variance	% Variance
GSM-R/FTN – programme team	118.0	123.9	5.9	5.0%
GSM-R/FTN – MP&I synergy works	20.0	21.2	1.1	5.7%
<b>Renewals Sub-total</b>	<b>138.0</b>	<b>145.1</b>	<b>7.1</b>	<b>5.1%</b>
Cab Mobile	8.5	7.4	(1.1)	-12.7%
<b>Total Programme</b>	<b>146.5</b>	<b>152.5</b>	<b>6</b>	<b>4.1%</b>

Figure 4.1.1: ACR2003 Final Conclusions for FTN/ GSM-R

### Renewals

4.1.3 2006/07 financial variance for the renewals delivered by the programme team is shown in Figure 4.1.2.

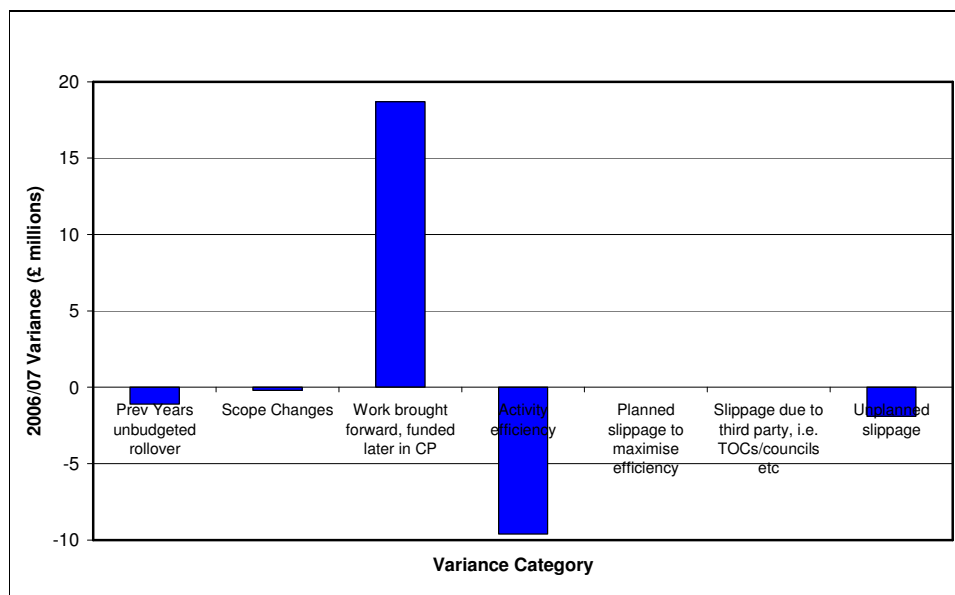


Figure 4.1.2: ACR2003 Final Conclusions for FTN/ GSM-R

- 4.1.4 2006/07 renewals expenditure delivered by the programme team is ahead of budget by £5.9m. Scope acceleration of £19m (route works) is offset by efficiencies of £10m (primarily on route works construction) and £2m of unplanned slippage (primarily on site works).
- 4.1.5 Network Rail has reported the following key variances at project level:
- (a) North: £3.9m behind budget, due to by efficiencies of £1.6m and unplanned slippage of £2.2m, offset by routeworks brought forward;
  - (b) Scotland: £3.5m behind budget, including cost efficiencies in routeworks of £2m and slippage of £1.2m on enabling sites;
  - (c) South: £5.2m behind budget, being £4.4m of efficiencies and £0.9m slippages, offset by routeworks brought forward of £0.4m, such as Exeter to Penzance.
  - (d) Central: £3.0m behind budget, due to efficiencies of £1.5m and £2.4m slippage of call offs on masts, antennae and cable supply.
- 4.1.6 The full-year figures for the programme reported in Table 167 of the Annual Return 2007 (renewals full year forecast of £145.7m and variance of £4.4m) differ from those presented above (£145.1m full year forecast and variance of £7.1m).

#### Enhancements

- 4.1.7 The Cab Mobile full year forecast for 2006/07 was £7.4m, which represents a £1.1m underspend. This underspend was identified in Period 13 as a result of a review of the Siemens contract which identified a COWD (cost of work done) overvaluation of £1.6m.

#### *Anticipated Final Cost (AFC)*

#### Renewals

- 4.1.8 The current cost model shows an AFC of £1,575m. This reflects the completion of the programme high level plan to 2012 and the inclusion of interim maintenance activity to 2012 (under discussion). The value of Maintenance scope included is £53.7m (assuming interim maintenance to 2012 is funded by the project) and £4.5m of work performed for other programmes, such as the additional sites for ERTMS.
- 4.1.9 The remaining AFC is £1,516.8m; representing a £259.4m gap against the £1,257m business plan target. Network Rail is addressing this by:
- (a) Approved changes to the AFC comprise the delivered efficiency savings of £1m;
  - (b) Changes to the AFC of £203m which are currently being validated;
  - (c) Efficiency plans to the value of £18m are also being validated;
  - (d) The remaining £38m is represented by the inflation absorbed in the AFC.
- 4.1.10 In summary, after allowing for scope imported and inflation absorbed, Network Rail has identified proposals to deliver sufficient savings to meet the Business Plan target; however, not all of these have been validated or approved.

#### Enhancements

- 4.1.11 The current cost model shows an AFC of £177.0m, an increase of £18m (11%) over the previous (Business Plan) version. Network Rail report key movements comprise:
- (a) £10m AFC increase for the Siemens contract. The original contract value for Siemens was £9.7m, while the current AFC is £24.1m. Scope changes driven by ATOC/Train Operators/Other 3<sup>rd</sup> Party equate to £7.1m, including £2.1m provision for Bombardier costs and design changes to incorporate Industry requirements to Cab Mobile version 1C. Scope Changes driven by NR include a £2.9m change to include GPS in trial vehicles. Scope movement between the trial and the national rollout programme (accelerated scope) equates to £1.6m.
  - (b) £1.5m AFC increase in downstream Cab Mobile supply;

- (c) £1.1m increase in First of Class scope, offset by FOC de-scope in the Siemens contract;
- (d) £3.2m AFC reduction for National Rollout fleet installation.

## Output Variance

### Renewals

- 4.1.12 1,916km of Routeworks were installed in the year against a Business Plan forecast of 801km. This 139% variance reflects the accelerated installation of work bought forward. 347 Node Sites were completed against a Business Plan forecast of 471; this is a 26% under-delivery.
- 4.1.13 Though Network Rail has permitted development rights (PDR), there has been some public objection to erection of masts which led to temporary cessation of works on the Cambrian Coast route. Residents are increasingly objecting to mast locations in this and other areas. In some areas the larger 29m masts have been replaced by 15m masts, though this is being resisted where possible by Network Rail on cost, schedule and public safety grounds.
- 4.1.14 Figure 4.1.3 shows progress to year end 2006/07. Routeworks are running to baseline but the Node Works are experiencing significant slippage against baseline.

Equivalent values	Baseline	Current Scope	Completed	Variance (vs baseline)
<b>Routeworks</b>	<b>km</b>	<b>km</b>	<b>km</b>	<b>%</b>
Survey	7,561	8,349	7,641	1.1%
Design	7,173	8,089	7,139	-0.5%
Routeworks	7,494	9,419	7,553	0.8%
<b>Node Works</b>	<b>Units</b>	<b>Units</b>	<b>Units</b>	<b>%</b>
Co-located sites	429	709	379	-11.7%
Core Nodes - Sites	54	73	43	-20.4%
Core Nodes - Buildings	3	3	2	-33.3%
Access Nodes TEH	140	212	124	-11.4%
Access Nodes Buildings	2	4	2	0.0%
UTX/ URX	89	288	56	-37.1%
Tunnels	20	66	11	-45.0%

Figure 4.1.3: Progress for FTN/GSM-R Routeworks and Node Works (to year end 2006/07)

### Enhancements

- 4.1.15 The Cab Mobile project is going well, with Surveys delivered to baseline and Cab Radio install and tests 73.5% ahead of baseline. The GSM-R migration plan has received cross-industry endorsement. ATOC recently described this work as 'first class'.

Equivalent values	Baseline	Current Scope	Completed	Variance (vs baseline)
Surveys	83	92	83	0.0%
Cab Radio	34	244	59	73.5%

Figure 4.1.4: Progress for FTN/GSM-R Routeworks and Node Works (to year end 2006/07)

## Statement

- 4.1.16 Our analysis has been limited to information reported by the programme team, incorporating financial data and baselined output Key Performance Indicators (KPIs). We have monitored the 2006/07 financial variances for the GSM-R/FTN programme which shows a small (4.6%) overspend against budget. However, there is significant change in the scope and AFC which has impacted this. The routeworks outputs were on target and generating efficiencies. The node works were behind programme and showing unplanned cost slippage. The Cab Mobile enhancements were ahead of programme but shows a significant uncrystallised underspend (12.7%).

### Recommendations arising

4.1.17 There are no recommendations arising from this report.

## 4.2 Access for All

### Scope

- 4.2.1 A key part of DfT's 'Railways for All' strategy is the 'Access for All' funding targeted at improving the accessibility of the rail network at stations. The "Access for All" funding comprises £378m (2004 prices) of improvements from 2005/06 to 2014/15.
- (a) Broadly £35m per year targeted at improving the accessibility of station infrastructure, delivered by Network Rail and added to the RAB.
  - (b) £7m per year available as DfT/Transport Scotland Cash Expenditure to be allocated for (i) small schemes funding which TOCs, local government or other parties may bid for, (ii) incremental operation and maintenance costs, or (iii) other purposes in pursuit of the Railways for All Strategy.

### Financial Variance

- 4.2.2 The budget for 2006/7 was £28.3m, of which £1m was earmarked for Scottish schemes. Following the appointment of a new programme manager in December 2006, the programme and expenditure was reviewed; as a result of this a revised forecast outturn of £18.3m was agreed with ORR. This was met consistently during the final four periods of the year. Expenditure at year end was £18.3m, including £0.4m on Scottish schemes.

### Output Variance

- 4.2.3 In 2005/06, a list of priority stations was published by DfT after initial viability checks had been completed. At the end of 2006/7 all 47 stations in England and Wales published in March 2006 were in GRIP stages 4-6. Of the additional 45 stations published in November that year, 45 were in option selection stage at the end of 2006/7.
- 4.2.4 Of the eight Scottish stations in the programme, contracts have now been let for one; five others are at detailed design stage. The remaining one is delayed, pending development of a local authority scheme.
- 4.2.5 Weybridge, the first station to be completed under the programme, was handed back in March 2007. As part of the normal GRIP process Network Rail will be using the completion reporting system for each station, although we have not yet seen that for Weybridge.
- 4.2.6 During the 2006/7 Network Rail moved from a functionally based approach to delivering the Programme to delivering schemes on a station by station basis. This has had a positive effect on the delivery of the programme. There is also some evidence that Network Rail is proactively identifying and acting on opportunities where station projects can be combined with 3<sup>rd</sup> party aspirations and commitments (for example, Third Party Enhancements and TOC Franchise Commitments) to deliver better value and/or a better result for the end user.

### Statement

- 4.2.7 We have monitored the 2006/07 financial and output variances for Access for All. At the start of the programme, there was an underestimation of the time it would take to establish the programme and in particular, level of stakeholder input. This led to significant output and financial variances in the early stages of the project. Network Rail responded positively to recover the position, revising the programme and agreeing a new forecast outturn with ORR that was consistently delivered in the last four months of the year.



### Recommendations arising

- 4.2.8 **AFA Recommendation 1.** We recognise that Network Rail has made significant improvements to the programme management during 2006/7. During 2007/8 we would expect to see this develop further. In particular, we expect to see cost loadings implemented for the programme.
- 4.2.9 **AFA Recommendation 2.** Each station scheme is a substantial project in its own right and we would expect to see project close out procedures implemented in full compliance with the GRIP process for each scheme completed. These will include completion reports to capture lessons learned and best practice that could be used in future schemes as well as reporting on any variance from programmed costs and timescales.

## 4.3 National Pollution Prevention Programme (NPPP)

### Scope

- 4.3.1 Network Rail was funded under ACR2003 to carry out a programme of £97m of fixed price remediation works to comply with The Control of Pollution (Oil Storage) (England) Regulations 2001 and the Groundwater Regulations 1998 by meeting a 'minimum standards checklist' specified by Network Rail on behalf of the industry. These works have been rationalised into a national programme covering 91 depots and 313 other sites.
- 4.3.2 Phase One delivers the mandatory requirements at 49 Light Maintenance Depots (LMDs) for the Control of Pollution (Oil Storage) Regulations. Phase Two meets (a) non-mandatory requirements of the Control of Pollution (Oil Storage) Regulations at 49 LMDs and 313 other sites in compliance with the 'minimum standards checklist' and (b) the requirements of the Groundwater Regulations at 91 LMDs.

### Financial Variance

- 4.3.3 At Network Rail's Investment Board in December 2005:
- (a) Five separate projects were consolidated into a single £97m fixed price programme;
  - (b) Completion was accelerated by one year to October 2007;
  - (c) The financial authority was set at £98m.
- 4.3.4 The MBR Pack documents made available by NR for 2006/07 state the full year budget to be £34.4m. The full year forecast was revised downwards three times in the course of the year as follows:
- To £26.4m in Period 6
  - To £23.9m in Period 11 and 12
  - To £23.7m in Period 13
- 4.3.5 AFC was also revised downwards twice as follows, from its initial figure of £98.4m.
- To £88.4m in Period 10
  - To £85.9m in Period 12
- 4.3.6 Reasons for these changes are cited as acceleration and efficiency savings. These savings were made in periods 1-10, when period actuals were substantially below expectations. However, spending increased above expectations in Periods 11-13.

£000s	Estimated monthly spend from Budget	Period Actual	%age of Budget Estimate
<b>Period 1</b>	£1,593	£1,202	75%
<b>Period 2</b>	£2,058	£1,109	54%
<b>Period 3</b>	£2,364	£537	23%
<b>Period 4</b>	£2,298	£413	18%
<b>Period 5</b>	£2,254	£703	31%
<b>Period 6</b>	£2,050	£1,060	52%
<b>Period 7</b>	£3,977	£1,201	30%
<b>Period 8</b>	£3,941	£1,995	51%
<b>Period 9</b>	£3,975	£2,324	58%
<b>Period 10</b>	£2,875	£1,994	68%
<b>Period 11</b>	£2,375	£3,243	137%
<b>Period 12</b>	£2,325	£3,377	145%
<b>Period 13</b>	£2,355	£4,612	196%
<b>Total</b>	£34,440	£23,721	69%

Figure 4.3.1 NPPP monthly spend against budgeted

- 4.3.7 The categorisation of savings as being due to efficiency improvements (including value engineering) and acceleration is not backed up by any specific examples. It is therefore not possible to confirm whether this is the real reason or whether the reduced actual and outturn spending are tracking other factors. In respect of the acceleration savings, this should be evidenced by some output variance showing design and physical works progressing faster than programmed. However, the opposite appears to be the case, with many work streams being well behind their baseline completion schedules. This suggests that savings may actually be temporary and caused by project slippage, with an expectation of a back-end loaded expenditure once work streams move towards substantial completion.

### Output Variance

- 4.3.8 Phase One is reported as having successfully delivered the mandatory requirements of the Control of Pollution (Oil Storage) Regulations by the compliance date of 01 September 2005. However, to date it has not been possible to obtain post-project information on any examples from this phase. It is therefore not possible to confirm at this stage that any or all Phase One works have been completed. We are continuing to press Network Rail for appropriate documentation on this matter.
- 4.3.9 There are no baselined KPIs for monitoring outputs/ work progress other than the baseline programmes. While reporting of financial progress through the MBR Packs appears comprehensive these reports do not refer to physical progress or milestones in such a way as to make them comparable with any baseline or KPIs.
- 4.3.10 Phase Two progress in 2006/7 has been compared against baseline and shows evidence of slippage in the overall programme. Comparisons were made between baseline, Period 09 in 2006/07 and Period 03 in 2007/08 for the completion of all works. In each case the handback completion was used as the comparison point, representing the stage when works are complete and the facilities are able to be returned to use. Most locations have seen some slippage, but this has varied from place to place.
- 4.3.11 In the information provided the ground water works are shown as taking place in parallel to the oil storage work. However, this is understood not to be case at some sites. Halcrow has been advised that a separate baseline programme applies. This is examined in 4.3.14 below.

- 4.3.12 Average slippage was 7.7 months at sites where this was reported, between baseline and Period 09 2006/07. Further slippage of 2.5 months occurred between there and Period 03 2007/08. The report for this latter period does not distinguish between Groundwater Regulations work and Oil Storage work, for an analysis of which, see 4.3.14 below.
- 4.3.13 The output progress is given in Appendix B of this report.
- 4.3.14 The Network Rail project team has now advised that a separate project schedule with discrete delivery dates exists for the ground water works, and that the main project schedule should not be applied to this. A copy of this schedule has been received and a summary of its analysis is given in Appendix B. Overall the slippage levels for ground water works are lower than for work generally. Nevertheless delays clearly exist and no separate explanation for them exists in the reports.

### Statement

- 4.3.15 Our analysis of the output variances is limited to the monthly reporting processes. Also an assessment has been made based on the emerging progress on Primavera period project programme printouts.
- 4.3.16 We have monitored the 2006/07 financial variances for the NPPP works which shows a small underspend against forecast. However, this follows a significant reduction in AFC so the nominal saving against original budget is ostensibly rather higher. This in turn depends on the categorisation of financial variances. While savings are attributed to efficiency and acceleration, the outturn physical progress against programme does not seem to bear this out. It is therefore possible that savings may be caused by slow progress, with a risk of later increases in cost.

### Recommendations arising

- 4.3.17 **NPPP Recommendation 1.** We recommend that the NPPP team ensure that reporting of changes in expenditure, and outturn projections be accompanied by itemised explanations.
- 4.3.18 **NPPP Recommendation 2.** We recommend that, if ground water works are being carried out on a separate schedule, then all monthly reporting should clearly distinguish these works as being ground water works, to avoid any confusion with Phase 1, which is complete, and other Phase 2 work, which may be operating to a different schedule. This would ensure that reporting and monitoring of physical progress against time is using the appropriate work schedules, and would clearly show the actual progress for ground water works against their own schedule as well as against the schedule of the overall programme. Causes of changes in physical progress or expenditure should be reported separately and clearly distinguished from one another.

## 4.4 Self-Financing Commercial Projects

### Scope

- 4.4.1 Network Rail is responsible for maximising sustainable commercial property revenue from the development, sale and leasing of its property assets, incorporating office, residential, retail and commercial opportunities. Network Rail assesses property investment opportunities to make a commercial return, using standard financial evaluation techniques and assumptions for economic factors, investment return hurdle rates (IRR), tenancy void/default rates and resource constraints.
- 4.4.2 The revenue from the schemes is subject the single till when access charges are reviewed by ORR. Some of these schemes self-finance within a control period through the revenue generated by the scheme; the remainder, though also self-financing, do not recover their costs within a control period and are added to the RAB<sup>2</sup>.

### Variance

- 4.4.3 The schemes are delivered either by Network Rail's MP&I Estates or its Commercial Property team. Figure 4.4.1 shows the enhancement expenditure variance between budget and full-year forecast for the 2006/07 financial year.

2006/07	Delivered by MP&I Estates			Delivered by Commercial Property			Total Investment		
	Actuals (£m)	Budget (£m)	Var (%)	Actuals (£m)	Budget (£m)	Var (%)	Actuals (£m)	Budget (£m)	Var (%)
Retail	4.0	10.1	60%	-	-	-	4.0	10.1	60%
Commercial Let	5.4	12.3	56%	-	-	-	5.4	12.3	56%
Other	0.7	1.5	52%	0.8	2.6	70%	1.5	4.1	64%
<b>Total</b>	<b>10.2</b>	<b>23.9</b>	<b>57%</b>	<b>0.8</b>	<b>2.6</b>	<b>70%</b>	<b>11.0</b>	<b>26.5</b>	<b>180%</b>

Figure 4.4.1 2006/07 commercial property enhancements (positive variance is underspend)

- 4.4.4 No commentary was provided by Network Rail explaining the £15.6m variance, which was driven by:
- £6.0m underspend by MP&I Estates on Retail schemes;
  - £6.9m underspend by MP&I Estates on Commercial Letting schemes;
  - £1.8m underspend on other items, including no reported spend against the £0.5m budget for Operational Portfolio or the £1.0m Sales budget.
- 4.4.5 Figure 4.4.2 shows the authorised, full-year forecast and variances for the Commercial Property enhancements portfolio for the years 2005/06-2006/07 (respectively 'Auth', 'Actual' and 'Var' in Figure 4.4.2). The anticipated final cost for work in progress was not available ('n/a') for this report.
- 4.4.6 Of the fourteen projects with a hand back in 2006/07 (i.e. which are able to earn an income for the first time in 2006/07) information was not available for three projects; Network Rail has undertaken to provide it separately<sup>3</sup>. Of the remaining eleven, Figure 4.4.3 shows that there was:
- 12% underspend versus authority (£0.75m);
  - 5% shortfall in incremental income (£0.03m) versus business plan forecast;
  - 64% shortfall in income versus forecast (£0.50m) versus business plan forecast.

<sup>2</sup> Though added to the RAB, there should be no additional call on Government funds as these schemes are expected to make a return.

<sup>3</sup> Liverpool St former ticket office; Charing Cross Bureau de Change to Millies Cookies; 17 London Stone Business Estate.

2005/06-2006/07	Anticipated Final Cost			Incremental Income			Net Present Value		
	Auth £m	Actual £m	Var %	Auth £m	Actual £m	Var %	Auth £m	Actual £m	Var %
Retail completed	13.3	12.3	7%	3.4	3.0	-13%	13.9	6.7	-52%
Spacia completed	16.4	14.9	9%	2.1	2.0	-8%	9.6	8.4	-12%
<b>Total completed</b>	<b>29.7</b>	<b>27.2</b>	<b>8%</b>	<b>5.5</b>	<b>4.9</b>	<b>-11%</b>	<b>23.5</b>	<b>15.1</b>	<b>-36%</b>
Retail work in progress	7.2	n/a	-	1.416	-	-	3.6	-	-
Spacia work in progress	24.4	n/a	-	2.9	-	-	11.5	-	-
<b>Total work in progress</b>	<b>31.6</b>	<b>n/a</b>	<b>-</b>	<b>4.3</b>	<b>-</b>	<b>-</b>	<b>15.0</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>61.2</b>	<b>27.2</b>	<b>55%</b>	<b>9.8</b>	<b>4.9</b>	<b>-50%</b>	<b>38.6</b>	<b>15.1</b>	<b>-61%</b>

Figure 4.4.2 Commercial Property projects 2005/06-2006/07 (positive variance for anticipated final cost is underspend; for income & net present value, negative variance is worse than planned)

	Authority (£m)	Forecast (£m)	Actual (£m)	Variance Actual vs Authority (%)	Variance Actual vs Forecast (%)
Anticipated Final Cost	6.1	5.4	5.4	12%	0%
Incremental Income	1.8	0.6	0.6	-65%	-5%
Net Present Value	6.6	0.8	0.3	-88%	-64%

Figure 4.4.3 Projects handed over in 2006/07 (positive variance for anticipated final cost is underspend; for income & net present value, negative variance is worse than planned)

4.4.7 All the schemes completed in 2006/07 achieved a higher internal rate of return (IRR) than the hurdle rate for authorisation by Network Rail Investment Board, except for:

- (a) Victoria, Waterloo & London Bridge SSP Reconfiguration. Authorised at [X]<sup>4</sup> IRR; forecast and actuals at [X] IRR in 2006/07. The project handover was delayed due to changes in project scope and consequent requirements for re-authority. Two units commenced trading in January 07. One unit commenced trading in February 2007. The first floor catering unit is not yet let.
- (b) Shadwell 202 & 204 Banardo St. Authorised at [X] IRR, forecast at [X] based on [X] occupation but delivering at [X] IRR in 2006/07 due to [X] occupation. The authorised total outlay, occupancy, rental rate and lettable area have been achieved but the authorised IRR has not been achieved. The apparent disparity is caused by a delay in the commencement of income and this depresses the NPV and IRR. There is no mechanism in the investment monitoring (hurdle rate) schedule to pick this up.

## Statement

4.4.8 We have monitored the 2006/07 financial and output variances for the commercial property projects. There was a significant underspend for enhancements undertaken in 2006/07 year. Incremental income and net present value of the completed portfolio was under budget. We have not been able to review the output variances as the reporting processes do not include baselined output KPIs. Definitive statements regarding the efficiency of work delivered are not possible as no unit cost, CPI or SPI statistics were reported.

<sup>4</sup> Percentage values within section 4.4.7 have been replaced with "[X]" due to the commercial sensitivity of this information.

## Recommendations arising

- 4.4.9 **Commercial Property Recommendation 1.** We recommend the Commercial Property team implement periodic reporting of baselined output KPIs, CPI/ SPI and unit costs to improve the measurement, and consequently the management, of the enhancement works undertaken by the project teams. We would welcome the opportunity to discuss this recommendation with Network Rail.

## 4.5 Network Rail Discretionary Fund (NRDF)

### Scope

- 4.5.1 The Network Rail Discretionary Fund finances numerous small schemes whole-industry and wider society benefits as described in the ORR March 2006 investment framework and the DfT appraisal criteria. Given the disparate nature of the projects concerned, and the fact that NRDF is not in itself a discrete project, the review team has at this stage sampled completed projects.
- 4.5.2 The projects initially proposed for review by Network Rail were:
- (a) Provision of a third platform at Bristol Parkway Station; and
  - (b) Provision of additional bi-directional signalling between Peterborough and Werrington
- 4.5.3 Network Rail subsequently advised that they were not sure that the Peterborough-Werrington project would be an appropriate candidate for review. The reason given for this was that it had been initiated by the SRA, and that subsequent organisational restructuring in the industry meant that the information available may not be representative of the current manner in which Network Rail manages NRDF projects. In consequence, and in order to ensure a second project could be reviewed in time for this reporting deadline, it was agreed not to review that project at this stage. Instead it was agreed to review the project to extend platforms at Farncombe station.
- 4.5.4 It is still hoped that a project with a significant signalling input will be able to be reviewed in the near future after this report deadline, and it is now expected that this may take place during September 2007.
- 4.5.5 The findings from the reviews of Bristol Parkway and Farncombe station are provided later in this section.

### Programme Financial Variance

- 4.5.6 Total authorised expenditure at Period 3 2007/8 is £85.5m. This includes all projects that are either under way or now complete. From the data provided it appears that the projects already authorised are costing less on average (£1.75m per scheme) than those partially authorised (£3.5m per scheme). There is insufficient information to allow a conclusion to be reached as to whether this should be regarded as significant. The total figure for the authorised and partially authorised work bank is currently £235.8m, which exceeds the original £200m funding ceiling, however we understand from Network Rail that this does allow for partially authorised schemes that may not proceed because they fail the appraisal test, an overshoot to allow for slippage in timescales, schemes completed below authority level and adjustments required by the Fund rules (e.g. deduction of benefits to Network Rail in the Control Period).

### Programme Output Variance

- 4.5.7 The NRDF authorisation summary received from Network Rail showed the total number of projects authorised by Period 13 2007/08 was 49, of which twelve had been completed, the other 37 being still under way. A further 43 are partially authorised. The source of information only lists the completed projects.



## Bristol Parkway

### Scope

- 4.5.8 The Bristol Parkway project has constructed and opened a third bi-directionally worked platform on the north side of the existing Up side platform. The intention is to use the platform to improve operational performance; Bristol Parkway is a significant bottleneck on the Great Western and Cross Country main lines with many delays incurred or compounded by trains having to await platforming. The new platform is not necessarily intended to see scheduled use, but rather will be used to accommodate trains that would otherwise be delayed because a platform is already occupied. The original estimated saving in GRIP Stages 2-4 was £584k per annum in Schedule 8 payments from Network Rail to the TOCs. This was later revised downwards to £225k per annum at GRIP Stages 5-8. This still represents a substantial benefit, and Network Rail will monitor actual delay savings for five months from the bringing into use of the new platform.
- 4.5.9 The project is now substantially complete and the infrastructure was handed back for operational use on 9th May 2007. However, there remains some snagging to be completed and additional works, which were requested relatively late in the project development. The project has therefore yet to be closed out.

### Financial Variance

- 4.5.10 The original estimate of project costs was £3.5m, but scope was agreed at £3.3m, against which performance is measured. In July 2007 the current AFC was £2.98m. This represented a known COWD spend of £2.55m to date and an allowance for work that remains to be done, which comprises:
- (a) Provision of Great Western Main Line ATP equipment
  - (b) Provision of CCTV, Customer Information Systems, and Public Address equipment.
- 4.5.11 Network Rail advise that final accounts will not be signed with the contractor until this work is completed to their satisfaction.
- 4.5.12 The CCTV, CIS and PA equipment is a late addition to the scope. This was originally to be installed under the management and at the cost of First Great Western as TOC responsible for day to day station operations. However, Network Rail's current policy on such assets is that they should be owned and managed by Network Rail. This follows dissatisfaction with the variety of arrangements that currently exist nationwide, and Network Rail's view that in its experience it is better for it to control such assets. There was therefore a late decision by Network Rail's asset steward to add this to Network Rail's scope, thus incurring additional cost to the project.
- 4.5.13 From above, the net savings on the project total £320k. A number of savings were cited by the project team as being achieved against budget as follows:
- (a) £107k net main contract savings.
  - (b) £85k underspend in Design and Development work.
  - (c) £35k underspend in engineering work
  - (d) £99.5k saving on risk and contingency.
  - (e) £20k saving in possessions.
  - (f) £10k saving in maintenance training.
- 4.5.14 The following factors were identified by the project team as being contributory to the savings made:
- (a) Underspend of the main contract comprised a £631k saving caused by, competitive pricing by the contractor, a £367k cost in authorised variations, and a £158k cost in unauthorised variations.

- (b) Underspend on design and development was attributed to the designs needing very little reworking from the original drafts. The budget had assumed a greater number of iterations would be needed.
  - (c) Underspend on engineering costs was attributed to the need for less onerous possession regimes. The budget had made provision for a number of weekend possessions, and in practice it became possible to get longer possessions, including one one-week blockade and a further six-week one.
  - (d) Underspend on risk and contingency was attributed to the more straightforward possessions regime and also the straightforward ground conditions, where no significant complications were discovered once the ground was broken.
- 4.5.15 The biggest single stage gain was in March 2007, after the engineering possessions had been completed, when it became apparent that the financial provision originally made for those stages would not be necessary.
- 4.5.16 Overall savings amount to 10% of the original budgeted cost. The project team stated that they believed comparable projects to be delivering savings of between 5% and 10%.
- 4.5.17 Authorised variations covered general works generally arising from issues discovered during the course of the project. Some cost increases were incurred which were unauthorised variations. Evidence was provided of the individual costs to the project of each such item, and itemised description was made available. This showed that 60% of these additional costs were incurred after the completion of site works date of 9<sup>th</sup> May. The remainder had been incurred during the construction phase. All generally appear to be snagging items for drainage, surfacing and the new waiting room.

#### *Output Variance*

- 4.5.18 The project team advised that work began on time, with work scheduled for completion in early April – this was extended to April 30<sup>th</sup>. This was caused by delays experienced with the delivery of components for the new waiting room, which was of a non standard width owing to the restricted width of the new island platform created by the works. Network Rail is treating the contractor as liable for any losses or delays relating to this. It should be noted that, although the new platform could have been brought into operational use without the waiting room, Network Rail were committed to finishing this element as part of the project commitment. The reasons for this are:
- (a) First Great Western had made a financial contribution of £100k to the project budget for the provision of this structure.
  - (b) The overall construction work necessitated the closure of the extant Platform 1 waiting room. Therefore at least the previous utility to passengers would have to be restored before the work could be said to be properly complete.
- 4.5.19 The date actually achieved for physical completion was 9<sup>th</sup> May.
- 4.5.20 At the end of the one-week December 2006 blockade work was approximately half a week ahead of schedule. By the end of the six-week blockade in January-February 2007 work was approximately half a week behind. Notwithstanding the rescheduling of the completion date to the 30<sup>th</sup> April, it appears that this delay was not mitigated, hence the actual completion date of 9<sup>th</sup> May.
- 4.5.21 Handback is delayed owing to;
- (a) The additional need for CCTV/CIS/PA work.
  - (b) The need to install ATP on the platform line
- 4.5.22 ATP installation has been delayed because of the long lead times for supply of the equipment when compared to other elements of the scheme.

- 4.5.23 There are also now snagging issues with the siting of new Off Indicators; these had been placed as agreed with the signal siting committee established for the purpose. However, the expert members were not Bristol Parkway staff and the local staff involved had not at the time been trained in the use of Off Indicators. It appears therefore that the siting of this equipment is less than ideal. They will now need to be moved. In respect of this and the lack of ATP, the platform is operational using a temporary method of working.
- 4.5.24 No dates were given for final handback and project close-out.
- 4.5.25 A formal "lessons learned" exercise has not yet been carried out, but some issues have already been considered.
- (a) The fact that very few alterations were needed to signalling equipment. While the line serving the new platform was designated as a freight loop prior to the scheme it was already configured to passenger operating standards for the benefit of trains serving the Bristol Parkway Royal Mail terminal. As such the scheme involved mainly civil works, and thus gave less scope for technical risks arising.
  - (b) It is possible that some of the savings banked could have been diverted to accelerating progress where some elements began to fall behind schedule. If this had been done it should still have been possible to make some savings (albeit a lower total amount) on the original project budget.

## Farncombe Up Platform Extension

### *Scope*

- 4.5.26 This project took place as part of the introduction of new trains to the south-western lines of the third rail network. It had originally been planned for 2004, but the SRA at that time ruled that selective door operation could be put in practice to allow longer trains to be accommodated without platform lengthening on the Up side.
- 4.5.27 Within a year it was found that dangerous crowding issues occurred, on occasions necessitating police intervention, and it was decided to lengthen the platform in July 2006. The financial submission was made in August 2006, and the project had to be completed by the end of the financial year.
- 4.5.28 The project was completed within that deadline and is now fully operational accommodating trains of up to 12 cars in length.
- 4.5.29 A feature of this project was that the station structures, including the platforms, are listed. It was therefore also necessary to obtain planning permission for the works that included listed buildings consent.

### *Financial Variance*

- 4.5.30 The original estimate of project costs was £452k, with expenditure projected as being back end loaded to the end of the financial year. A lower estimate of £385k was rejected on the ground that it only accommodated 10 car trains, not the 12 car maximum that could call. Initial efficiencies declared at £101k as at Period 12 2006/7 brought the costs down to £351k. Further efficiencies appear to have been identified following physical completion and are summarised in Figure 4.5.1.
- 4.5.31 The contractor was engaged at a price of £269k, which was below the estimated amount, which project data shows to have been £289k. This was done under a call-off contract where keener rates might reasonably be expected, but we were advised by the project team that the other bids had been around the estimated rate. No major variations appear to have occurred during the course of the project.
- 4.5.32 Savings were also realised in possession costs. The original budget estimates were compiled on the assumptions that T.III possessions would be needed. In the event it was found that only T.II possessions would be needed. Specific cost savings were attributed to the need for a platform face wall to meet planning requirements, which increased physical protection for staff, along with the proximity of the controlling signal box.

Task	Authority	Initial AFC (P8/07)	Revised AFC (P12/07)	Initial Efficiency	Revised AFC (P13/07)	Further Efficiency	Final Cost (P5/08)	Further Efficiency
Project Management	£25,000	£25,000	£25,000	£0	£25,000	£0	£18,779	-£6,222
Project Management	£35,000	£35,000	£30,000	-£5,000	£19,666	-£10,334	£26,800	£7,134
Signalling Works	£30,000	£30,000	£26,000	-£4,000	£22,900	-£3,100	£20,026	-£2,874
Civil Works	£31,000	£31,000	£270,000	-£4,000	£258,000	-£12,000	£252,890	-£5,110
Cost Offcharge							-£4,582	-£4,572
Contingency	£52,000	£52,000		-£52,000				
<b>Total</b>	<b>£173,000</b>	<b>£173,000</b>	<b>£351,000</b>	<b>-£65,000</b>	<b>£325,566</b>	<b>-£25,434</b>	<b>£313,912</b>	<b>-£11,644</b>

Figure 4.5.1 Farncombe Up Platform Extension Financial Variance

- 4.5.33 The project was delivered at a cost of £314km a saving of £138k. £52k of this saving was in the form of unused contingency, which was released in Period 12 2006/7. The remainder of the savings were released in P13/07 (£25.4k) and P5/08 (£11.7k).
- 4.5.34 A saving of £20k was attributed by the project team to the lack of need for track re-alignment as a separate piece of work had recently been carried out at the same site in this respect.
- 4.5.35 A further saving will be realised in the December 2007 timetable change; the ending of the need for selective door operation has allowed for shorter dwell times on some peak trains. The minutes saved will be incorporated in the December change.
- 4.5.36 The following factors were identified by the project team as being contributory to the savings made and the lack of need for the contingency element:
- Drawings were able to be adapted from the very similar work that had already been carried out on the Down side platform.
  - Contractor price below estimate
  - Enabling works were minimal and straightforward, especially with respect to signalling and telecomms. equipment.
  - Reduced expenditure on possessions.
  - The lack of need for additional track re-alignment work.
- 4.5.37 The biggest single stage gain was in March 2007, after the engineering possessions had been completed when it became apparent that the financial provision originally made for those stages would not be necessary.
- 4.5.38 An explanation of the cost off-charge to permanent way was requested and has been received. This charge was the result of additional and repair works that were necessitated by concurrent permanent way work which caused damage to the original platform extension work.

#### Output Variance

- 4.5.39 The project team advised that work began on time, at the end of March. Work on site began on 3rd February 2007. No delays were experienced and the platform extension was put in to service on 24th March 2007
- 4.5.40 The following factors were cited as contributing to the timely completion of works:
- The speedy granting of planning permission, itself a product of the fact that the drawings and construction proposals were derived from the already built Down platform.
  - Good contractor availability.
  - The straightforward nature of staging and preparatory works.

## Progress on Previous Recommendations

- 4.5.41 The following recommendations were made in last year's Project Monitoring annual report:
- (a) We recommend the NRDF team implement periodic reporting of financial variance, baselined output KPIs, CPI/ SPI and unit costs to improve the measurement, and consequently the management, of the work (ref: 2005/06-D007);
  - (b) We recommend NRDF activities are assessed to identify those that might usefully be captured using the Network Rail Cost Analysis Framework (CAF) so that efficiency can be monitored and future cost estimation can be improved (ref: 2005/06-D008).
- 4.5.42 On the basis of the information made available to the reviewers, progress on the implementation of these recommendations is as follows:
- (a) Recommendation 2005/06-D007: No Action to Date;
  - (b) Recommendation 2005/06-D008: In Progress.
- 4.5.43 An explanation of progress on these recommendations was sought and received from Network Rail:
- (a) Recommendation 2005/06-D007: Not regarded as relevant in the context of NRDF as it is in effect a collection of smaller schemes. We were informed that monitoring is carried out of the number of schemes authorised and completed, as well as the monetary amounts committed in these schemes. Evidence of this type of monitoring has been received. However, the individual spending levels on each project do not appear to be aggregated at each report, only appearing as a line entry on a wider ranging report, which does not show what the financial figure means in terms of what it is delivering, and where the project expected to be at that stage. This at least should be possible, as the NRDF programme has a financial ceiling. Given the nature of NRDF it may be appropriate to find other approaches to the monitoring of physical progress.
  - (b) Recommendation 2005/06-D008: met by the capturing of repeatable work items into CAF.

## Statement

- 4.5.44 We have examined the overall summary of authorised and part authorised projects and their values.
- 4.5.45 We have examined the Bristol Parkway scheme and found significant savings having been obtained, largely due to market conditions driving down contractor prices, and site works that proved to be more straightforward than is normally expected for this type of work. Output variances saw a number of detail technical additions. The cost of these was not enough to outweigh the savings made in other areas. Completion delays were experienced. These were partly caused by late delivery and errors that were external to the project itself. However, the long lead times for ATP equipment, which is a requirement on this route, probably ought to have been taken into account when establishing timescales for completion. It is possible, though not proven, that sacrificing some of the project management savings could have mitigated at least some of this delay.
- 4.5.46 We have examined the Farncombe scheme and found it to have been delivered on time and within budget. Two items of budgeted expenditure might have been saved at the planning stage with a little more foresight; however this should not detract from the timely and efficient delivery of the works.

### Recommendations arising

- 4.5.47 **NRDF (Bristol Parkway) recommendation 1.** Where ATP installation is required full account should be taken of the lead times when determining the likely duration and completion dates of a scheme.
- 4.5.48 **NRDF (Farncombe station) recommendation 2.** Projects should ensure that savings can be itemised.
- 4.5.49 **NRDF (Farncombe station) recommendation 3.** The use of T.II possessions might have been foreseeable, and cost savings may be realised at estimating stage if it is possible to avoid being over-cautious on possession requirements.
- 4.5.50 **NRDF (Farncombe station) recommendation 4.** The potential for savings resulting from complementary works should be examined at the planning stage wherever possible, as this may allow a reduction in the original budget estimates.

## 4.6 Third Party Schemes

### Scope

- 4.6.1 Network Rail is the principal point of contact for customers and stakeholders wishing to invest in the rail network infrastructure. Network Rail undertakes a range of services for third parties:
- Non-contestable services, which only the infrastructure controller/ network operator can provide, such as provision of asset protection, asset information and management of engineering safety;
  - Contestable services, such as development, design management and project implementation services.
- 4.6.2 Network Rail has nine template contractual agreements, depending on the nature of the service to be undertaken, which incorporate a series of risk allocation/ transfer mechanisms, put in place to encourage third party investment on the network. There are however, still bespoke agreements in place for older projects and for those over £50m in overall value.

### Variance

- 4.6.3 Figure 4.6.1 and Figure 4.6.2 summarise the agreements entered into by third parties with Network Rail in 2006/07. There were 104 new template agreements in 2006/07, up from the 44 in 2005/06. This represents a 136% increase in use; the corresponding increase in value was 150%.

	Template Agreements (number)	Bespoke Agreements (number)	Total Agreements (number)	Total overall project value (£m)	Total Network Rail spend (£m)
Projects in development	61	11	72	£1,074.0	£16.5
Projects in implementation NR facilitating	29	13	42	£94.0	£7.0
Projects in implementation NR implementing	14	4	18	£57.0	£50.0
<b>Total</b>	<b>104</b>	<b>28</b>	<b>132</b>	<b>£1,225.0</b>	<b>£73.5</b>

Figure 4.6.1 Third Party Agreements entered into during 2006/07

Agreement type	Agreements (number)	Gross NR charge (£m)	Rail-related project AFC (£m)
APA: Asset Protection Agreement	8	£3.8	£32.1
BAPA: Basic Asset Protection Agreement	21	£1.4	£50.5
BIA: Basic Information Agreement	6	£2.5	£7.1
BSA: Basic Services Agreement	34	£0.8	£185.6
DSA: Development Services Agreement	18	£4.2	£255.3
FDA: Framework Development Agreement	9	£6.2	£494.4
IA: Implementation Agreement	8	£45.4	£46.8
<b>Totals</b>	<b>104</b>	<b>£64.3</b>	<b>£1,072.0</b>

Figure 4.6.2 Third Party Template Agreements entered into during 2006/07

- 4.6.4 Of the projects entered into in 2006/07, two were reported as subject to delay. Given the volume of projects, this number of delayed projects is not disproportionate. Both were Basic Services Agreements for feasibility work:
- The Exeter Gateway Proposed Freight Terminal had a four month delay caused by the time taken to enter into the agreement and further delay due to signalling team resource constraints;
  - Nottingham Lincoln Line Speed Improvements had a three week delay due to inaccurate planning estimates.

- 4.6.5 Following a forthcoming change management programme within Network Rail, the Independent Reporter will be sampling a number of third party projects to assess Network Rail's efficiency and effectiveness. A briefing on this change programme is planned for w/c 03-September 2007.

#### **Statement**

- 4.6.6 We have reviewed the summary documentary evidence presented by Network Rail. We have not undertaken an audit of the underlying data nor undertaken sampling exercises. At Network Rail's request, these are planned to be conducted following a forthcoming change management programme within Network Rail.

#### **Recommendations arising**

- 4.6.7 There are no recommendations arising from this section of the report.



## 4.7 West Coast Route Modernisation (WCRM)

### Scope

- 4.7.1 The WCRM Programme team is responsible for the achievement of the specified outputs in the ORR's Access Charges Review 2003 (ACR 2003) within the allowed expenditure. The outputs are set out in more detail in the Strategic Rail Authority West Coast Main Line Strategy document dated June 2003 and include:
- Journey Time improvements.** A phased delivery of journey time improvements, through the achievement of higher linespeeds, to coincide with the introduction of new timetables in September 2004 (Stage 1), December 2005 (Stage 2) and December 2008 (Stage 3).
  - Capacity improvements.** The delivery of a number of major remodelling schemes, e.g. Trent Valley 4-Tracking, Rugby Station and Nuneaton, together with strengthened power supplies and distribution to support an increase in passenger and freight trains.
  - Performance improvements.** The requirements for performance improvements are consistent with those that have been set nationally.
  - Sustainability.** In addition to the enhancements associated with delivering improvements in journey time, capacity and performance, the WCRM programme team supported by the Territory is responsible for the delivery of asset renewals that will ensure that the improvements are sustainable within a defined access regime after December 2008.
- 4.7.2 Network Rail has converted the specified outputs into a Functional Specification, Issue 5.2 (FS5.2), dated 10 June 2005. This document was signed by Network Rail and DfT on 19 December 2005. In signing FS5.2, the DfT has confirmed that the document is consistent with the SRA West Coast Main Line Strategy Document dated June 2003.
- 4.7.3 With the issue of Network Rail's Programme Funding Summary document and Line Speed Profile A09 in August 2006, revisions to FS5.2 have been implemented through the issue of Remit Variation Instructions (RVIs). Where the WCRM Programme team are unable to deliver the requirements of the FS Non-Conformance Reports (NCRs) are raised.
- 4.7.4 In addition to the scope of work for the WCRM Programme, the ACR 2003 included a provision for 'Regional' renewals across NMS Route 1. The subsequent change to the breakdown of the strategic routes across the network has resulted in the adoption of an adjustment factor for renewals spend by the Territory on Route 18. This factor, 1.55, has been agreed with Network Rail, subject to a number of assumptions, and is applied to uplift the expenditure on Route 18 to a NMS Route 1 equivalent figure.

### Financial Variance

- 4.7.5 Figure 4.7.1 shows the financial provision made by ORR in ACR 2003 for the WCRM Programme was £2,803m at 2002/03 prices. This figure has been inflated in accordance with the agreed November RPIX indices to £3,091m at 2006/07 prices.

£m	2004/05	2005/06	2006/07	2007/08	2008/09	Total
WCRM (02/03)	1,136	889	278	240	259	2,803
WCRM (06/07)	1,245	969	314	271	292	3,091

Figure 4.7.1 ACR2003 Final Conclusions for WCRM

- 4.7.6 Figure 4.7.2 shows the financial provision made by ORR in ACR 2003 for the Regional renewals was £946m at 2002/03 prices. This figure has been inflated in accordance with the agreed November RPIX indices to £1,056m at 2006/07 prices.

£m	2004/05	2005/06	2006/07	2007/08	200809	Total
Renewals (02/03)	110	127	237	229	243	946
Renewals (06/07)	117	140	267	258	274	1,056

Figure 4.7.2 ACR2003 Final Conclusions for Regional Renewals

- 4.7.7 For the purposes of the 'Reopener' test, the forecast total spend in CP3 for both the WCRM Programme and the Regional Renewals is compared against the ACR 2003 provision and the trigger percentage is set at 15% overspend. At the start of 2006/07, Network Rail and the then Reporter (Mouchel Parkman) were engaged in discussions concerning the agreement of the forecast expenditure for CP3 for both WCRM and Regional Renewals. The Reporter's determination at Period 1 was a 0.5% overspend.
- 4.7.8 During the course of the year agreements were reached concerning the methodology for the forecasting of expenditure on WCRM and Regional Renewals, and also the treatment of third party funding. The end of year determination was an underspend of 0.6%.
- 4.7.9 The start of year budget for WCRM for 2006/07 was £652m (2005/06 prices). Whilst the WCRM team do not split the expenditure by renewals and enhancements, the 2006 Business Plan did. Due to the nature of the project the split is based on the application of notional percentages, the result of which was £474m renewals, £165m enhancements and £13m other.
- 4.7.10 A reconciliation of the 2006/07 financial variance (full-year forecast versus current budget) is shown in Figure 4.7.3. The total variance reported for 2006/07 is a £146m underspend, representing 22.4% of the start of year budget.

Project	Project Title	2006/07 (£m)		
		Budget	Actual	Delta
EE12	Trent Valley 4-Tracking	124.6	119.8	(4.7)
EE39/EE40	Rugby and Nuneaton Remodelling	93.4	65.4	(28.0)
FF41	Crewe Weaver Remodelling	28.6	0.6	(28.0)
W123	Sandbach Wilmslow Macclesfield Resignalling	32.3	44.0	11.7
Various	Power Supply Upgrade (AT/PSU)	97.8	76.0	(21.8)
W186	Milton Keynes Bletchley Remodelling	6.1	5.8	(0.4)
EE49	Northampton Signalling Re-control	4.9	0.3	(4.6)
FF37	Stockport Post-Blockade Works	13.3	6.9	(6.4)
W187	Watford – Wembley Signalling Renewals	14.2	0.0	(14.2)
W010/W192	General Management	90.4	87.2	(3.2)
Various	Closeout Projects	41.6	4.4	(37.2)
Various	Other	104.8	95.7	(9.1)
<b>TOTALS</b>		<b>652.1</b>	<b>506.2</b>	<b>(145.9)</b>

Figure 4.7.3 Reconciliation of WCRM underspend 2006/07 (full-year forecast versus budget)

- 4.7.11 The reasons for the variances in spend are provided below:
- EE12 – Delays to the award of contracts for Network Rail and A38 bridges;
  - EE39/EE40 – Delays to the approval of the signalling Approval in Principle (AIP) documents that in turn impacted on the placement of major contracts. Also, there were changes to the main signalling contractor as a result of bringing the two projects, Rugby and Nuneaton, together;
  - FF41 – Delays to the agreement of scope coupled with a re-phasing to take economic advantage of possessions;
  - W123 – Additional expenditure attributable to the cost of introducing new CBI technology and the technical difficulties associated with it. Other factors included the need to remove asbestos and the existence of poor ground conditions. The project was re-authorised and additional funds were allocated;

- (e) AT/PSU – The project was re-phased during the year to align the timing of the delivery of the power supply and distribution improvements with the anticipated demand. Scope has been deferred into CP4 and CP5;
- (f) W186 – Deferral of scope into CP4 for Bletchley;
- (g) EE49 – Deferral of the project development scope;
- (h) FF37 – Works originally planned to be commissioned in June 2006. However, delays to the commissioning of SWIM (W123) resulted in an agreed deferral of the Stockport post-blockade works to May / June 2007;
- (i) W187 – Deferral of the project development scope into CP4;
- (j) Close-out Projects – Costs not realised on projects that were subject to close-out.

4.7.12 The start of year budget for the Route 18 renewals was £101.9m.

4.7.13 A reconciliation of the 2006/07 financial variance (full-year forecast versus current budget) is shown in Figure 4.7.4. The total variance reported for 2006/07 is a £10.9m overspend, representing 10.7% of the start of year budget.

Renewals	2006/07 (£m)		
	Forecast	Actual	Variance
Track	63.0	62.9	(0.1)
Signalling	5.1	4.7	(0.4)
Structures	11.6	19.7	8.1
Electrification	8.9	9.7	0.8
Plant and Machinery	1.7	2.1	0.4
Information Technology	0.0	0.0	0.0
Telecoms	0.6	3.3	2.7
Stations	10.0	9.0	(1.0)
Depots	0.0	0.0	0.0
Lineside Buildings	0.2	1.4	1.2
Other	0.8	0.0	(0.8)
<b>TOTALS</b>	<b>101.9</b>	<b>112.8</b>	<b>10.9</b>

**Figure 4.7.4 Reconciliation of WCML Route 18 overspend 2006/07 (full-year forecast versus budget)**

4.7.14 The reasons provided by Network Rail for the variances in spend are provided below. These have not been explored in detail with Network Rail, particularly the validity of overspends associated with the reallocation of expenditure from “Other” and the allocation of spend at Liverpool Edge Hill which is considered to be part of Route 20:

- (a) Structures – £2.7m of emergency works resulted from the train derailment at Lambrigg. Also £3.5m of spend was initially allocated to “Other” and subsequently allocated over a number of sites. A £2.3m overspend on Bessie Gill Earthworks was caused by the implementation of a new scheme that was not identified in the forecast;
- (b) Electrification – The £0.8m variance is largely due to the acceleration of overhead structures painting works;
- (c) Telecoms – The variance was due to expenditure on Virgin Customer Information System renewals that was allocated to the Central (Other) route in the Business Plan;
- (d) Stations – There was £1.2m additional expenditure on Crewe canopy renewal due to works brought forward from 2007/08 following deferral of major renewals at King’s Cross and Victoria. Inspection by building engineers established that strategic renewals at Euston Station were not required as the condition was better than expected;
- (e) Lineside Buildings – The £1.2m variance was caused by expenditure on Liverpool Edge Hill MDU accommodation (£0.8m) and Preston Corporation Street MDU accommodation (£0.5m) that had originally been included within “Other”.

## Output Variance

- 4.7.15 The main physical works to be undertaken in 2006/07 comprised:
- (a) The implementation of infrastructure enhancements to deliver increased linespeeds in advance of the introduction of the Winter 2006 timetable;
  - (b) Formation, bridge installation and replacement, and enabling works activities for the Trent Valley 4-Tracking;
  - (c) Commissioning of the new infrastructure installed under the Sandbach Wilmslow Macclesfield Remodelling project (SWIM);
  - (d) Rugby Nuneaton Remodelling – Implementation of Stage A, Hilmorton and High Oaks;
  - (e) Crewe-Weaver Remodelling – Scope development and enabling works;
  - (f) Power Supply Upgrade / AT Distribution (AT/PSU) – Commissioning of the Hilton Feeder Area EIS-AT and distribution;
  - (g) Milton Keynes Bletchley Remodelling – GRIP Stages 3 and 4, together with Enabling Works implementation, for Milton Keynes.

4.7.16 Figure 4.7.5 WCRM Programme Quantities Forecast vs Actual (negative variance is under-delivery) compares the Period 1 forecast scope quantities with the Period 13 forecast and actual scope delivery.

Asset Type	Asset Activity	Unit of Measure	Period 1 (06/07)	Period 13 (06/07)	Actual (06/07)	Variance Period 13 actual vs plan (%)
Gauge	Survey	Each	0	0	0	0%
Gauge	Clear	Each	0	0	0	0%
EPS Track / COT	Rail / Sleeper / Ballast	Yards	1,086	2,933	0	-100%
Major Projects Track	Rail / Sleeper / Ballast	Yards	82,017	32,800	31,240	-5%
Switches and Crossings	Install / Renew	Each	33	7	6	-14%
Switches and Crossings	Heavy Maintenance	Each	1	13	16	23%
Through Alignment	Plain Line Tamping	Yards	163,845	187,630	164,092	-13%
Through Alignment	S&C Tamping	Each	0	0	0	0%
Overhead Line Works	Structures	Each	5,632	5,346	138	-97%
Overhead Line Works	Wire Run Preparation	Machine Hours	38,311	0	0	0%
Overhead Line Works	Wire Run	Each	13	1	1	0%
Overhead Line Works	Feeder and Return	km	756	88	92	5%
Overhead Line Works	Neutral Section	Each	2	3	0	-100%
Overhead Line Works	Final Registration	Each	0	0	0	0%
Distribution	Feeding and switching stns	Each	12	12	9	-25%
Distribution	Other, e.g. booster trans	Each	30	31	3	-90%
Distribution	ESI sites	Each	1	3	2	-33%

Figure 4.7.5 WCRM Programme Quantities Forecast vs Actual (negative variance is under-delivery)

Asset Type	Asset Activity	Unit of Measure	Period 1 (06/07)	Period 13 (06/07)	Actual (06/07)	Variance Period 13 actual vs plan (%)
Signals	Axle counters	Each	156	0	0	0%
Signals	Trackside circuits	Each	31	37	34	-8%
Signals	Insulated block joints	Each	25	23	21	-9%
Signals	Banner repeaters	Each	0	0	0	0%
Signals	Hot axle box detectors	Each	33	33	2	-94%
Signals	SCADA equipment	Each	14	11	0	-100%
Signals	Other signals	Each	157	39	24	-38%
Warning Systems	TASS balises	Each	0	0	0	0%
Warning Systems	TOWS	Each	0	0	0	0%
Warning Systems	TPWS	Each	14	4	4	0%
Warning Systems	AWS	Each	93	48	34	-29%
Signs	Install, renew, move, remove	Each	0	3	3	0%
Power and Control	REBs	Each	25	13	9	-31%
Power and Control	SSPs, FSPs and PSPs	Each	89	0	0	0%
Power and Control	LOCs	Each	141	37	35	-5%
Power and Control	CISs	Each	0	0	0	0%
Cable	Routing and troughing	Yards	132,240	2,476	2,476	0%
Cable	Signal	Yards	182,765	4,692	3,327	-29%
Cable	Telecom fibre optic	Yards	33,153	2,186	2,186	0%
Platforms	Install, extend	Each	0	0	0	0%
Bridges	New, resonance mitigation	Each	39	22	22	0%
Bridges	Minor repairs	Each	14	10	10	0%
Level Crossings	CCTV, close, divert, install	Each	3	5	4	-20%
Other	Fence	Yards	0	0	0	0%
Other	Cess walkway	Yards	9,542	309	309	0%
Other	SPT walkway	Each	0	1	1	0%
Other	Track access points	Each	0	2	2	0%

Figure 4.7.5 (Cont) WCRM Programme Quantities Forecast vs Actual (negative variance is under-delivery)

- 4.7.17 As the figures show, physical delivery in 2006/07 was predominantly less than the Period 13 forecast. The nature of the Programme is such that the percentage variance can be misleading in gauging progress, particularly where performance may be better than planned across some asset groups. Consequently, an exercise was carried out by the previous Reporter with Network Rail to assign a 'weighted value' to each asset activity thereby enabling comparisons to be made between the value of work planned and the value delivered.
- 4.7.18 For 2006/07, the value of work that was actually delivered was 51% of the value of work in the Period 13 forecast. The contributors to the 49% under-delivery were:
- (a) Overhead Line Electrification, Structures – 41%;
  - (b) EPS/Condition and Major Projects Track, Composite Rail / Sleepers / Ballast – 3%;
  - (c) Distribution, ESI Sites – 2%
  - (d) Distribution, other, e.g. booster transformers – 1%
  - (e) Switches and Crossings, install / renew – 1%
  - (f) Through Alignment, Plain Line Tamping – 1%
- 4.7.19 A meeting was held with the Network Rail WCRM project team on 20 July 2007 to review the quantities that were forecast to be and were actually delivered in 2006/07. The outcome of the review was as follows:
- (a) The quantities that Network Rail forecast to be delivered in 2006/07 and that were included in the 2006 Business Plan were overly optimistic. Through the process of change control, significant changes were made to the quantities that were forecast to be delivered in the year at Period 1 to establish the forecast for the year at Period 13. The impact of these changes reduced the value of scope that was forecast to be delivered in the year by 60%;
  - (b) The quantities reported by Network Rail in Period 13 do not appear to take full credit for the scope that has been delivered by projects that are in the 'close out' phase. As a result the percentage value of work actually delivered in 2006/07 should exceed the 51% stated in 4.7.18 above;
  - (c) The re-phasing of a number of projects, including the Power Supply Upgrade (AT/PSU) and Crewe-Weaver Remodelling, and delays to others, including Rugby Nuneaton, contributed to the reduction in the scope that was actually delivered;
  - (d) Network Rail has carried out an extensive review of the scope 'to go' as part of a re-forecasting exercise that has been carried out across the WCRM Programme. This review has included the impact of design development, the optimisation of work for critical resources and possessions, data cleansing, and the agreed re-phasing of works into CP4/5, as in the case of AT. As a result Network Rail has stated that it has a high level of confidence that the scope that remains to be delivered by the various projects will deliver the required outputs;
  - (e) The revised CP3 scope for the WCRM Programme is circa 75% (by value) of the scope that was previously planned to be delivered;
  - (f) The revised scope 'to go' in CP3, combined with the rigorous planning processes that are evident within the WCRM Programme, is such that there is an increased level of confidence that it is deliverable within the current timescales and forecast cost, acknowledging that challenges remain.
- 4.7.20 Details of the variances in scope delivery by the Territory have been requested from Network Rail. However, at the time of writing no information has been provided.

## Statement

- 4.7.21 We have monitored the 2006/07 financial and output variances for the WCRM Programme. The reporting processes of the Programme are clearly defined and appear to be robust. For WCRM there is a shortfall in scope delivery against the final forecast for the year with 51% by value being delivered against the plan (noting the comment in 4.7.19(b) above). In addition expenditure was 77.6% of the original Business Plan provision.
- 4.7.22 For the purposes of the 'Reopener Test', the combined forecast cost for the WCRM Programme and WCML Regional Renewals has remained fairly constant throughout the year. The overall underspend improved from 0.5% at the beginning of 2006/07 to 0.6% at the end.
- 4.7.23 Recent developments relating to the overall scope to be delivered by the WCRM Programme, coupled with the project management processes that are utilised by the Programme team, have generated an increased level of confidence that the outputs will be delivered. However, significant challenges remain, particularly on the Rugby Nuneaton project.

## Recommendations arising

- 4.7.24 **WCRM Recommendation 1.** If confidence in the WCRM team is to be maintained the recent re-forecasting exercise will need to be seen to be robust and accurate. Any further reductions in scope, particularly on the renewal of assets, may lead to the concern that the Winter 2008 timetable will not be sustainable without a significant programme of renewals beyond April 2009.
- 4.7.25 **WCRM Recommendation 2.** Network Rail has been proposing to introduce a new methodology for Earned Value reporting since October 2006. The credibility of the existing method has been questioned by the Reporter and recommendations for change have been identified. A draft of the new procedure has been shared by Network Rail. However, it needs to be implemented over the next few months if it is to be of any benefit to the Programme.
- 4.7.26 **WCRM Recommendation 3.** For the purposes of monitoring variances in scope delivery across the strategic routes, it is recommended that the Annual Return scope reporting compares delivery against the Business Plan at a Route level, as is currently the case with expenditure.

## 5 Reporter's scrutiny and opinion

### 5.1 Commentary on Project Monitoring 2006/07

5.1.1 This is the first year in which the West Coast Route Modernisation (WCRM) programme has fallen under this Reporter's remit.

- (a) In conducting our reporting activity we have been impressed with the thoroughness of the programme management and reporting regime established by the WCRM programme team. This has permitted the Reporter to obtain a detailed understanding of the reasons behind both the financial and output variances that have inevitably arisen in this complex programme of works.
- (b) Recent conclusion of the final definition of the overall scope to be delivered by the WCRM programme, coupled with the project management processes that are implemented on a day-to-day basis by the programme team, have generated an increased level of confidence that the agreed outputs will be delivered. Significant challenges do however remain, particularly on the Rugby Nuneaton project.
- (c) It is our view that the level of programme management expertise and concerted application of project management techniques, applied so successfully to this programme, should be applied in an appropriate manner on future Network Rail major programmes of work in order to increase their certainty of success. The only current programme which approaches this level of application is Fixed Telecom Network/GSM-R.

The headline management cost for the programme, at approximately 11.5%, is skewed by the allocation of costs to this management heading which, for other Network Rail programmes are absorbed within overall Network Rail operating costs, or are allocated on a project-by-project basis within the programme concerned. In the coming year the Reporter proposes to de-construct the headline management costs for the WCRM programme in order to be able to make a like-for-like comparison of management costs with other major Network Rail programmes.

5.1.2 In relation to other programmes of work, we have however identified a number of underlying management issues which we believe need to be addressed. Resolution of these issues would, in our view, improve Network Rail's efficient and effective delivery of projects and programmes. These are:

- (a) That reporting by Network Rail programme managers on programme expenditure and programme is frequently against global investment authorisations. Each element of a programme however is often a substantial project in its own right, and we would expect to see the project reporting regime and particularly project close out procedures, implemented in full compliance with the GRIP process in each instance. This should include completion reports to capture lessons learned and best practice that could be used in future schemes as well as reporting on any variance from programmed costs and timescales.
- (b) In a number of instances there are no baselined KPIs have been established to assist Network Rail's programme managers' in monitoring project outputs and work progress, other than achievement of each GRIP Stage gateway against a baseline programme. While reporting of financial progress through the MBR Packs is consistently comprehensive these reports do not refer to physical progress or output milestones in such a way as to make them comparable with any baselined KPIs. We would expect to see an effective reporting regime that referred to such KPIs.



## 5.2 Reporter's Audit Statement

- 5.2.1 This report, including opinions, has been prepared for use of Office of Rail Regulation and Network Rail and for no other purpose. We do not, in reporting, accept responsibility for any other purpose or to any other person to whom this report is shown.
- 5.2.2 We report our opinion on the financial and output variances of major projects as directed by Office of Rail Regulation and Network Rail. We confirm the data presented by Network Rail was correct except where identified in the text of our report.
- 5.2.3 We confirm that, in our opinion, the reported information is a reasonable representation of performance and data has been properly prepared and reported in accordance with agreed procedures, except as noted in our report commentaries.

*David Simmons*

David Simmons,  
Independent Reporter,  
Halcrow Group Limited,  
September 2007.

## 6 Appendix A: Recommendations

Reference code	Recommendation
2006/07-D001	<b>AFA Recommendation 1.</b> We recognise that Network Rail has made significant improvements to the programme management during 2006/7. During 2007/8 we would expect to see this develop further. In particular, we expect to see cost loadings implemented for the programme.
2006/07-D002	<b>AFA Recommendation 2.</b> Each station scheme is a substantial project in its own right and we would expect to see project close out procedures implemented in full compliance with the GRIP process for each scheme completed. These will include completion reports to capture lessons learned and best practice that could be used in future schemes as well as reporting on any variance from programmed costs and timescales.
2006/07-D003	<b>NPPP Recommendation 1.</b> We recommend that the NPPP team ensure that reporting of changes in expenditure, and outturn projections be accompanied by itemised explanations.
2006/07-D005	<b>NPPP Recommendation 2.</b> We recommend that, if ground water works are being carried out on a separate schedule, then all monthly reporting should clearly distinguish these works as being ground water works, to avoid any confusion with Phase 1, which is complete, and other Phase 2 work, which may be operating to a different schedule. This would ensure that reporting and monitoring of physical progress against time is using the appropriate work schedules, and would clearly show the actual progress for ground water works against their own schedule as well as against the schedule of the overall programme. Causes of changes in physical progress or expenditure should be reported separately and clearly distinguished from one another.
2006/07-D006	<b>Commercial Property Recommendation 1.</b> We recommend the Commercial Property team implement periodic reporting of baselined output KPIs, CPI/ SPI and unit costs to improve the measurement, and consequently the management, of the enhancement works undertaken by the project teams
2006/07-D007	<b>NRDF (Bristol Parkway) recommendation 1.</b> Where ATP installation is required full account should be taken of the lead times when determining the likely duration and completion dates of a scheme.
2006/07-D008	<b>NRDF (Farncombe station) recommendation 2.</b> Projects should ensure that savings can be itemised.
2006/07-D009	<b>NRDF (Farncombe station) recommendation 3.</b> The use of T.II possessions might have been foreseeable, and cost savings may be realised at estimating stage if it is possible to avoid being over-cautious on possession requirements.
2006/07-D010	<b>NRDF (Farncombe station) recommendation 4.</b> The potential for savings resulting from complementary works should be examined at the planning stage wherever possible, as this may allow a reduction in the original budget estimates.
2006/07-D011	<b>WCRM Recommendation 1.</b> If confidence in the WCRM team is to be maintained the recent re-forecasting exercise will need to be seen to be robust and accurate. Any further reductions in scope, particularly on the renewal of assets, may lead to the concern that the Winter 2008 timetable will not be sustainable without a significant programme of renewals beyond April 2009.
2006/07-D012	<b>WCRM Recommendation 2.</b> Network Rail has been proposing to introduce a new methodology for Earned Value reporting since October 2006. The credibility of the existing method has been questioned by the Reporter and recommendations for change have been identified. A draft of the new procedure has been shared by Network Rail. However, it needs to be implemented over the next few months if it is to be of any benefit to the Programme.
2006/07-D013	<b>WCRM Recommendation 3.</b> For the purposes of monitoring variances in scope delivery across the strategic routes, it is recommended that the Annual Return scope reporting compares delivery against the Business Plan at a Route level, as is currently the case with expenditure.

## 7 Appendix B: NPPP Output Progress Schedule

### 7.1 General NPPP output progress

Work Stream	Handback Date in Baseline (Period-Year)	Projected Handback (Period-Year) As of 09-06/07	Slippage (Periods)	Pd 3-07/08 Add'l Slippage from Pd 09-06/07	Comments
<b>Scotland</b>					
Aberdeen Clayhills	08-06/07	01-07/08	5	6	MBR Packs report 3 pds delay
Motherwell	13-06/07	not given			Works still continuing in p13-06/07
Fort William	13-06/08	not given			Works still continuing in p13-06/07
Edinburgh Craigenlinny	02-06/07	10-07/08	9	1	
Edinburgh Haymarket	06-07-08	11-07/08	5	1	
Glasgow Corkerhill	08-06/07	07-07/08	10	2	MBRa refer to problems delaying handback
Glasgow Polmadie	09-06/07	07-07/08	10	-1	MBR Packs report more or less on target
Inverness	07-06/07	05-07/08	11	1	MBR Packs indicate 5 pds delay
Perth	09-06/07	03-07/08	7	4	Costs only agreed Pd11-06/07
Shields LMD (Glasgow)	11-06/07	not given			No reference in MBR Pack
Yoker LMD (Glasgow)	11-06/08	not given			No reference in MBR Pack
<b>Northern</b>					
Aylesbury	08-07/08	13-06/07	-8	2	
Hull Botanic Gardens	09-06/07	06-07/08	9	1	
Leeds Neville Hill MMR	08-06/07	07-07/08	13	2	Still snagging in Pd 13-06/07
Leeds Neville Hill RNE	08-06/08	07-07/09	14	2	
Liverpool Edge Hill	09-06/07	06-07/08	10	3	
Manchester Longsight	09-06/07	05-07/08	9	3	
Manchester Newton Heath	09-06/07	08-07/08	12	1	
Newcastle-upon-Tyne Heaton	09-06/07	05-07/08	9	5	
Nottingham Eastcroft	07-06/07	10-07/08	16	1	
Sheffield	07-07/08	07-07/08	0	0	
Barrow-in-Furness	09-06/07	04-07/08	11	3	
Birmingham Soho	08-06/07	02-07/08	7	7	
Birmingham Tyseley	09-07/08	02-07/08	-7	4	
Blackpool North	06-06/07	04-07/08	11	3	
Derby Etches Park	08-07/08	06-07/08	-2		Last reported scope agreed Pd 12-06/07
Holyhead	08-07/08	08-07/08			
<b>Southern</b>					
Bletchley	08-06/07	not given			MBR Packs do not refer
London East Ham	09-06/07	03-07/08	7	1	Delayed defining scope & awarding contracts
London Ferme Park	09-06/07	04-07/08	8	1	Delayed defining scope & awarding contracts
London Ilford	09-06/07	02-07/08	6	3	Delayed defining scope & awarding contracts
London Hornsey	09-06/07	03-07/08	9	3	Delayed defining scope & awarding contracts
London Old Oak Common	09-06/07	02-07/08	6	4	Delayed defining scope & awarding contracts
London Selhurst	09-06/07	05-07/08	9	2	Delayed defining scope & awarding contracts

Work Stream	Handback Date in Baseline (Period-Year)	Projected Handback (Period-Year) As of 09-06/07	Slippage (Periods)	Pd 3-07/08 Add'l Slippage from Pd 09-06/07	Comments
London Willesden	09-06/07	01-07/08	5	5	Delayed defining scope & awarding contracts
London Wimbledon	09-06/07	13-06/07	4	4	costs agreed in Pds 11 & 12-06/07
Machynlleth	05-06/07	13-06/07	8	0	Completed
Norwich Crown Point	11-06/07	13-06/07	2	5	"substantially complete" in Pd 13-06/07
Bournemouth West	08-06/07	not given		7	MBR Packs do not refer
Penzance Long Rock	05-06/07	02-07/08	10	3	Site issues reported as delaying completion.
Plymouth Laira	13-06/07	05-07/08	5	1	
Reading	05-06/07	04-07/08	12	0	
Salisbury	09-06/07	01-07/08	5	4	
Swansea Landore	11-06/07	05-07/08	7	-1	
Welwyn Garden city	not given	08-07/08			Not mentioned
Wembley Train Care Centre	09-06/07	not given	11		report site works commenced 13/07
Worcester Shrub Hill	02-06/07	03-07/08	14	2	
Bristol St Phillip's Marsh	13-06/07	04-07/08	4	6	
Exeter St David's	06-06/07	03-07/08	10	4	
Cambridge	08-06/07	01-07/08	6	0	Completed
Cardiff Canton	12-06/07	11-07/08	12	0	
Colchester	06-06/07	03-07/08	10	3	
Fratton	05-06/07	01-07/08	9	3	
London Bounds Green	09-06/07	01-07/08	5		Project outturn information appears to be in error for Pd 03-07/08
<b>Average Slippage</b>			<b>7.7</b>	<b>2.5</b>	

## 7.2 NPPP Ground water works output progress

Work Stream	Handback Date in Baseline	Projected Handback Period 13-06/07	Slippage (Periods)
<b>Scotland</b>			
Aberdeen Clayhills	Jan-07	Jun-07	5
Motherwell	not given	not given	
Fort William	not given	not given	
Edinburgh Craigentenny	Dec-07	Mar-08	3
Edinburgh Haymarket	Feb-08	Mar-08	1
Glasgow Corkerhill	Feb-07	Jan-08	11
Glasgow Polmadie	Feb-07	Oct-07	8
Inverness	Jan-07	Aug-07	7
Perth	Feb-07	Oct-07	8
Shields LMD (Glasgow)	not given	not given	
Yoker LMD (Glasgow)	not given	not given	
<b>Northern</b>			
Aylesbury	Jul-07	Oct-07	3
Bedford	not given	Sep-05	
Hull Botanic Gardens	Mar-07	Oct-07	7
<b>Work Stream</b>			
Leeds Neville Hill MMR	Oct-07	Nov-07	1
Leeds Neville Hill RNE	Oct-07	Nov-07	1
Liverpool Edge Hill	Aug-07	Oct-07	2
Manchester Longsight	Aug-07	Oct-07	2
Manchester Newton Heath	Oct-07	Nov-07	1
Newcastle-upon-Tyne Heaton	Aug-07	Nov-07	3
Nottingham Eastcroft	Feb-07	Nov-07	9
Sheffield	not given	Nov-07	
Barrow-in-Furness	Aug-07	Aug-07	0
Birmingham Soho	Aug-07	Nov-07	3
Birmingham Tyseley	Sep-07	Aug-07	1
Blackpool North	Sep-07	Sep-07	0
Derby Etches Park	Mar-07	Mar-07	0
Holyhead	Jun-07	Feb-07	0
<b>Southern</b>			
Bletchley	not given	not given	
London East Ham	Apr-07	Jul-07	3
London Ferme Park	Mar-07	Nov-07	8
London Ilford	Apr-07	Jul-07	3
London Hornsey	Mar-07	Aug-07	5
London Old Oak Common	Mar-07	Jul-07	4
London Selhurst	Jun-07	Aug-07	2
London Willesden	Jun-07	Jul-07	1
London Wimbledon	Apr-07	Aug-07	4
Machynlleth	Nov-06	Mar-07	4
Norwich Crown Point	Feb-07	May-07	3
Bournemouth West	Jan-07	Sep-07	8

<b>Work Stream</b>	<b>Handback Date in Baseline</b>	<b>Projected Handback Period 13-06/07</b>	<b>Slippage (Periods)</b>
Penzance Long Rock	Jan-07	Jun-07	5
Plymouth Laira	Jun-07	Oct-07	9
Reading	Mar-07	Jul-07	4
Salisbury	Feb-07	May-07	3
Swansea Landore	Apr-07	Jun-07	2
Welwyn Garden City	Jun-07	Feb-07	4
Wembley Train Care Centre	not given	not given	
Worcester Shrub Hill	Oct-07	Jun-07	4
Bristol St Phillip's Marsh	Mar-08	Oct-07	7
Exeter St David's	Feb-07	Aug-07	6
Cambridge	Feb-07	Oct-07	8
Cardiff Canton	Jan-07	Oct-07	9
Colchester	Feb-07	Jul-07	5
Fratton	Jan-07	Jul-07	6
London Bounds Green	Feb-07	Jul-07	5
<b>Average Slippage</b>			<b>4.3</b>