

2003

Reporting on the
year 2002/03

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Executive Summary

This is the third Annual Return to the Office of the Rail Regulator (ORR), the first under Network Rail's stewardship that commenced in October 2002. It reports actual data for expenditure, operational performance, activity and asset condition for the full 2002/03 financial year. There are six main sections in this Annual Return.

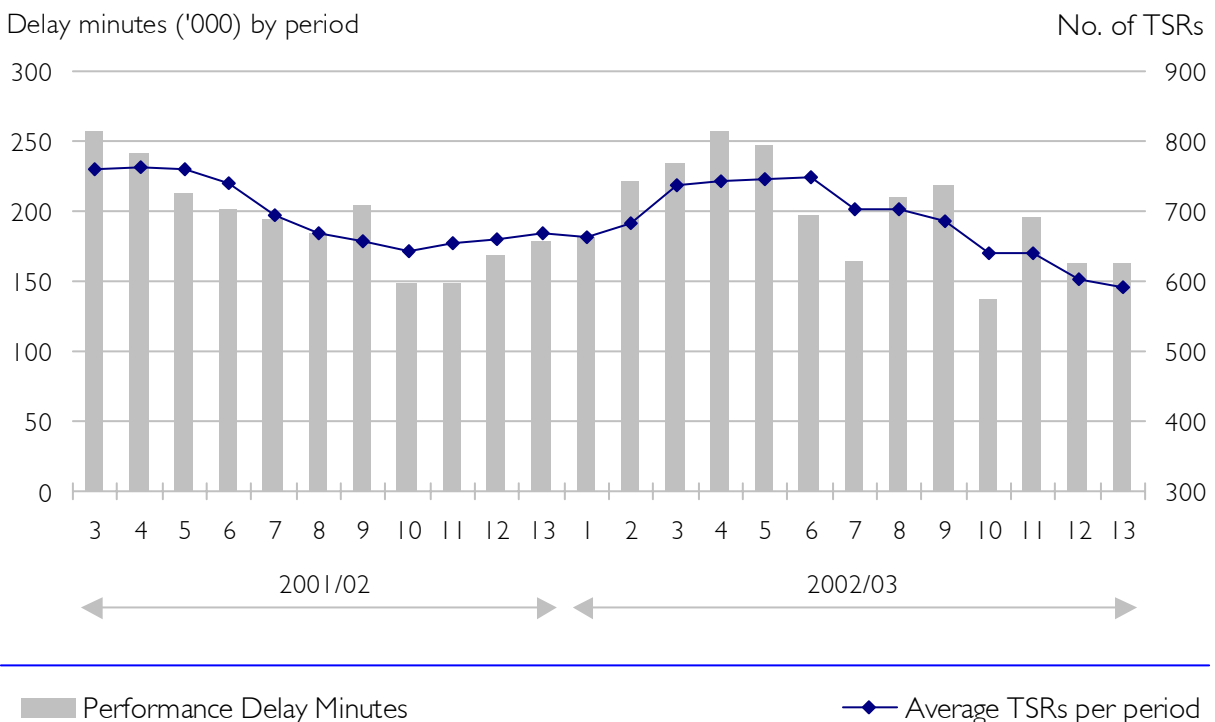
Operational Performance

The performance of the network in 2002/03 was disappointing. 14.7 million train delay minutes were attributable to the infrastructure compared with 13.4 million in 2001/02, an increase of 9%. The disappointing performance for the year is due a number of factors: severe weather related delays (up 72% compared to 2001/02), track delay (track faults and Temporary Speed Restrictions (TSRs)), non track assets (points, track circuits and signalling failures), increases in delay per incident and other factors (including external delay).

Network Rail has introduced a range of Action Plans to improve the business and help build the sustainable rail infrastructure customers need. One of these Action Plans, PF1, has been established to address train performance improvement. Focus teams are addressing five key areas (points, track circuits, signalling & signalling power, weather/seasonal preparation and operations), which represent over 50% of Network Rail caused delay.

Train performance is significantly affected by TSRs and during the year reducing the number of TSRs was made a key priority. This focus has started to yield positive results and by the year end the number had been reduced by 30% from a peak of 762 to 537. The delay impact of TSRs showed a 9% improvement on 2001/02.

Figure 1 Delay minutes and numbers of temporary speed restrictions on the network

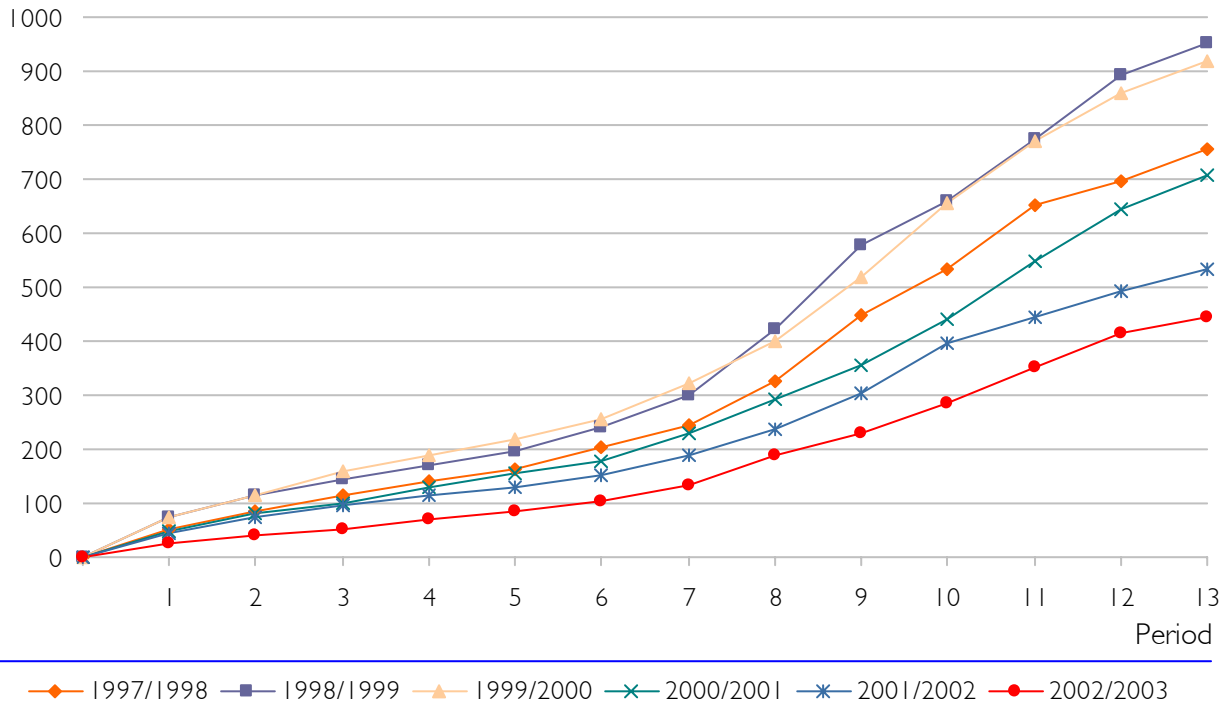


Asset Condition & Serviceability

Initiatives to reduce broken rails continue to have a positive effect. This has reduced the number to 444 in 2002/03, which was 17% better than the previous year, and 37% below the national regulatory target.

Figure 2 Broken rail yearly comparison chart

Cumulative number of broken rails



We achieved a significant reduction in track geometry faults (level 2 exceedences), as a result of our continuing initiative to focus efforts on areas of poorest track, to achieve safety benefits. The number of level 2 exceedences was 35% better than the regulatory target.

There were also improvements in 7 of the 12 track geometry standard deviation measures, including all 6 horizontal alignment measures which have a direct impact on reducing the occurrence of Rolling Contact Fatigue (RCF).

There was a 5% increase in signalling failures causing a cumulative delay of more than 10 minutes per incident. This was due more to an increase in the average delay per incident rather than an increased number of signalling failures.

Activity Volumes

Rail renewal volume was 12% lower than the NMS forecast but 3% higher than 2001/02 volume. Sleeper renewals were 7% higher than NMS forecast and 5% higher than 2001/02. Ballast was 14% lower than the NMS forecast but 7% higher than 2001/02. The 2003 Annual Return contains new measures for ballast, culvert and retaining wall renewals. Reasons for significant differences between 2002 NMS forecasts and actual achievement are explained in the main body of the document.

Table 1		Track Activity Volume Comparison		
		2000/2001	2001/2002	2002/2003
Rail	(km of track renewed)	1,064	983	1,010
Sleeper	(km of track renewed)	475	636	666
Ballast	(km of track renewed)	496	624	665
S&C	(No. of units replaced)	-	136	254

Network Capability

For 2002/03 Network Rail HQ have calculated capability data centrally, using a repeatable process.

2002 NMS Reconciliation Statement

Maintenance expenditure during 2002/03 was £1,184m against a forecast of £1,112 in the 2002 NMS and £950m during 2001/02. Renewals expenditure during 2002/03 was £2,421m against an NMS forecast of £2,493m and £1,946 during 2001/02. Material differences between actual and forecast expenditure are explained in the body of this document. Enhancement expenditure during 2003/03 was £746m against an NMS forecast of £1,493m and £806m during 2001/02.

Table 2		Expenditure Comparison (£m)		
		2000/2001	2001/2002	2002/2003
Maintenance		698	950	1,184
Renewal		1,749	1,954	2,421
Enhancement		562	806	746

Customer Reasonable Requirements (CRR)

We continued to improve clarity and robustness of CRRs, working with our customers to identify those which were ill defined, or no longer part of their business plans. During the year, 286 CRRs were completed or withdrawn from the 403 existing at the beginning of the year. After adding 44 new requirements, the total number of CRRs live at 31 March 2003 was 161.

Introduction

This is the third Annual Return to the Office of the Rail Regulator (ORR), the first under Network Rail's stewardship that commenced in October 2002. It reports on expenditure, operational performance, activity and asset condition for the full 2002/03 financial year.

The Annual Return is a key regulatory document and is the primary means by which Network Rail demonstrates progress in delivering outputs assumed in the Periodic Review. The Annual Return is also publicly available, enabling other stakeholders to use it as an important reference document.

Scope of Reporting

Many of the regulatory output targets for assets and network capability are specified as 'no deterioration from the position at the start of the second control period'. In some cases the target will relate to levels observed in 2000/01, whilst for others the baseline will be established later, when a sufficient sample is achieved (e.g. for asset condition).

Most asset condition information is based on assessments from a sample of assets, so as more surveys are carried out, the reliability of the data for each asset category will improve.

Accuracy of Asset Data

Over the last two years we have continued to put considerable effort into improving data quality, by clarifying definitions and procedures for measures, and by ensuring that staff involved in recording data have been properly trained. We have also carried out internal audits to test the robustness of procedures and consistency of interpretation across the country. These actions have improved the reliability and accuracy of data reporting but there are some areas where further improvements are still required. Areas of particular concern are highlighted in this Return.

The Annual Return for 2003 is being submitted earlier than previous years. The normal performance data 'refreshment' process to pick-up dispute resolution would take 12 weeks after year-end. This has been brought forward slightly so that we have the "end-year" position available for the 2003 Annual Return.

The laid down procedure for other measures (equipment failures) allows six months in which to agree the attribution of the cause of the failure. This may mean that some incidents are re-attributed after submission of the Annual Return to the Rail Regulator. In such instances it will be necessary to show an adjustment figure in the following year's Annual Return.

During the 2002/03 year, the Rail Regulator has appointed Railway Reporters to provide an independent view on the accuracy and significance of the data that Network Rail collects as part of the monitoring of its stewardship of the rail network. The Reporters have undertaken investigations into the accuracy of the data provided in the 2002 Annual Return and the validity of the process by which this data has been produced. Recommendations from their reports have been taken into consideration in the compilation of this Return and further breakdown of some measures have been provided as a result. The production of the 2003 Annual Return is the subject of similar investigation by the Reporters.

Regulatory Accounts

The regulatory reporting regime includes a requirement to prepare a set of Regulatory Accounts to report information that is relevant to setting access charges and which allows Network Rail's financial performance to be monitored against assumptions made by the Regulator at the last periodic review. The Regulatory Accounts for 2002/03 are not included in this Annual Return, but will be submitted to the Regulator in a separate report and also made publicly available.

Section I – Operational Performance

Delays to train journeys experienced by passenger and freight companies are broken down into Network Rail-caused delays and those caused by train operators. Those attributable to Network Rail typically relate to infrastructure, timetabling and operation of the network or external events. Those attributable to train operators typically relate to train operations, fleet reliability, or problems with train crew resources. In 2002/03 approximately 55% of all delays to passenger trains were attributable to Network Rail. This Annual Return provides data on Network Rail-caused delays only. Figures are presented for 2002/03 in delay minutes and in minutes delay per 100 train kilometres, with disaggregated results split down by cause, by Network Rail Region and into delays affecting passenger and freight trains. In addition, the number of performance incidents in asset related categories is shown. These incidents are recorded for the purpose of identifying the cause and responsibility of delays and cancellations; while providing valuable management information on the causes of and trends in delays, they do not seek to represent a record of every single physical component or system failure occurring on the network.

Commentary

Delays attributable to Network Rail's infrastructure and network management increased to 14.7 million minutes in 2002/03. This is an increase of nearly 10% compared to the 2001/02 level. However, after allowing for changes in data processes (to more accurately reflect the resolution of disputed incidents), the increase was approaching 7%.

The increase in delays to passenger trains was slightly lower at 8%, but when combined with an increase of 2.2% in train kilometres run, it left the key Regulatory Monitoring Target, of Network Rail-attributed delays per 100 train km, up by 6% to 2.90 minutes (see Table 3). After allowing for the process changes, the underlying deterioration in performance was therefore around 3%.

Delays to freight trains rose by 17% to 2.45 million minutes, against a reduction of around 3% in freight train kilometres run (see Table 4).

Compared to 2001/02, the largest improvement was in track-related delays (see categories 104a-c in Table 7), which fell by 509,703 minutes. This reflected the combination of a 75% reduction in delays due to rolling contact fatigue, but offset by a modest increase in other track delays. This improvement was less than had been expected, and reflected both the higher than expected number of TSRs on the network during the first half of the year, and the impact of one particularly severe speed restriction at Drem in Scotland which was caused by mining-related subsidence. Track TSR delays also deteriorated in Period 2, following the Potters Bar incident, partly reflecting increased risk aversion.

Non-track asset categories experienced an increase in delays. Within this group, delays for the three key categories of points, track circuit and signalling failures increased by 18% to 3.6 million minutes. This reflected a 17% increase in the average delay per incident, while the number of such incidents increased by 1% (see table 16).

The weather severely affected train performance during 2002/03, with the adverse winter conditions in January 2003 (when all transport modes were severely affected), and the storms and flooding of both August and October 2002 being the main events. Weather-related delays increased by 72% in 2002/03 (to 688,789 minutes) compared to the previous year. Autumn leaf-fall delays were exacerbated by the October storms, which led to a very heavy leaf-fall on a single day, resulting in a very sharp increase in track circuit failures due to leaf-fall (category 305). In addition, significant weather related delays occur in the Lineside Structures category (105) and the External Other (506) category. These include the impact of excessive rainfall and flooding on bridges and embankments and the loss of external power supplies following the October storms. In total the impact of severe weather amounted to around 1 million minutes during 2002/03.

Other external categories (402, 403, 503-505) also showed an increase in delays of some 20%. This was particularly driven by an increase in delays arising from road-related incidents (bridge strikes and level crossing incidents etc) and trespass and suicides. This reflected an increase in the number of bridge strikes and the delay per incident, although the latter also partly reflected a change in the allocation of these delays.

The Commercial dispute take-back category (502c), which includes both shared incidents and the take-back of some disputed incidents increased by more than 100% as shown in Table 7. The increase largely reflects the change in definition and processing of data for 2002/03; after adjusting for these changes the underlying increase is estimated at 26%. The revised processes have also led to an increase (but to a lesser degree) in the following categories: Fatalities/trespass (503), Other Infrastructure (106) and Unexplained (601).

The delays by cause category across Network Rail's seven regions are shown in Tables 8 – 14. These highlight the particularly severe impact of track delays on the Midlands and London North Eastern regions relative to train kilometres run. The comparatively high risk of autumn leaf-fall and adhesion delay on Southern, and the severe weather impacts in Scotland can also be observed.

The trends in train performance during the year can be seen from Table 15, which shows delays by region split down into four-week periods. Delays remained at or below 1 million minutes per period prior to the autumn, with the exception of Period 5 (with the August flooding noted above). Period 8 was exceptionally poor, with the combination of storms, autumn conditions and the added constraint of a significant increase in train miles from the start of the winter timetable. After the autumn delays, fell back to around 1.0 million minutes, punctuated with a further period of poor performance (caused by the January wintry weather) in Period 11.

The trend in delays to passenger trains (relative to the train kilometres run) over the last three years is illustrated in Figure 3. This shows the impact of the disruption after the Hatfield accident, the subsequent recovery and the impact of autumn conditions on performance.

Summarised national data

Table 3 National Delays to Passenger Train services (Regulatory Monitoring Target)				
Network Rail-attributed delays	1999/00	2000/01	2001/02	2002/03
Delay minutes ¹	6,357,365	14,328,453	11,289,684	12,214,993
Train km ²	411,783,295	402,794,776	412,176,056	421,267,094
Delay minutes per 100 train km ³	1.54	3.56	2.74	2.90
Regulatory Target in delay minutes per 100 train km⁵	1.54	1.42	1.39	1.35

1. The delay totals are based on all Pfp delays affecting applicable passenger operators (main scheduled operators). Minor differences exist between 1999/00 and 2002/03 in the methodology used for compilation.
2. Train kilometres run for trains of applicable operators, excluding empty coaching stock movements, as recorded in PALADIN.
3. Based on all Pfp delay minutes, divided by the train kilometres run, multiplied by 100.
4. Data definitions and processes were changed slightly for 2002/03. The effect of applying these to 2001/02 data for comparison purposes would be to increase the delay minutes from 11.29m to 11.64m.
5. The regulatory target for Network Rail-attributed delays is to achieve a reduction in passenger train delay minutes per 100 train kilometres of 2.5% each year of the control period. The starting point is the 2000/01 target that the Regulator set for a 7.8% reduction on the 1999/00 level of performance. There is no regulatory target for delays to freight trains.

Table 4 National Delays to Freight Train services				
Network Rail-attributed delays	1999/2000	2000/2001	2001/2002	2002/03
Delay minutes ¹	1,399,325	3,004,408	2,094,688	2,451,402
Train km ²	47,092,101	46,556,047	48,761,221	47,201,404
Delay minutes per 100 train km ³	2.97	6.45	4.30	5.19

1. The delay totals are based on all Pfp delays affecting applicable freight operators (main scheduled operators). Minor differences exist between 1999/00 and 2002/03 in the methodology used for compilation.
2. Train kilometres run for trains of applicable operators.
3. Based on all Pfp delay minutes, divided by the train kilometres run, multiplied by 100.
4. Data definitions and processes were changed slightly for 2002/03. The effect of applying these to 2001/02 data for comparison purposes would be to increase the delay minutes from 2.09m to 2.11m.

Impact of the Train Protection and Warning System

The delay minutes shown above include delay minutes caused by TPWS as follows:

Table 5 TPWS delay minutes			
	2000/2001	2001/2002	2002/03
Passenger Trains	3,652	24,047	53,092
Freight Trains	161	1,864	3,466

National data by delay category

Table 6 NATIONAL delays to passenger & freight trains by detailed cause category – 2002/03							
No.	Category	Passenger Trains		Freight trains		Combined Total	
		Delay minutes	Delay minutes per 100 train km	Delay minutes	Delay minutes per 100 train km	Delay minutes	Delay minutes per 100 train km
101	Points failures	977,855	0.23	228,688	0.48	1,206,543	0.26
102	Problems with trackside signs, TSR boards	76,095	0.02	10,060	0.02	86,155	0.02
103	Level crossing failures	153,640	0.04	14,723	0.03	168,363	0.04
104A	TSRs due to condition of track	757,135	0.18	328,073	0.70	1,085,208	0.23
104B	Broken rails/track faults	945,097	0.22	233,785	0.50	1,178,882	0.25
104C	Rolling contact fatigue	215,685	0.05	35,065	0.07	250,750	0.05
105	Lineside structure defects (inc. weather impact)	271,439	0.06	60,902	0.13	332,341	0.07
106	Other infrastructure	489,983	0.12	92,763	0.20	582,746	0.12
107A	Possession over-run and related faults	274,217	0.07	90,194	0.19	364,411	0.08
107B	Possession work left incomplete	83,140	0.02	11,270	0.02	94,410	0.02
108	Mishap - infrastructure causes	37,678	0.01	15,383	0.03	53,061	0.01
109	Animals on line	136,145	0.03	17,232	0.04	153,377	0.03
110	External weather impact	576,367	0.14	112,422	0.24	688,789	0.15
111A	Wheel slip due to leaf fall	105,914	0.03	7,155	0.02	113,069	0.02
111B	Vegetation management failure	16,895	0.00	2,071	0.00	18,966	0.00
112	Fires on Network Rail infrastructure	59,465	0.01	1,446	0.00	60,911	0.01
150	Network Rail share of industry leaf-fall/adhesion delays	301,390	0.07	4,689	0.01	306,079	0.07
201	Overhead line/Third rail faults	313,861	0.07	58,087	0.12	371,948	0.08
301A	Signal failures	451,749	0.11	57,976	0.12	509,725	0.11
301B	Track circuit failures	1,260,131	0.30	158,551	0.34	1,418,682	0.30
302A	Signalling system & power supply failures	395,154	0.09	87,699	0.19	482,853	0.10
302B	Other signal equipment failures	107,667	0.03	25,493	0.05	133,160	0.03
303	Telephone failures	38,936	0.01	5,078	0.01	44,014	0.01
304	Cable faults (signalling & telecoms)	119,127	0.03	27,191	0.06	146,318	0.03
304A	Change of aspects-no fault found	38,469	0.01	4,073	0.01	42,542	0.01
305	Track circuit failures - leaf fall	96,533	0.02	13,869	0.03	110,402	0.02
401	Bridge strikes	323,611	0.08	33,816	0.07	357,427	0.08
402	External infrastructure damage - vandalism/theft	317,264	0.08	52,682	0.11	369,946	0.08
403	External level crossing/road incidents (not bridges)	107,645	0.03	13,431	0.03	121,076	0.03
501	Network Rail Production responsibility	823,713	0.20	172,607	0.37	996,320	0.21
502A	Network Rail Commercial: train Planning	368,146	0.09	206,804	0.44	574,950	0.12
502B	Network Rail Commercial responsibility: other	23,786	0.01	7,957	0.02	31,743	0.01
502C	Network Rail Commercial: dispute take-back	756,193	0.18	102,948	0.22	859,141	0.18
503	External fatalities and trespass	545,826	0.13	59,386	0.13	605,212	0.13
504	External police on line/security alerts	34,538	0.01	3,935	0.01	38,473	0.01
505	External fires	96,493	0.02	15,403	0.03	111,896	0.02
506	External other	181,584	0.04	34,953	0.07	216,537	0.05
601	Unexplained	336,427	0.08	43,542	0.09	379,969	0.08
Total minutes		12,214,993	2.90	2,451,402	5.19	14,666,395	3.13
Train km		421,267,094		47,201,404		468,468,498	

Table 7 NATIONAL delays to passenger & freight trains by detailed cause category – Trends							
No.	Category	2000/01		2001/02		2002/03	
		Total delay minutes	Delay minutes per 100 train km	Total delay minutes	Delay minutes per 100 train km	Total delay minutes	Delay minutes per 100 train km
101	Points failures	802,027	0.18	953,254	0.21	1,206,543	0.26
102	Problems with trackside signs, TSR boards	62,254	0.01	68,313	0.01	86,155	0.02
103	Level crossing failures	103,225	0.02	140,098	0.03	168,363	0.04
104A	TSRs due to condition of track	542,410	0.12	1,005,580	0.22	1,085,208	0.23
104B	Broken rails/track faults	859,093	0.19	1,030,372	0.22	1,178,882	0.25
104C	Rolling contact fatigue	5,648,317	1.26	988,591	0.21	250,750	0.05
105	Lineside structure defects (inc. weather impact)	617,353	0.14	330,529	0.07	332,341	0.07
106	Other infrastructure	529,224	0.12	470,863	0.10	582,746	0.12
107A	Possession over-run and related faults	323,445	0.07	291,435	0.06	364,411	0.08
107B	Possession work left incomplete	90,167	0.02	113,273	0.02	94,410	0.02
108	Mishap - infrastructure causes	64,004	0.01	55,776	0.01	53,061	0.01
109	Animals on line	134,914	0.03	173,562	0.04	153,377	0.03
110	External weather impact	969,906	0.22	401,197	0.09	688,789	0.15
111A	Wheel slip due to leaf fall	89,288	0.02	130,718	0.03	113,069	0.02
111B	Vegetation management failure	3,782	0.00	14,797	0.00	18,966	0.00
112	Fires on Network Rail infrastructure	28,037	0.01	65,155	0.01	60,911	0.01
150	Network Rail share of industry leaf-fall/adhesion delays	246,909	0.05	325,031	0.07	306,079	0.07
201	Overhead line/Third rail faults	280,526	0.06	403,513	0.09	371,948	0.08
301A	Signal failures	350,856	0.08	463,732	0.10	509,725	0.11
301B	Track circuit failures	1,058,346	0.24	1,179,782	0.26	1,418,682	0.30
302A	Signalling system & power supply failures	339,337	0.08	473,516	0.10	482,853	0.10
302B	Other signal equipment failures	66,686	0.01	88,441	0.02	133,160	0.03
303	Telephone failures	30,914	0.01	38,932	0.01	44,014	0.01
304	Cable faults (signalling & telecoms)	116,748	0.03	168,104	0.04	146,318	0.03
304A	Change of aspects-no fault found	10,117	0.00	22,208	0.00	42,542	0.01
305	Track circuit failures - leaf fall	13,869	0.00	21,024	0.00	110,402	0.02
401	Bridge strikes	183,842	0.04	232,588	0.05	357,427	0.08
402	External infrastructure damage - vandalism/theft	362,303	0.08	403,708	0.09	369,946	0.08
403	External level crossing/road incidents (not bridges)	72,298	0.02	105,775	0.02	121,076	0.03
501	Network Rail Production responsibility	1,070,194	0.24	1,078,029	0.23	996,320	0.21
502A	Network Rail Commercial: train Planning	566,647	0.13	538,930	0.12	574,950	0.12
502B	Network Rail Commercial responsibility: other	63,681	0.01	53,578	0.01	31,743	0.01
502C	Network Rail Commercial: dispute take-back	297,112	0.07	394,876	0.09	859,141	0.18
503	External fatalities and trespass	459,141	0.10	449,755	0.10	605,212	0.13
504	External police on line/security alerts	110,905	0.02	44,719	0.01	38,473	0.01
505	External fires	31,246	0.01	49,054	0.01	111,896	0.02
506	External other	176,807	0.04	147,852	0.03	216,537	0.05
601	Unexplained	556,931	0.12	467,712	0.10	379,969	0.08
Total minutes		17,332,861	3.86	13,384,372	2.90	14,666,395	3.13
Train km		449,350,823		460,937,277		468,468,498	

Regional data by delay category

Table 8 EAST ANGLIA delays to passenger & freight trains by detailed cause category – 2002/03

No	Category	Train delay minutes			
		Passenger	Freight	Combined	Per 100 train km
I01	Points failures	90,991	16,869	107,860	0.26
I02	Problems with trackside signs, TSR boards	6,724	554	7,278	0.02
I03	Level crossing failures	26,807	1,696	28,503	0.07
I04A	TSRs due to condition of track	38,908	5,173	44,081	0.11
I04B	Broken rails/track faults	70,229	23,764	93,993	0.23
I04C	Rolling contact fatigue	20,233	1,521	21,754	0.05
I05	Lineside structure defects (inc. weather impact)	6,801	529	7,330	0.02
I06	Other infrastructure	21,115	3,670	24,785	0.06
I07A	Possession over-run and related faults	17,889	6,702	24,591	0.06
I07B	Possession work left incomplete	7,338	698	8,036	0.02
I08	Mishap - infrastructure causes	211	137	348	0.00
I09	Animals on line	8,906	671	9,577	0.02
I10	External weather impact	76,045	8,488	84,533	0.21
I11A	Wheel slip due to leaf fall	7,388	381	7,769	0.02
I11B	Vegetation management failure	3,053	223	3,276	0.01
I12	Fires on Network Rail infrastructure	4,127	136	4,263	0.01
I50	Network Rail share of industry leaf-fall/adhesion delays	16,118	278	16,396	0.04
201	Overhead line/Third rail faults	63,336	9,226	72,562	0.18
301A	Signal failures	42,002	4,233	46,235	0.11
301B	Track circuit failures	105,542	18,272	123,814	0.30
302A	Signalling system & power supply failures	31,052	5,251	36,303	0.09
302B	Other signal equipment failures	11,620	1,545	13,165	0.03
303	Telephone failures	4,767	394	5,161	0.01
304	Cable faults (signalling & telecoms)	5,033	1,538	6,571	0.02
304A	Change of aspects-no fault found	2,511	52	2,563	0.01
305	Track circuit failures - leaf fall	7,627	3,241	10,868	0.03
401	Bridge strikes	18,211	792	19,003	0.05
402	External infrastructure damage - vandalism/theft	20,357	1,757	22,114	0.05
403	External level crossing/road incidents (not bridges)	23,353	3,413	26,766	0.07
501	Network Rail Production responsibility	118,989	34,634	153,623	0.38
502A	Network Rail Commercial: train Planning	25,725	20,603	46,328	0.11
502B	Network Rail Commercial responsibility: other	3,706	905	4,611	0.01
502C	Network Rail Commercial: dispute take-back	46,168	5,036	51,204	0.13
503	External fatalities and trespass	50,860	5,360	56,220	0.14
504	External police on line/security alerts	2,375	943	3,318	0.01
505	External fires	26,779	3,786	30,565	0.08
506	External other	39,792	10,653	50,445	0.12
601	Unexplained	11,966	1,290	13,256	0.03
Total minutes		1,084,654	204,414	1,289,068	3.17
Train km				40,720,239	

Table 9 GREAT WESTERN delays to passenger & freight rains by detailed cause category—2002/03

No	Category	Train delay minutes			Per 100 train km
		Passenger	Freight	Combined	
101	Points failures	127,251	37,752	165,003	0.25
102	Problems with trackside signs, TSR boards	17,631	1,510	19,141	0.03
103	Level crossing failures	18,189	2,926	21,115	0.03
104A	TSRs due to condition of track	52,436	11,621	64,057	0.10
104B	Broken rails/track faults	202,174	43,214	245,388	0.37
104C	Rolling contact fatigue	2,094	486	2,580	0.00
105	Lineside structure defects (inc. weather impact)	18,041	6,419	24,460	0.04
106	Other infrastructure	39,742	7,320	47,062	0.07
107A	Possession over-run and related faults	35,351	12,613	47,964	0.07
107B	Possession work left incomplete	2,929	292	3,221	0.00
108	Mishap - infrastructure causes	9,398	4,748	14,146	0.02
109	Animals on line	26,920	5,245	32,165	0.05
110	External weather impact	104,144	28,333	132,477	0.20
111A	Wheel slip due to leaf fall	8,798	986	9,784	0.01
111B	Vegetation management failure	2,694	724	3,418	0.01
112	Fires on Network Rail infrastructure	387	0	387	0.00
150	Network Rail share of industry leaf-fall/adhesion delays	6,002	213	6,215	0.01
201	Overhead line/Third rail faults	1,376	120	1,496	0.00
301A	Signal failures	58,434	10,573	69,007	0.10
301B	Track circuit failures	197,408	36,265	233,673	0.35
302A	Signalling system & power supply failures	55,021	17,823	72,844	0.11
302B	Other signal equipment failures	19,257	4,872	24,129	0.04
303	Telephone failures	7,246	787	8,033	0.01
304	Cable faults (signalling & telecoms)	20,316	3,936	24,252	0.04
304A	Change of aspects-no fault found	6,909	2,155	9,064	0.01
305	Track circuit failures - leaf fall	16,084	2,628	18,712	0.03
401	Bridge strikes	51,454	6,640	58,094	0.09
402	External infrastructure damage - vandalism/theft	40,614	5,714	46,328	0.07
403	External level crossing/road incidents (not bridges)	11,376	1,021	12,397	0.02
501	Network Rail Production responsibility	82,368	14,740	97,108	0.14
502A	Network Rail Commercial: train Planning	88,126	41,381	129,507	0.19
502B	Network Rail Commercial responsibility: other	1,271	1,501	2,772	0.00
502C	Network Rail Commercial: dispute take-back	46,422	11,778	58,200	0.09
503	External fatalities and trespass	99,778	20,676	120,454	0.18
504	External police on line/security alerts	5,465	877	6,342	0.01
505	External fires	8,159	1,071	9,230	0.01
506	External other	19,263	5,883	25,146	0.04
601	Unexplained	16,960	5,249	22,209	0.03
Total minutes		1,527,488	360,092	1,887,580	2.82
Train km					67,034,101

Table 10 LNE delays to passenger & freight trains by detailed cause category—2002/03

No	Category	Train delay minutes			Per 100 train km
		Passenger	Freight	Combined	
101	Points failures	126,311	60,989	187,300	0.22
102	Problems with trackside signs, TSR boards	12,285	2,158	14,443	0.02
103	Level crossing failures	37,157	5,245	42,402	0.05
104A	TSRs due to condition of track	264,025	180,008	444,033	0.52
104B	Broken rails/track faults	128,374	52,830	181,204	0.21
104C	Rolling contact fatigue	17,683	5,569	23,252	0.03
105	Lineside structure defects (inc. weather impact)	95,209	17,463	112,672	0.13
106	Other infrastructure	59,606	33,352	92,958	0.11
107A	Possession over-run and related faults	26,278	10,020	36,298	0.04
107B	Possession work left incomplete	16,755	3,286	20,041	0.02
108	Mishap - infrastructure causes	11,194	5,624	16,818	0.02
109	Animals on line	19,007	2,526	21,533	0.03
110	External weather impact	60,889	21,652	82,541	0.10
111A	Wheel slip due to leaf fall	14,009	604	14,613	0.02
111B	Vegetation management failure	1,473	476	1,949	0.00
112	Fires on Network Rail infrastructure	1,246	79	1,325	0.00
150	Network Rail share of industry leaf-fall/adhesion delays	33,274	748	34,022	0.04
201	Overhead line/Third rail faults	43,863	5,054	48,917	0.06
301A	Signal failures	61,463	14,157	75,620	0.09
301B	Track circuit failures	152,610	30,233	182,843	0.22
302A	Signalling system & power supply failures	76,328	34,414	110,742	0.13
302B	Other signal equipment failures	25,675	6,274	31,949	0.04
303	Telephone failures	14,345	2,095	16,440	0.02
304	Cable faults (signalling & telecoms)	14,050	8,332	22,382	0.03
304A	Change of aspects-no fault found	2,538	242	2,780	0.00
305	Track circuit failures - leaf fall	36,903	4,493	41,396	0.05
401	Bridge strikes	30,516	4,966	35,482	0.04
402	External infrastructure damage - vandalism/theft	57,666	16,711	74,377	0.09
403	External level crossing/road incidents (not bridges)	24,760	4,666	29,426	0.03
501	Network Rail Production responsibility	156,858	55,967	212,825	0.25
502A	Network Rail Commercial: train Planning	24,918	58,720	83,638	0.10
502B	Network Rail Commercial responsibility: other	7,958	1,077	9,035	0.01
502C	Network Rail Commercial: dispute take-back	50,366	17,274	67,640	0.08
503	External fatalities and trespass	76,098	9,060	85,158	0.10
504	External police on line/security alerts	5,693	751	6,444	0.01
505	External fires	4,548	676	5,224	0.01
506	External other	24,232	6,299	30,531	0.04
601	Unexplained	107,070	15,441	122,511	0.14
Total minutes		1,923,233	699,531	2,622,764	3.09
Train km					85,009,509

Table 11 MIDLANDS delays to passenger & freight trains by detailed cause category – 2002/03

No	Category	Train delay minutes			
		Passenger	Freight	Combined	Per 100 train km
101	Points failures	216,355	59,882	276,237	0.37
102	Problems with trackside signs, TSR boards	26,467	4,587	31,054	0.04
103	Level crossing failures	23,905	1,694	25,599	0.03
104A	TSRs due to condition of track	158,295	66,872	225,167	0.30
104B	Broken rails/track faults	223,872	56,220	280,092	0.38
104C	Rolling contact fatigue	96,126	9,522	105,648	0.14
105	Lineside structure defects (inc. weather impact)	58,547	15,533	74,080	0.10
106	Other infrastructure	233,425	37,075	270,500	0.36
107A	Possession over-run and related faults	78,478	23,465	101,943	0.14
107B	Possession work left incomplete	29,873	4,593	34,466	0.05
108	Mishap - infrastructure causes	4,216	1,712	5,928	0.01
109	Animals on line	19,418	4,402	23,820	0.03
110	External weather impact	75,289	22,040	97,329	0.13
111A	Wheel slip due to leaf fall	22,866	1,836	24,702	0.03
111B	Vegetation management failure	3,150	413	3,563	0.00
112	Fires on Network Rail infrastructure	931	89	1,020	0.00
150	Network Rail share of industry leaf-fall/adhesion delays	54,315	1,267	55,582	0.07
201	Overhead line/Third rail faults	85,434	15,749	101,183	0.14
301A	Signal failures	110,087	17,413	127,500	0.17
301B	Track circuit failures	247,699	39,947	287,646	0.39
302A	Signalling system & power supply failures	76,028	20,307	96,335	0.13
302B	Other signal equipment failures	15,220	3,705	18,925	0.03
303	Telephone failures	2,573	416	2,989	0.00
304	Cable faults (signalling & telecoms)	38,406	6,678	45,084	0.06
304A	Change of aspects-no fault found	8,731	1,181	9,912	0.01
305	Track circuit failures - leaf fall	3,760	836	4,596	0.01
401	Bridge strikes	57,796	6,732	64,528	0.09
402	External infrastructure damage - vandalism/theft	49,413	16,083	65,496	0.09
403	External level crossing/road incidents (not bridges)	10,898	1,104	12,002	0.02
501	Network Rail Production responsibility	111,698	28,872	140,570	0.19
502A	Network Rail Commercial: train Planning	54,675	29,276	83,951	0.11
502B	Network Rail Commercial responsibility: other	2,632	1,228	3,860	0.01
502C	Network Rail Commercial: dispute take-back	153,979	33,880	187,859	0.25
503	External fatalities and trespass	91,132	11,453	102,585	0.14
504	External police on line/security alerts	5,499	846	6,345	0.01
505	External fires	12,378	4,919	17,297	0.02
506	External other	32,350	5,847	38,197	0.05
601	Unexplained	48,264	5,128	53,392	0.07
Total		2,544,180	562,802	3,106,982	4.18
Train km				74,245,756	

Table 12 NORTH WEST delays to passenger & freight trains by detailed cause category – 2002/03

No	Category	Train delay minutes			Per 100 train km
		Passenger	Freight	Combined	
101	Points failures	76,790	17,622	94,412	0.18
102	Problems with trackside signs, TSR boards	6,009	716	6,725	0.01
103	Level crossing failures	7,007	805	7,812	0.01
104A	TSRs due to condition of track	125,817	37,566	163,383	0.31
104B	Broken rails/track faults	108,345	23,976	132,321	0.25
104C	Rolling contact fatigue	49,105	12,018	61,123	0.12
105	Lineside structure defects (inc. weather impact)	23,364	6,963	30,327	0.06
106	Other infrastructure	40,455	3,720	44,175	0.08
107A	Possession over-run and related faults	28,288	13,391	41,679	0.08
107B	Possession work left incomplete	14,869	1,157	16,026	0.03
108	Mishap - infrastructure causes	329	1,448	1,777	0.00
109	Animals on line	26,650	1,958	28,608	0.05
110	External weather impact	22,250	3,017	25,267	0.05
111A	Wheel slip due to leaf fall	9,461	383	9,844	0.02
111B	Vegetation management failure	2,309	70	2,379	0.00
112	Fires on Network Rail infrastructure	4,829	23	4,852	0.01
150	Network Rail share of industry leaf-fall/adhesion delays	60,364	377	60,741	0.12
201	Overhead line/Third rail faults	26,185	11,276	37,461	0.07
301A	Signal failures	29,896	2,133	32,029	0.06
301B	Track circuit failures	107,719	6,627	114,346	0.22
302A	Signalling system & power supply failures	26,081	2,954	29,035	0.06
302B	Other signal equipment failures	7,978	3,803	11,781	0.02
303	Telephone failures	3,765	70	3,835	0.01
304	Cable faults (signalling & telecoms)	15,887	2,933	18,820	0.04
304A	Change of aspects-no fault found	1,510	133	1,643	0.00
305	Track circuit failures - leaf fall	3,465	376	3,841	0.01
401	Bridge strikes	32,706	1,422	34,128	0.07
402	External infrastructure damage - vandalism/theft	58,188	7,715	65,903	0.13
403	External level crossing/road incidents (not bridges)	14,263	707	14,970	0.03
501	Network Rail Production responsibility	56,479	11,847	68,326	0.13
502A	Network Rail Commercial: train Planning	23,600	18,060	41,660	0.08
502B	Network Rail Commercial responsibility: other	522	248	770	0.00
502C	Network Rail Commercial: dispute take-back	63,084	17,298	80,382	0.15
503	External fatalities and trespass	46,008	4,136	50,144	0.10
504	External police on line/security alerts	4,689	273	4,962	0.01
505	External fires	11,060	536	11,596	0.02
506	External other	19,125	2,101	21,226	0.04
601	Unexplained	83,204	2,218	85,422	0.16
Total		1,241,655	222,076	1,463,731	2.81
Train km				52,104,225	

Table 13 SCOTLAND delays to passenger & freight trains by detailed cause category – 2002/03

No	Category	Train delay minutes			Per 100 train km
		Passenger	Freight	Combined	
101	Points failures	63,565	20,139	83,704	0.19
102	Problems with trackside signs, TSR boards	3,090	382	3,472	0.01
103	Level crossing failures	7,067	1,127	8,194	0.02
104A	TSRs due to condition of track	117,621	26,810	144,431	0.33
104B	Broken rails/track faults	55,666	21,103	76,769	0.17
104C	Rolling contact fatigue	27,907	5,704	33,611	0.08
105	Lineside structure defects (inc. weather impact)	45,758	12,720	58,478	0.13
106	Other infrastructure	22,396	4,748	27,144	0.06
107A	Possession over-run and related faults	8,086	6,019	14,105	0.03
107B	Possession work left incomplete	3,032	909	3,941	0.01
108	Mishap - infrastructure causes	1,752	278	2,030	0.00
109	Animals on line	14,294	2,009	16,303	0.04
110	External weather impact	101,670	22,409	124,079	0.28
111A	Wheel slip due to leaf fall	5,331	1,131	6,462	0.01
111B	Vegetation management failure	1,280	115	1,395	0.00
112	Fires on Network Rail infrastructure	66	2	68	0.00
150	Network Rail share of industry leaf-fall/adhesion delays	8	0	8	0.00
201	Overhead line/Third rail faults	18,679	12,806	31,485	0.07
301A	Signal failures	51,959	7,015	58,974	0.13
301B	Track circuit failures	75,754	16,857	92,611	0.21
302A	Signalling system & power supply failures	32,180	4,903	37,083	0.08
302B	Other signal equipment failures	7,460	3,654	11,114	0.03
303	Telephone failures	3,879	1,093	4,972	0.01
304	Cable faults (signalling & telecoms)	3,685	2,297	5,982	0.01
304A	Change of aspects-no fault found	693	94	787	0.00
305	Track circuit failures - leaf fall	0	0	0	-
401	Bridge strikes	25,170	10,544	35,714	0.08
402	External infrastructure damage - vandalism/theft	21,675	2,437	24,112	0.05
403	External level crossing/road incidents (not bridges)	2,725	302	3,027	0.01
501	Network Rail Production responsibility	58,725	11,836	70,561	0.16
502A	Network Rail Commercial: train Planning	32,768	19,843	52,611	0.12
502B	Network Rail Commercial responsibility: other	1,209	726	1,935	0.00
502C	Network Rail Commercial: dispute take-back	76,751	6,641	83,392	0.19
503	External fatalities and trespass	24,518	3,033	27,551	0.06
504	External police on line/security alerts	2,721	141	2,862	0.01
505	External fires	12,869	2,707	15,576	0.04
506	External other	18,508	3,116	21,624	0.05
601	Unexplained	36,282	10,612	46,894	0.11
Total		986,799	246,262	1,233,061	2.80
Train km				43,986,291	

Table 14 SOUTHERN delays to passenger & freight trains by detailed cause category – 2002/03

No	Category	Train delay minutes			Per 100 train km
		Passenger	Freight	Combined	
101	Points failures	276,592	15,435	292,027	0.28
102	Problems with trackside signs, TSR boards	3,889	153	4,042	0.00
103	Level crossing failures	33,508	1,230	34,738	0.03
104A	TSRs due to condition of track	33	23	56	0.00
104B	Broken rails/track faults	156,437	12,678	169,115	0.16
104C	Rolling contact fatigue	2,537	245	2,782	0.00
105	Lineside structure defects (inc. weather impact)	23,719	1,275	24,994	0.02
106	Other infrastructure	73,244	2,878	76,122	0.07
107A	Possession over-run and related faults	79,847	17,984	97,831	0.09
107B	Possession work left incomplete	8,344	335	8,679	0.01
108	Mishap - infrastructure causes	10,578	1,436	12,014	0.01
109	Animals on line	20,950	421	21,371	0.02
110	External weather impact	136,080	6,483	142,563	0.14
111A	Wheel slip due to leaf fall	38,061	1,834	39,895	0.04
111B	Vegetation management failure	2,936	50	2,986	0.00
112	Fires on Network Rail infrastructure	47,879	1,117	48,996	0.05
150	Network Rail share of industry leaf-fall/adhesion delays	131,309	1,806	133,115	0.13
201	Overhead line/Third rail faults	74,988	3,856	78,844	0.07
301A	Signal failures	97,908	2,452	100,360	0.10
301B	Track circuit failures	373,399	10,350	383,749	0.36
302A	Signalling system & power supply failures	98,464	2,047	100,511	0.10
302B	Other signal equipment failures	20,457	1,640	22,097	0.02
303	Telephone failures	2,361	223	2,584	0.00
304	Cable faults (signalling & telecoms)	21,750	1,477	23,227	0.02
304A	Change of aspects-no fault found	15,577	216	15,793	0.01
305	Track circuit failures - leaf fall	28,694	2,295	30,989	0.03
401	Bridge strikes	107,758	2,720	110,478	0.10
402	External infrastructure damage - vandalism/theft	69,351	2,265	71,616	0.07
403	External level crossing/road incidents (not bridges)	20,270	2,218	22,488	0.02
501	Network Rail Production responsibility	238,596	14,711	253,307	0.24
502A	Network Rail Commercial: train Planning	118,334	18,921	137,255	0.13
502B	Network Rail Commercial responsibility: other	6,488	2,272	8,760	0.01
502C	Network Rail Commercial: dispute take-back	319,423	11,041	330,464	0.31
503	External fatalities and trespass	157,432	5,668	163,100	0.15
504	External police on line/security alerts	8,096	104	8,200	0.01
505	External fires	20,700	1,708	22,408	0.02
506	External other	28,314	1,054	29,368	0.03
601	Unexplained	32,681	3,604	36,285	0.03
Total		2,906,984	156,225	3,063,209	2.91
Train km				105,368,378	

Further breakdown of performance data

Table 15 Delay minutes to all trains split by regions and by four-weekly period – 2002/03								
Region	East Anglia	Great Western	London North Eastern	Midlands	North West	Scotland	Southern	National Total
P1	77,380	107,400	139,638	169,443	102,101	61,861	189,168	846,991
P2	71,149	122,304	173,688	195,943	118,341	60,252	190,624	932,301
P3	101,679	124,102	157,616	195,061	134,043	87,829	171,338	971,668
P4	69,546	142,689	151,281	256,759	129,679	79,120	201,330	1,030,404
P5	129,071	112,950	230,050	297,178	127,719	151,374	207,333	1,255,675
P6	73,833	119,038	158,793	181,737	88,472	95,509	177,648	895,030
P7	75,740	100,237	195,405	197,867	98,325	78,084	164,791	910,449
P8	185,733	255,233	274,109	353,219	150,012	152,542	461,017	1,831,865
P9	127,986	208,023	293,642	273,277	127,455	123,488	345,075	1,498,946
P10	80,064	154,736	190,261	207,854	81,418	75,288	229,385	1,019,006
P11	122,383	202,849	248,217	266,337	100,986	98,096	342,875	1,381,743
P12	84,010	121,749	225,865	262,512	95,558	90,902	198,687	1,079,283
P13	90,494	116,270	184,199	249,795	109,622	78,716	183,938	1,013,034
Year total	1,289,068	1,887,580	2,622,764	3,106,982	1,463,731	1,233,061	3,063,209	14,666,395

Note:

P1	Monday 01/04/02 - Saturday 27/04/02
P2	Sunday 28/04/02 - Saturday 25/05/02
P3	Sunday 26/05/02 - Saturday 22/06/02
P4	Sunday 23/06/02 - Saturday 20/07/02
P5	Sunday 21/07/02 - Saturday 17/08/02
P6	Sunday 18/08/02 - Saturday 14/09/02
P7	Sunday 15/09/02 - Saturday 12/10/02
P8	Sunday 13/10/02 - Saturday 09/11/02
P9	Sunday 10/11/02 - Saturday 07/12/02
P10	Sunday 08/12/02 - Saturday 04/01/03
P11	Sunday 05/01/03 - Saturday 01/02/03
P12	Sunday 02/02/03 - Saturday 01/03/03
P13	Sunday 02/03/03 - Monday 31/03/03

Figure 3 Delays to passenger trains by four-weekly period: 2000/01 – 2002/03

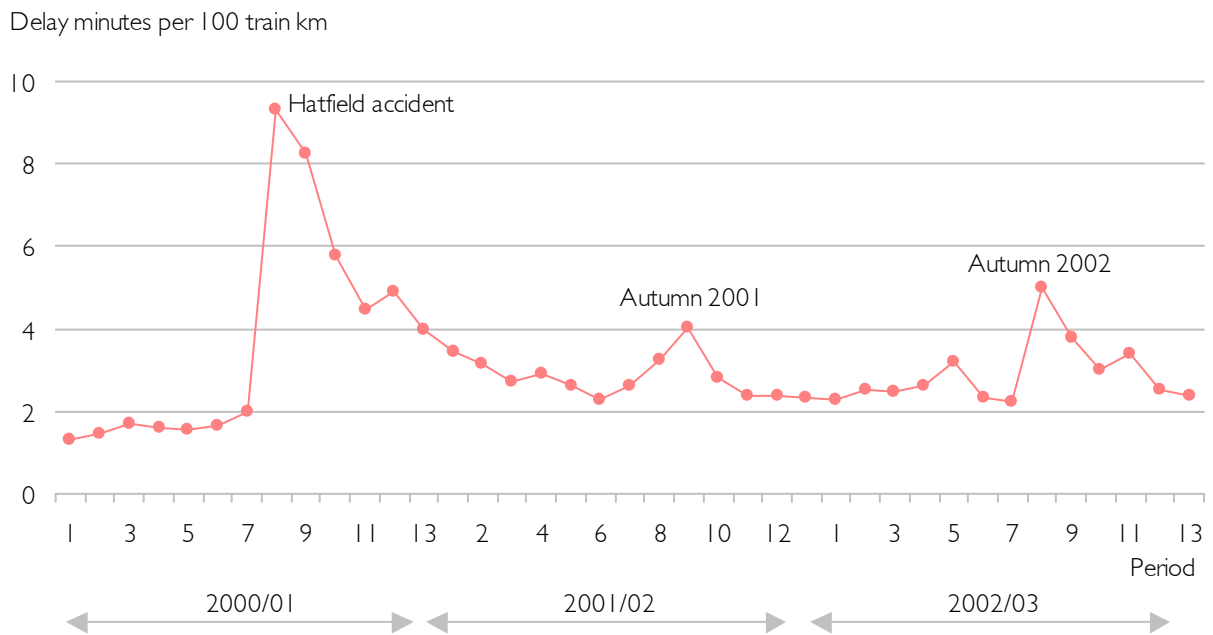


Table 16 Infrastructure incidents recorded for delay attribution				
No	Category	2000/01	2001/02³	2002/03
		Number	Number	Number
101	Points failures	10,460	10,253	10,839
103	Level crossing failures	2,837	2,825	3,037
104A	TSR's Due to Condition of Track ¹	3,519	2,935	4,105
104B	Broken Rails/ Track Faults ¹	4,329	6,086	6,509
104C	Rolling contact fatigue	6,625	3,140	637
105	Lineside structure defects (including weather impact)	1,615	1,087	1,069
106	Other infrastructure	4,904	5,293	6,979
108	Mishap - infrastructure causes	197	214	203
112	Fires on Network Rail infrastructure	289	426	423
201	Overhead line/Third rail faults	1,696	2,070	1,621
301A	Signal Failures	8,376	9,254	9,156
301B	Track Circuit Failures	10,661	10,924	10,672
302A	Signalling System & Power Supply Failures	3,139	3,431	3,506
302B	Other signal equipment failures ²	1,385	2,012	2,568
303	Telephone failures	922	923	1,009
304	Cable faults (signalling & telecoms)	444	517	425
304A	Change of aspects-no fault found	318	460	534
401	Bridge strikes	1,574	1,626	1,913

Note: incidents are recorded for the attribution of delays and cancellations. In a small number of cases more than one incident will be created for the same physical incident, to reflect different responsibilities for contractual delay attribution purposes.

1. Changes to attribution coding were made during 2000/01 to allow the split out of 104A and 104B as distinct categories. The split for that year is therefore not entirely consistent with more recent data.
2. The increase recorded under category 302B above is largely accounted for by faults occurring with TPWS equipment. In 2002/03 this accounted for 1,182 incidents in this category. A further 59 TPWS incidents are included within the 301A Signal Failure category.
3. Changes to data processing in 2002/03 to reflect dispute resolution have generally little impact on the number of asset incidents. However, part of the increase in Other Infrastructure may reflect this change in process. After adjusting for this change the 2002/03 increase in incidents in this category is estimated at around 22% compared to 32% for the unadjusted figures shown in the table.

Section 2 – Asset Condition and Serviceability

Number of Broken Rails (MI)

A broken rail is one which, before removal from the track, has a fracture through the full cross-section, or a piece broken out of it, rendering it unserviceable. This includes broken welds. Only broken rails occurring in running lines are included in this measure (ie sidings, depots, etc are excluded).

Results

Table 17 Number of broken rails						
	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
East Anglia	-	89	70	63	34	31
Great Western	-	76	117	98	75	44
London North Eastern	-	267	233	161	125	79
Midlands	-	203	161	129	98	90
North West	-	112	135	110	83	70
Scotland	-	88	81	51	46	40
Southern	-	117	122	94	74	90
Network total	755	952	919	706	535	444
Regulatory Target				765	735	705

Regulatory Target and Tolerance

The regulatory target is for a reduction in broken rails from 765 in 2000/01 to 615 in 2005/06. The regulatory targets are not split by regions.

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for the broken rail measure is assessed as $\pm 13.7\%$ of the target.

Commentary

In 1999 we introduced a major programme to reduce the number of broken rails following the sharp increase in 1998/99. The work included more frequent ultrasonic testing, more rail grinding, more stone blowing, increased re-railing, cold bolt hole expansion and additional re-ballasting. More Wheelchex equipment has also been introduced to measure wheel loads in traffic and so manage out high impact loads resulting from wheel flats and ‘out of round’ wheels. These actions continue to be effective.

New ultrasonic inspection techniques have also been introduced in the last year utilising the Sperry Roller Search Unit. These have been fitted to pedestrian and train based equipment and provide improved detection of transverse and horizontal defects in the rail head through near full rail head coverage.

There were 444 broken rails in 2002/03. This represents a 17% reduction on the previous year and was 37% below the national regulatory target.

Rail Defects (M2)

A defective rail is a rail that has any fault requiring remedial action (repair or replacement) to make it fit for purpose in accordance with RT/CE/S/103 and other Network Rail standards. This measure is reported split between isolated defects (ie welds, S&C, etc) and continuous defects (ie corrosion, corrugations, etc).

Results

Table 18 Number of Isolated Rail Defects						
Type of defect	2001/02 year end	Net Data Correction	New defects detected	Defects removed	Weld repairs	Defects remaining at year end
Rail Ends	1,670	-356	2,775	2,809	84	1,196
Welds	1,873	442	3,599	2,828	197	2,889
Midrail	25,705	901	20,569	16,126	4,589	26,460
S&C	2,773	611	4,309	2,980	632	4,081
Unclassified	1,637	-1,182	82	147	52	338
Total number	33,658	416	31,334	24,890	5,554	34,964

Table 19 Length of Continuous Rail Defects						
	2001/02 year end	Net Data Correction	New defects detected	Defective rail removed	Defective rail grinding	Defective rail remaining at year end
Total length (yards)	1,781,718	-61,667	453,670	379,988	62,548	1,731,185
Total length (km)	1,629	-56	415	348	57	1,583

Regulatory Target

There is no regulatory target for this measure.

Commentary

Rail defect reporting is not currently as robust and consistent across the network as we require. Defect data is sourced from Infrastructure Maintenance Contractors (IMCs) who all store the information on different stand-alone systems. There are logistical problems with defect reporting which result in gaps and inconsistencies with the data presented in the tables above. To remedy this situation and improve the quality of reporting the following actions are currently underway:

- An upgrade to our Raildata system is underway and is due to be completed by late summer 2003. This project should address the discrepancies that have existed in the past between the Raildata database fields and the requirements for defect reporting in RT/CE/S/057, Railfailure Handbook. The revised specification now clarifies the way both isolated and continuous defects are classified.
- The Raildata upgrade project revises the current specification for both the database fields and the company standard to ensure that they are aligned allowing defects to be entered consistently.

- The Raildata upgrade also allows, and requires, that new defects discovered and those existing in track are entered on the database, rather than just defects that had been removed, as was the case previously.
- A follow up project is also be looking at improving data quality and is running in parallel with the software and specification changes to ensure that regions and IMCs will be in a position to switch over to the revised system, when required. This project will continue to April 2004 and review existing data involving workshops with the IMCs and regions to establish consistent data requirements and methods of inputting the data.

A significant element of our work to manage continuous rail defects in 2002/03 was the procurement and implementation of train based rail grinding as the principal treatment for rolling contact fatigue. The rail grinding is carried out to impose an improved transverse and longitudinal profile on the rail to limit contact stresses and reduce track irregularities responsible for the initiation and growth of rolling contact fatigue.

Track Geometry - National Standard Deviation (SD) data (M3)

The purpose of this measure is to record the quality of the track asset by monitoring trends in track geometry. This section shows a national summary of the results and the next section shows data by speed band.

Track geometry is measured by track recording vehicles that record vertical and horizontal alignment. The track roughness is expressed as a standard deviation in millimeters for each unit of length (eighth of a mile). Two filters are used to ensure that design changes in alignment (e.g. gradients and curves) are not measured as deficiencies in geometry. The two filters are of 35m and 70m wavelengths, with the 35m measures encompassing all track and the 70m measures only track with a linespeed of 80mph or more. The 2 alignment and 2 filter measures give 4 parameters. For each of these the percentage of track in the 50%, 90% and 100% standards are reported as given in the table below.

Results

Standards	35m Top (Vertical deviation)			35m Alignment (Horizontal deviation)			70m Top (Vertical deviation)			70m Alignment (Horizontal deviation)		
	50%	90%	100%	50%	90%	100%	50%	90%	100%	50%	90%	100%
Target agreed with the Regulator	64.6%	90.3%	98.3%	70.9%	91.6%	97.4%	62.5%	92.8%	97.8%	64.7%	91.9%	97.3%
Recorded at March 2001	61.3%	89.0%	96.9%	72.4%	92.7%	96.1%	60.7%	92.2%	95.4%	76.1%	95.0%	96.6%
Recorded at March 2002	62.4%	89.4%	97.1%	73.6%	93.1%	96.3%	61.9%	92.5%	95.6%	80.0%	96.0%	97.4%
Recorded at March 2003	61.9%	88.9%	97.0%	74.6%	93.6%	96.7%	62.2%	92.1%	95.2%	80.9%	96.2%	97.5%

Regulatory Targets and Tolerance

There are 2 elements to the track geometry targets agreed with the Regulator:

- to reduce as far as reasonably practicable the amount of track not yet achieving the 100% standard, as quantified by the target percentages stated in the table above.
- to ensure that the amount of track meeting the 50% and 90% standards is not less than the amounts which met those standards on 1 April 1994. The target percentages stated in the table above are the levels which should have been recorded by the end of 2001/02 (taking account of the recording lag of up to 12 months).

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for an average of the 12 measures was assessed as approximately $\pm 0.7\%$ on the average measure as agreed by the Regulator in the final conclusions. Tolerances for each of the 12 individual regulatory targets set out in the table above have not been assessed; they would be significantly higher.

Commentary

Overall, track geometry has improved steadily since 1996 despite the increase in traffic on the network (around 30% since 1995) and the consequential reduction in access for maintenance. Company policy is to focus on areas of poorest geometry, which has led to a significant reduction in isolated faults (level 2 exceedences) and the worst (super red) eighths of miles. This has driven down the risk of a catastrophic event due to derailment and improved passenger comfort. The other track geometry priority has been to improve alignment, in the light of the understanding of the impact of poor alignment on the propensity for initiation and growth of Rolling Contact Fatigue (RCF).

The result of prioritising resources and limited funding in this way has meant that we have not been able to progress all aspects of general vertical geometry improvement to the original regulatory timescales, which were agreed some years ago, before the understanding of RCF emerged. Discussions are continuing with the ORR and SRA on the funding that the country can afford and the outputs (including Track Geometry) which are expected from that funding. The 31.03.03 SDs are also distorted by the increases in line speed, including Cross Country. Until we know what level of funding is available, we cannot realistically forecast when, or if, we will achieve the regulatory targets for vertical geometry. In the short term, it remains our priority to focus current funding and resources on the reduction of catastrophic risk.

Track Geometry – Speed Band Data (M3)

The purpose of this measure is to record the quality of the track asset by monitoring trends in track geometry. A national summary of the results was shown in the previous section, and this section shows data by speed band.

Detailed distribution data is available for Standard Deviation (SD) values in increments of 0.1mm from 0.0 to 9.9mm. All higher SD values are represented as 10.0mm. The number of these is exaggerated (as is probably also the case for higher values in the 0.0 to 9.9 range) by incorrect measurement of alignment at S&C and curves, caused by the presence of check-rails and other reasons. This distortion is particularly noticeable for the 15-40mph speed range.

Terminology

Line Standard RT/CE/S104 defines SD thresholds for each parameter to be achieved by 50%, 90% and 100% of track. Track achieving the 50% standard is termed Good, 50-90% standard is termed as Satisfactory, 90-100% is termed Poor and track with SDs above the 100% standard is termed Very Poor.

Maximums higher than the 100% thresholds, for which immediate action is required, are also defined, and are referred to as "super-reds". Where a "super-red" is found to be genuine it is dealt with immediately, but its classification remains on the database until the track-section is re-measured. A large proportion of reported "super-reds" are applicable to low linespeed alignment, and some are false, as explained in the previous paragraph.

In many cases the difference between pairs of SD distribution curves (showing current compared to previous year) is barely discernible, hence the introduction of Overall SD. This is the SD of all deviations from theoretical for the whole of the track under consideration, and its value for each parameter and linespeed range is displayed in the table below.

Year-on-year differences of less than 0.03 in SD cannot be regarded as significant, as these are within the level of accuracy of the measurement data.

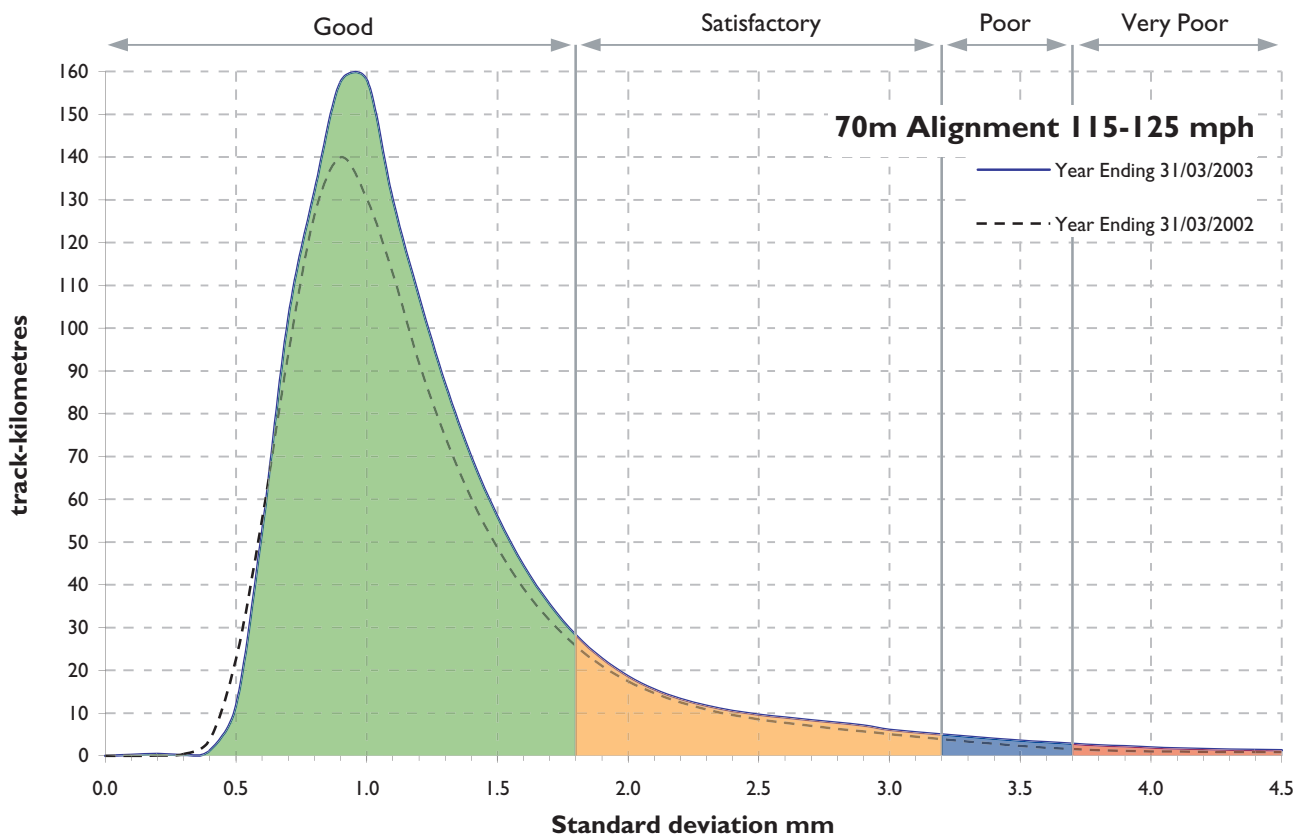
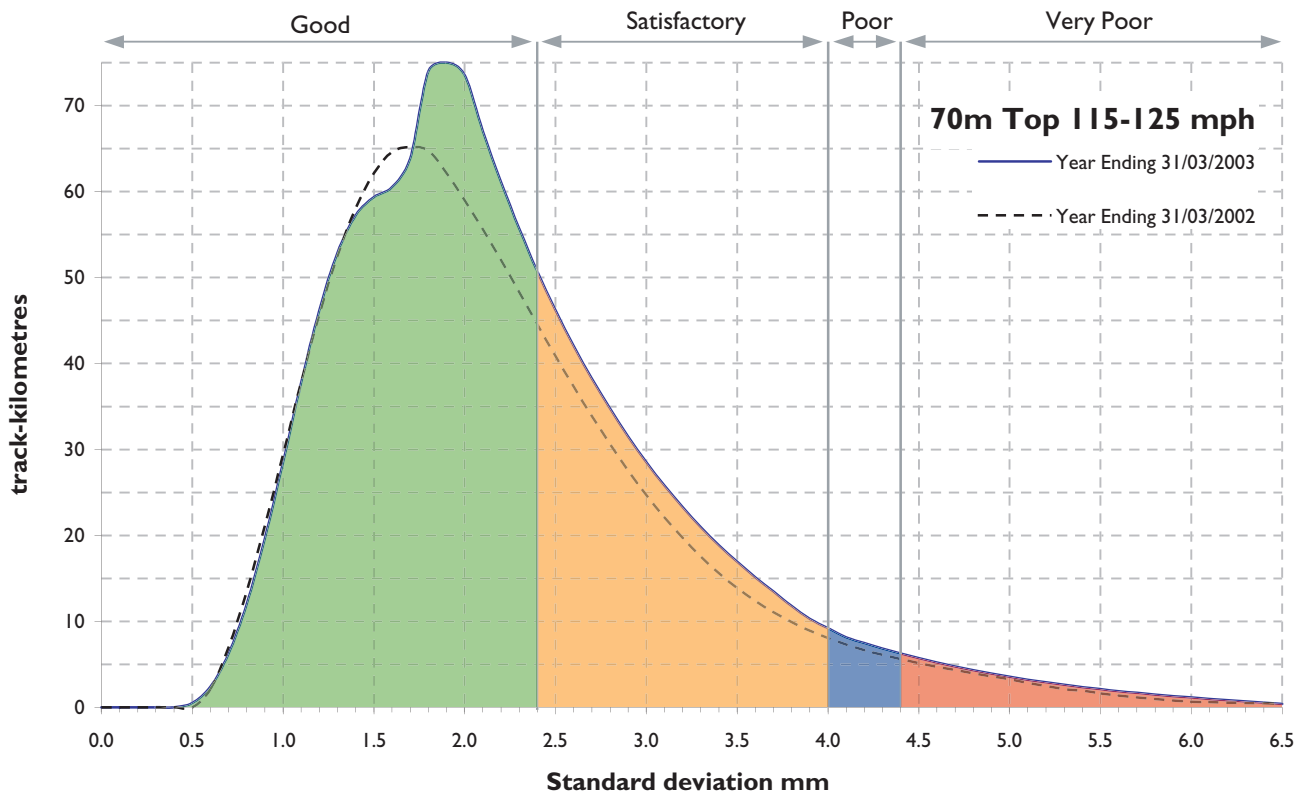
Table 21 National track geometry summary					
Track recording parameter	Linespeed range (mph)	Overall SD at 31.3.01	Overall SD at 31.3.02	Overall SD at 31.3.03	Total track km in this linespeed range
35m Top	15-125	3.058	3.031	3.036	29,963
	15-40	4.286	4.216	4.243	4,040
	45-70	3.340	3.309	3.340	12,000
	75-110	2.542	2.513	2.517	12,542
	115-125	1.830	1.799	1.819	1,381
35m Line	15-125	2.058	2.033	1.965	29,963
	15-40	4.274	4.331	4.089	4,040
	45-70	2.065	2.061	2.009	12,000
	75-110	1.284	1.229	1.224	12,542
	115-125	0.925	0.837	0.832	1,381
70m Top	80-125	3.287	3.261	3.263	10,366
	80-110	3.386	3.363	3.368	8,986
	115-125	2.493	2.424	2.482	1,381
70m Line	80-125	2.383	2.234	2.191	10,366
	80-110	2.477	2.326	2.284	8,986
	115-125	1.594	1.478	1.476	1,381

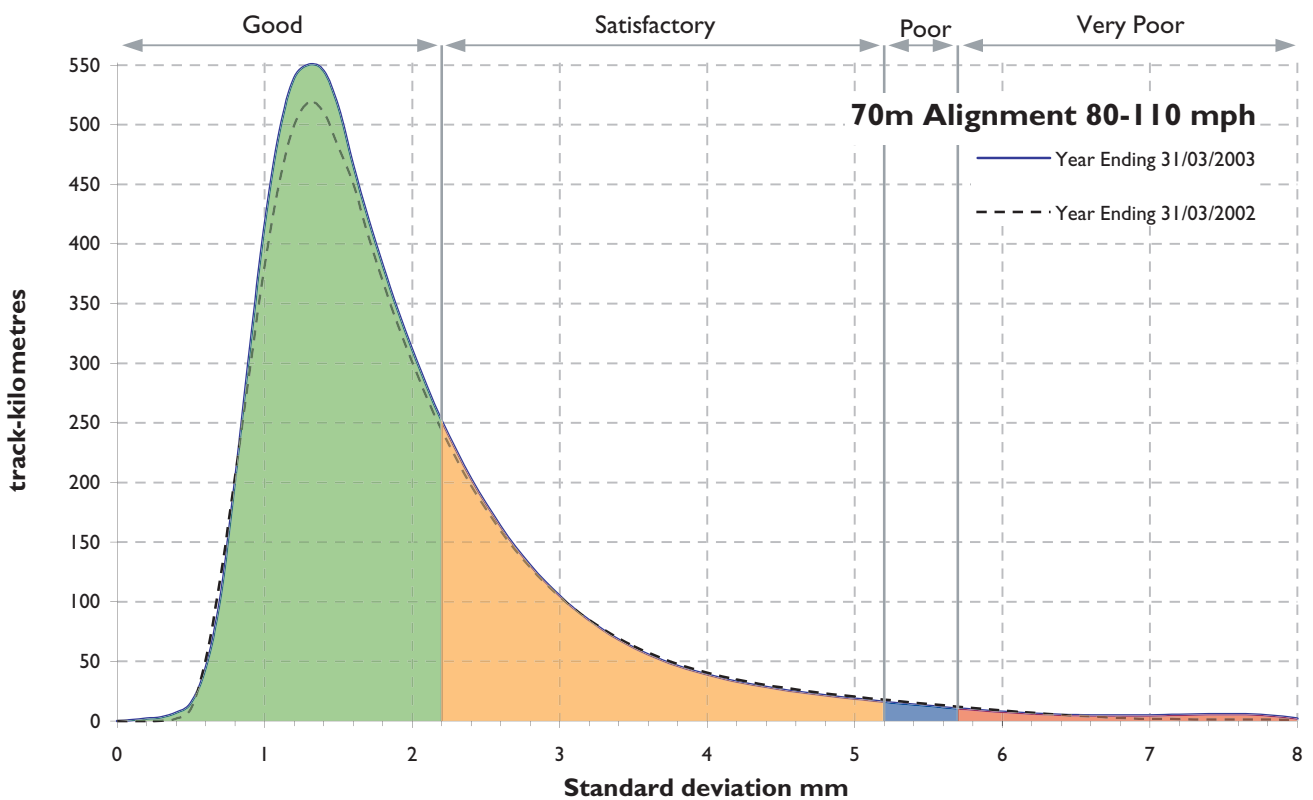
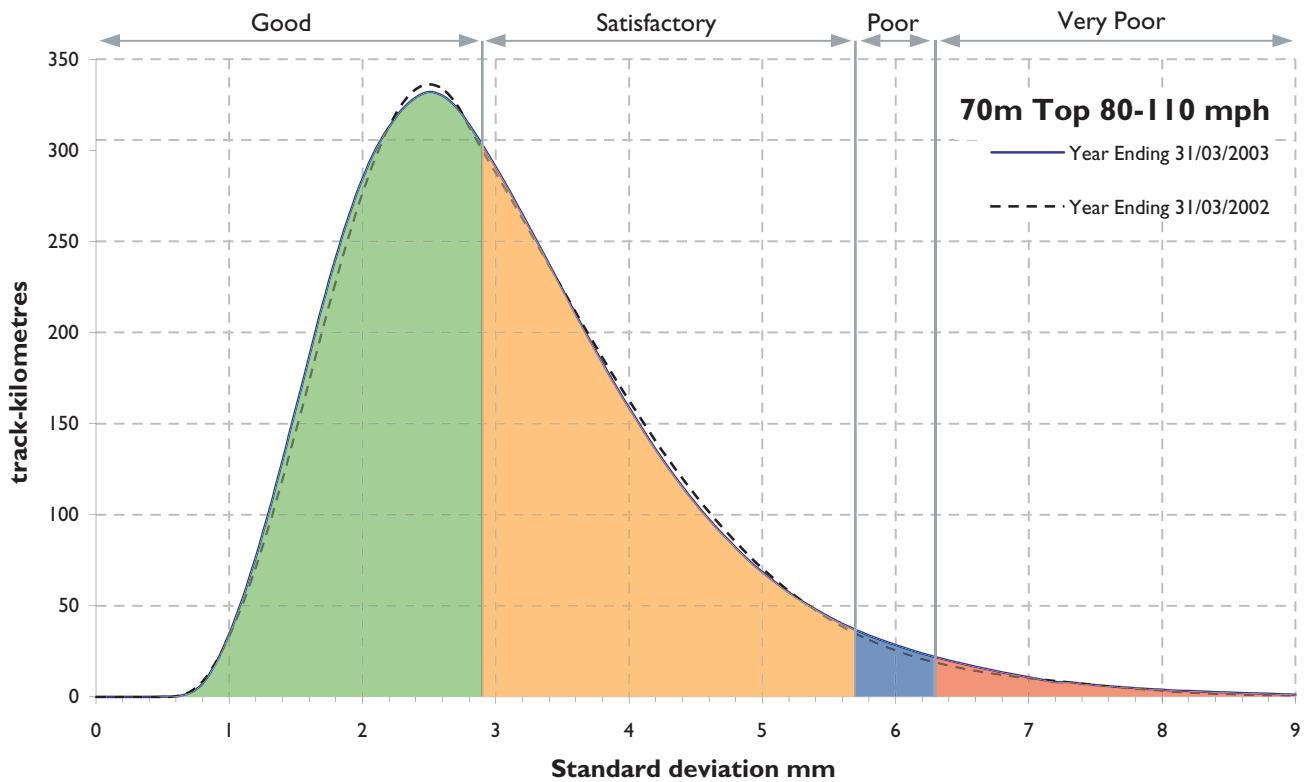
Commentary

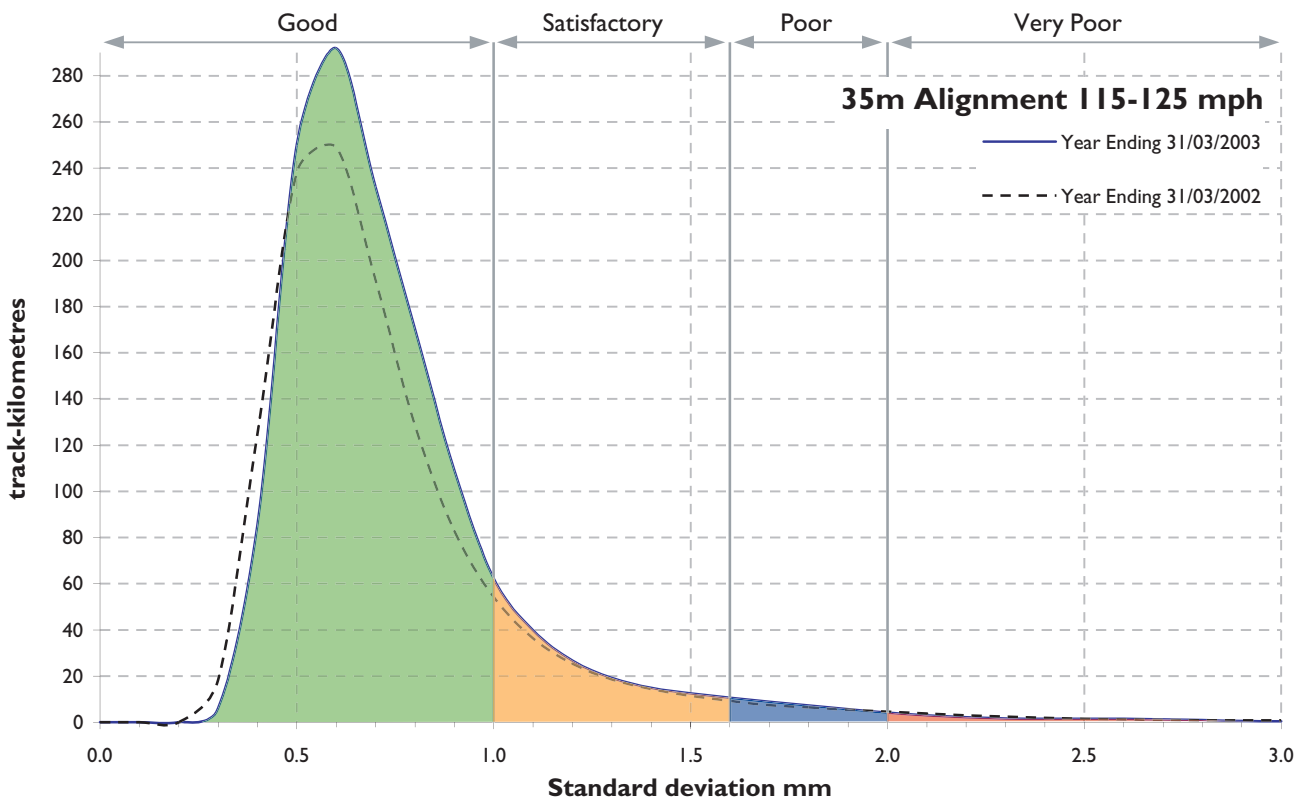
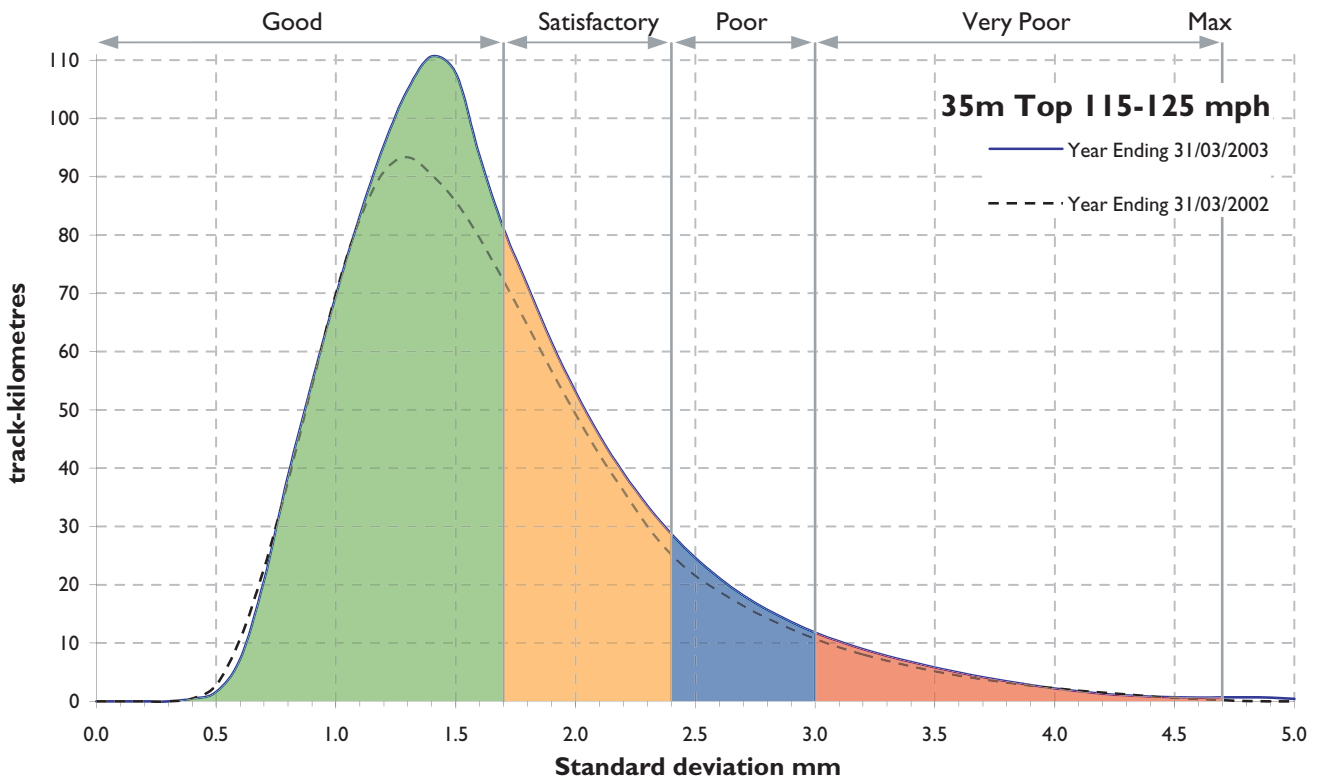
There has been a significant increase in the population of track in higher speed bands due to line speed increases, principally Cross Country. The year on year SDs are therefore not strictly comparable.

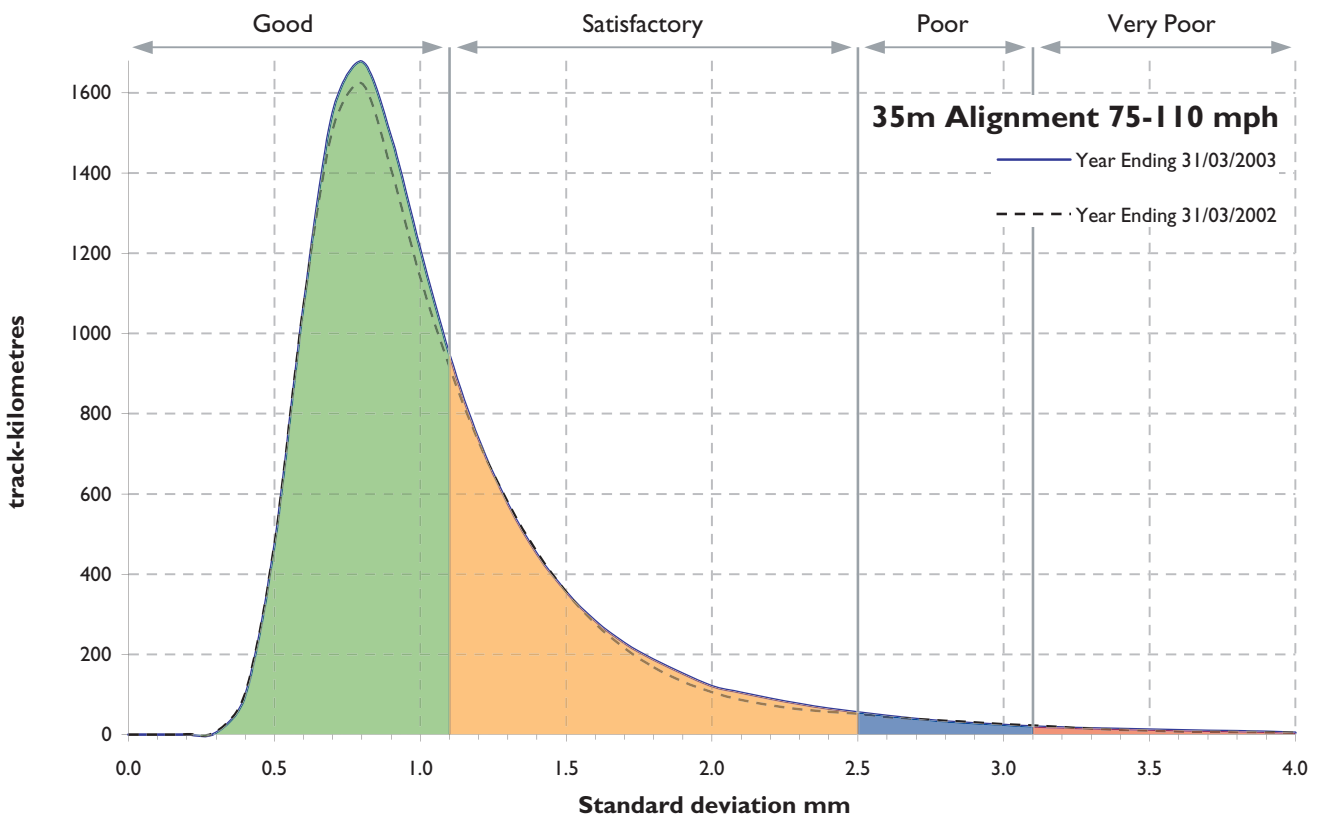
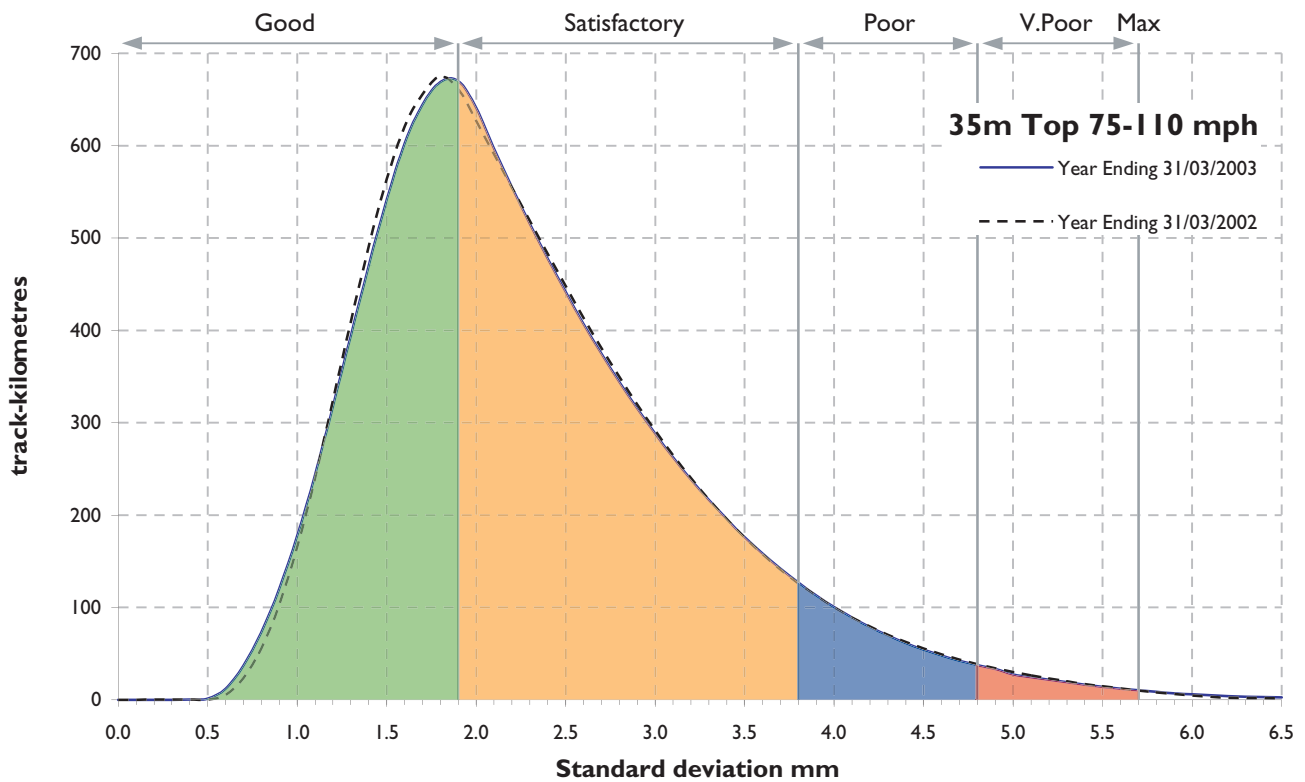
Poor geometry affects S&C disproportionately reflecting the difficulty of maintaining S&C with increasing traffic, restricted access, limited numbers of competent staff and current very low renewal volumes compared to positions on asset life curves. Particular attention is being given in 2003/04 to S&C geometry improvement

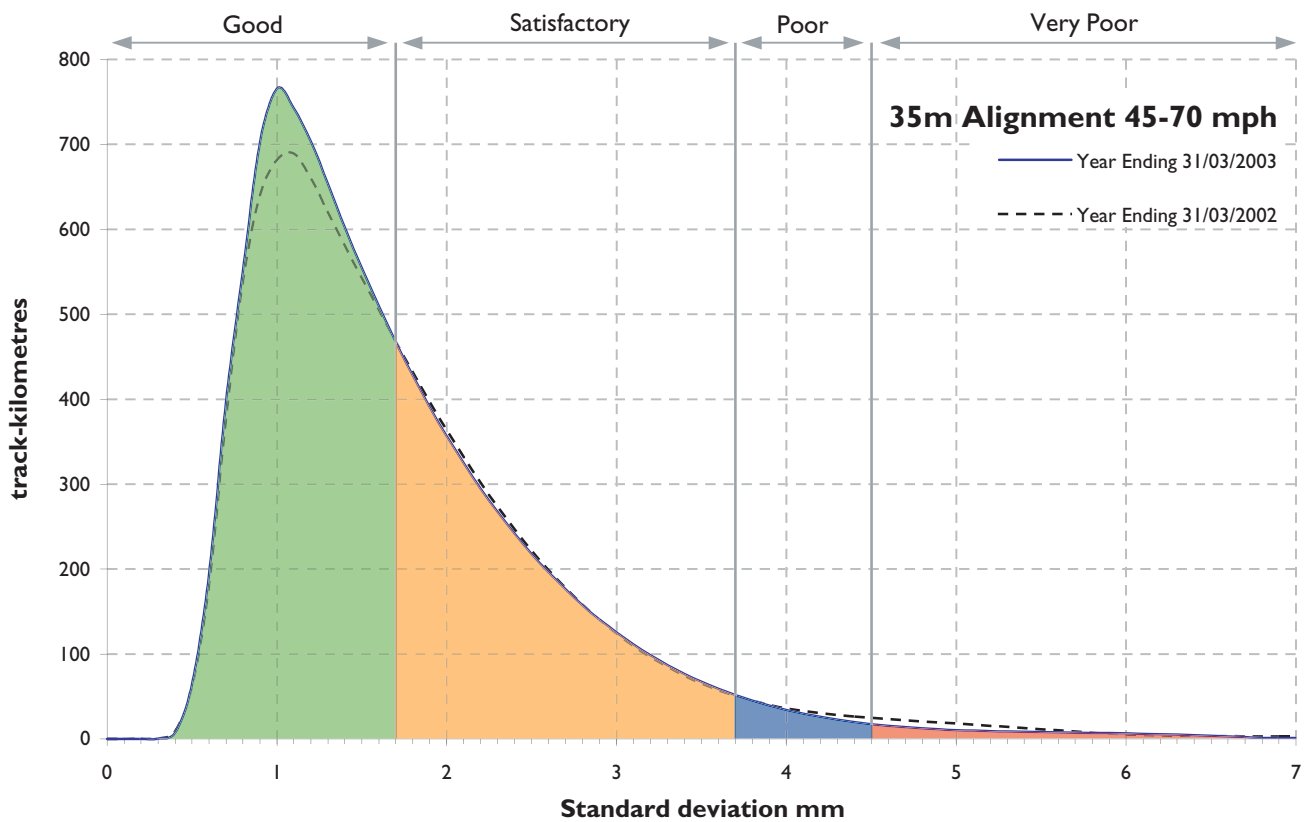
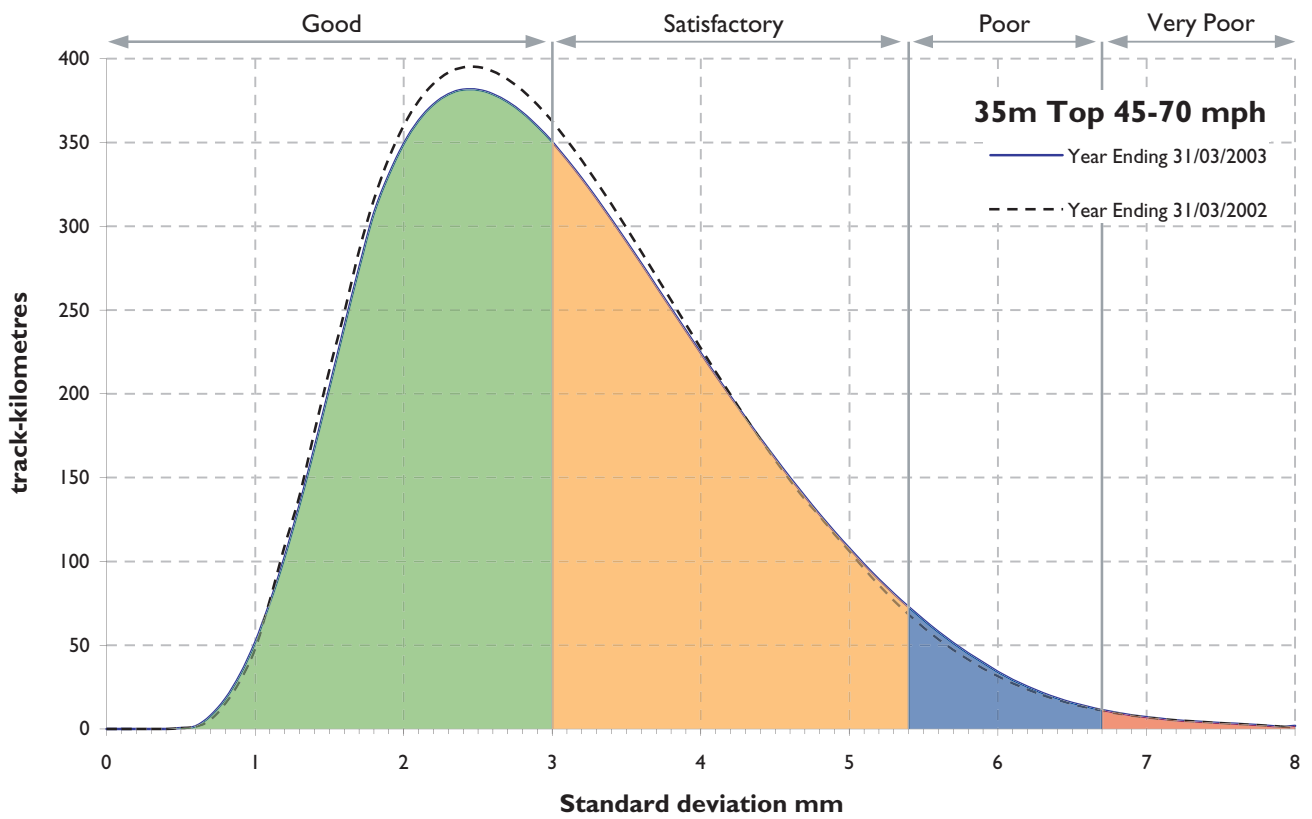
Detailed data for each of the track recording parameters above is presented graphically on the following pages:

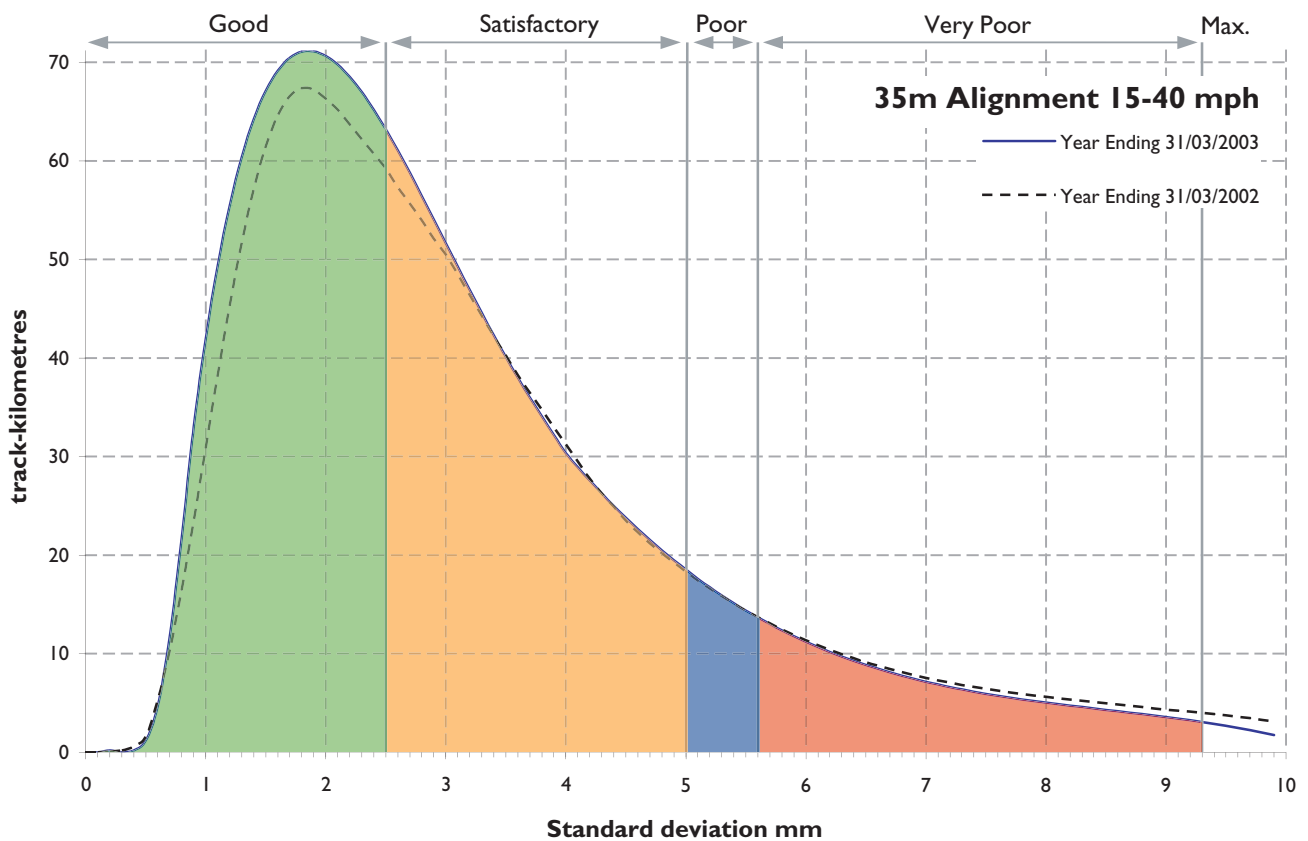
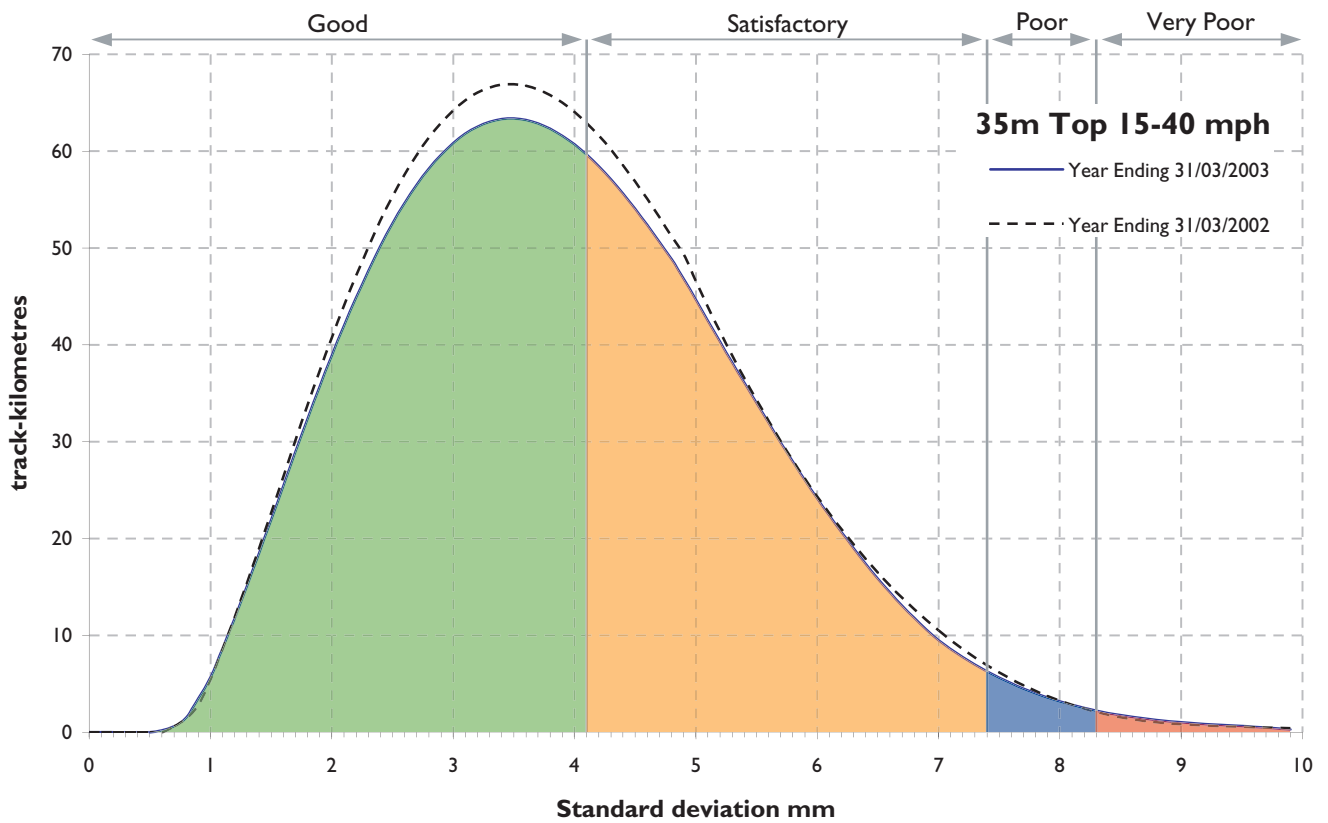












Track Geometry – Level 2 Exceedences (M5)

Track Geometry (Level 2 Exceedence) is a measure of the difference in the actual rail position from the 'ideal' position. It is based on the same set of measurements as are used for standard deviation discussed earlier. Maximum desirable values for the variance between the actual and ideal rail position are set in Network Rail Company Standards for various parameters (top, line, gauge and 3m twist), and for different line speeds and total annual tonnage. Values greater than the desirable variance are called Level 2 Exceedences. Data for this measure is reported as the number of Level 2 Exceedences per track mile (to include top, line, gauge and 3m twist). Level 2 Exceedences require remedial work within defined timescales specified in Network Rail Company Standards.

Results

Table 22 Level 2 Exceedences per track mile			
	2000/01	2001/02	2002/03
East Anglia	1.863	1.504	1.614
Great Western	1.738	1.345	1.111
London North Eastern	1.660	1.225	1.058
Midland	1.745	1.263	1.119
North Western	2.480	1.770	1.565
Scotland	1.446	0.948	0.833
Southern	1.901	1.501	1.159
Network total	1.820	1.351	1.179

Regulatory Target and Tolerance

The regulatory target is for no deterioration from the network total reported for 2000/01 (1.820 per track mile).

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for the level 2 exceedence measure is assessed as $\pm 7\%$ of the target.

Commentary

There has been a significant reduction in track geometry faults (level 2 exceedences) across the network and we have beaten the regulatory target by 35%.

Temporary Speed Restrictions (M4)

This measure is a report of the cumulative number of TSRs due to condition of track, structures, and earthworks that have existed for a total 'time in place' of 4 weeks. In this case, 'TSRs' refers to all Emergency Speed Restrictions (ESRs) and TSRs published in the Weekly Operating Notices (WONs). The total 'time in place' is the time, to the nearest whole week, from when the speed restriction was first implemented to the time when the speed restriction is removed.

The Severity Factor for an individual speed restriction is calculated using the following formula:

$$\text{Severity Factor} = LT(1 - F)$$

where: L = the length of the TSR measured to 3 decimal (miles)

T = the duration of the TSR (weeks)

$$F = \frac{\text{Restricted Speed}}{\text{Linespeed}}$$

Or, where there are differential speeds (e.g. unique freight and passenger speeds):

$$F = \left(\frac{\text{Lowest Restricted Speed}}{\text{Lowest Line Speed}} + \frac{\text{Highest Restricted Speed}}{\text{Highest Line Speed}} \right) / 2$$

If the length or speed changes during the life of a speed restriction, the total severity factor is calculated as the sum of the severity factors for each of the length or speed changes.

The severity factor is reported separately for each of condition of track, structures, and earthworks.

Speed restriction data is reported as cumulative values for the reporting year. Therefore, TSRs imposed prior to the start of the reporting year will be considered to have a date imposed equal to the start date for the reporting year. Similarly, TSRs remaining at the end of the reporting year will be considered as having a date removed equal to the end date for the reporting year. The reporting year begins on 1 April and ends on 31 March.

Results

Table 23 Track TSRs				
	2001/02 cumulative No. of TSRs	2001/02 Severity Score	2002/03 cumulative No. of TSRs	2002/03 Severity Score
East Anglia	127	465	127	367
Great Western	229	1,051	167	796
London North Eastern	331	2,390	241	1,273
Midlands	310	2,294	286	2,154
North West	129	958	148	685
Scotland	171	265	127	383
Southern	57	94	55	99
Network total	1,354	7,517	1,151	5,757

Table 24 Structures TSRs				
	2001/02 cumulative No. of TSRs	2001/02 Severity Score	2002/03 cumulative No. of TSRs	2002/03 Severity Score
East Anglia	4	6	4	8
Great Western	16	27	9	13
London North Eastern	19	29	11	42
Midlands	15	28	20	13
North West	15	7	3	3
Scotland	7	2	9	16
Southern	3	109	3	2
Network total	79	208	59	97

Table 25 Earthworks TSRs				
	2001/02 cumulative No. of TSRs	2001/02 Severity Score	2002/03 cumulative No. of TSRs	2002/03 Severity Score
East Anglia	2	7	4	6
Great Western	31	112	19	64
London North Eastern	19	80	21	75
Midlands	18	57	26	146
North West	6	19	3	2
Scotland	6	7	15	31
Southern	17	22	5	1
Network total	99	304	93	325

Regulatory Target

The Regulator has not set a target for this measure so there is no disincentive to applying a speed restriction when it is judged to be necessary on safety grounds.

Commentary

This is the second year that data has been collected against this measure. The experience gained in the data collation process has allowed enhancements to be made to data checking.

The results of the 2002/2003 reporting year show a continuing reduction in the number of speed restrictions imposed on the national network. This reflects the management focus on speed restrictions during the year and the importance we place on reducing their impact in order to meet customer and passenger expectations. By Region, the greatest reductions were achieved in London North Eastern and Great Western. North West had an increase in the number of Condition of Track TSRs, although the Severity Score decreased. This has been influenced by work plans being arranged around the renewals programme of the West Coast Route project. Scotland has seen a decrease in the number of TSRs, but the Severity has increased. This has been affected by both the duration and length of TSRs being greater in 2002/03, but some of the increase is considered to arise from improvements in data quality.

Slope Failures Causing Derailment (M6)

This measure reports details of the annual number of embankment or cutting failures causing a passenger or freight train derailment on Running Lines. Incidents caused indirectly due to drainage failure are also included.

Results

Table 26 Slope failures causing derailment		
	2001/02	2002/03
East Anglia	0	0
Great Western	0	0
London North Eastern	0	0
Midlands	0	0
North Western	0	0
Scotland	1	0
Southern	0	1
Network total	1	1

Commentary

There was only one slope failure causing a derailment in 2002/03. A passenger train derailment occurred on 1st January 2003 at Merstham cutting on Southern Region. Following heavy rain, gravels and weathered material washed out from above the chalk in the cutting onto the track resulting in the derailment.

Bridge Condition Index (M8)

The bridge condition grade is a measure from 1 to 5 of the condition of bridges, with 1 representing good condition and 5 poor condition. Each bridge is graded from a Structures Condition Marking Index (SCMI) value determined using the scoring tool set out in the SCMI handbook. The SCMI process is a marking methodology that grades the condition of each bridge on a 1-100 scale and involves defining the elements of the bridge and determines the extent and severity of any defect in each of the elements. The bridge scores are collated into 5 bands: (1) 100-80, (2) 79-60, (3) 59-40, (4) 39-20 and (5) 19-1

Results

The reported measure consists of the number of bridges examined and scored that fall into each of the 5 condition grades.

Bridge condition grade	Equivalent SCMI value	2000/01 No. of bridges	2001/02 No. of bridges	2002/03 No. of bridges	2000-03 3-year total No. of bridges
1	80-100	141	340	1,015	1,496
2	60-79	648	815	2,484	3,947
3	40-59	210	249	692	1,151
4	20-39	16	16	61	93
5	1-19	0	1	3	4
Total number examined		1,015	1,421	4,255	6,691
Average condition grade		2.1	2.0	2.0	2.0

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for the bridge condition index is assessed as ± 0.1 on the target.

Commentary

Data reported for 2003 includes a sample of 4,255 under and over bridges that have completed the process of examination, checking and scoring on the SCMI tool.

A sample audit of 169 of the bridges marked by Structures Examination Contract (SEC) staff was undertaken by the same team of experienced bridge engineers used last year to ensure consistency and validate the results in all regions. Some 36% of the audited scores were within the variability expected from the system. This has been identified as not acceptable although there have been underlying improvements in the application of the system which have not been reflected in these results.

Signalling Failures (M9)

This measure reports the total number of signalling failures causing a cumulative total train delay of more than 10 minutes per incident, and includes failures on Network Rail owned infrastructure only.

Results

Table 28 Number of Signalling Failures			
	2000/01 (Number)	2001/02 (Number)	2002/03 (Number)
East Anglia	2,005	2,243	2,545
Great Western	3,205	3,776	3,849
London North Eastern	4,087	4,640	5,493
Midland	5,431	5,428	5,850
North Western	2,822	3,426	2,893
Scotland	2,578	3,025	2,920
Southern	4,978	5,367	5,527
Network total	25,106	27,905	29,077

Regulatory Target and Tolerance

The regulatory target is for no deterioration from the network total reported for 2000/01 (25,106).

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for signalling failures is assessed as $\pm 7.3\%$ of the target.

Commentary

Since the first report of this measure in 2001, several changes to operating conditions have ensued. These changes are impacting on the measure. A significant number of extra trains has resulted in each failure impacting more trains and reducing the opportunity for timely repair of the failures. Operating conditions are now different too, with a more cautious driving style and continuing difficulties in restoring normal timetabled operation following an incident. The knock-on impact of an individual delay rapidly compounds. At the same time, TPWS has been introduced, which has negated a decrease in the number of failures recorded in the Network Rail Failure Management System (FRAME). Since December, access to the track has been more difficult due to RIMINI.

The result of all this has seen a 15% increase in average downtime since May 2001 as recorded in FRAME. Increased downtime is likely to affect more trains for longer. A 4% increase in average delay per incident has been noted. In turn, this means more incidents are crossing the 10 minutes threshold.

Signalling Asset Condition (MI0)

The purpose of this measure is to assess the condition of signalling assets in terms of a 1-5 grading system, where a condition grade of 1 is good and 5 poor. Condition grade is based on residual life of the equipment in a signalling interlocking area using the Signalling Infrastructure Condition Assessment (SICA) tool. While the assessment is dominated by the condition of the interlocking, the condition of lineside signalling equipment is also taken into account. This measure does not include level crossings, remote frames or ground frames.

Results

Table 29 Signalling Condition Index : Primary & Secondary SICA results only				
Condition grade	Observed nominal residual life (years)	2000/01 No. of interlocking areas in condition band	2000/02 2-year total No. of interlocking areas in condition band	2000/03 3-year total No. of interlocking areas in condition band
1	>20	0	2	15
2	10-20	441	505	655
3	3-10	162	198	295
4	<3	27	63	67
5	At end of life	0	0	0
Total number assessed		630	768	1,032
Average condition grade		2.3	2.4	2.4

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established during the second control period once a sufficient sample size is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for the signalling condition index is assessed as ± 0.1 on the target.

Commentary

The above table reflects condition assessments undertaken to either the Network Rail 'Primary' or 'Secondary' SICA processes. In 2002, a number of condition assessed interlockings were erroneously reported which had been assessed to a local SICA (hence the 2-year totals shown in the 2002 Annual Return is overstated). This error was discovered in 2003, and the results have been retrospectively removed from the 2-year total.

As last year, we are confident that the SICA results as reported represent the relative residual life in comparison with the results of the Signalling Asset Maintenance Plan (SAMP).

In the remaining years of the control period, the remaining interlocking will be assessed. The full count of interlockings is now available and the 1,032 assessed represents just over half of the interlockings owned by Network Rail.

'Local' SICAs and the former SICA 2B has been applied to a large number of other interlockings. For comparison, the above figures have been amended to include these additional interlockings on GW and LNE Regions. This results in an additional 102 Condition 1, 135 Condition 2, 22 Condition 3, 5 Condition 4 and 16 Condition 5 interlockings on LNE and an additional 42 Condition 2, 165 Condition 3 and 8 Condition 4 interlockings on GW.

Adding these figures into the table above gives the following results:

Table 30 Signalling Condition Index : All Condition Assessments				
Condition grade	Observed	2000/01	2000/02	2000/03
	nominal residual life (years)	No. of interlocking areas in condition band	2-year total No. of interlocking areas in condition band	3-year total No. of interlocking areas in condition band
1	>20	0	31	117
2	10-20	441	727	832
3	3-10	162	456	482
4	<3	27	105	80
5	At end of life	0	0	16
Total number assessed		630	1,319	1,527
Average condition grade		2.3	2.5	2.4

The above table gives an indicative life of more than 80% of the interlocking stock. Although it is believed that some of the LNE figures are optimistic compared to the results SICA might give, it is useful to show that the weighted average for the stock is fairly consistent.

AC Traction Power Incidents Causing Train Delays (MI I)

This measure reports the number of overhead line equipment (OLE) component related failures that lead to incidents of duration exceeding 500 train delay minutes. Incidents due to bird strikes and vegetation incursion are included but those proved to have been caused by defective TOC equipment, outside parties, vandalism and those arising as a direct result of extreme weather conditions are excluded.

Results

	2000/01	2001/02	2002/03
East Anglia	24	14	24
Great Western	0	2	0
London North Eastern	12	23	18
Midlands	26	35	39
North West	14	23	14
Scotland	11	10	7
Southern	1	0	0
Number of incidents	88	107	102

Regulatory Target and Tolerance

The regulatory target is for no deterioration from the number of incidents reported for 2000/01 (88).

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for overhead line failures is assessed as $\pm 28\%$ of the target.

Commentary

The reported number of failures in 2002/03 is less than 2001/02 and within the statistical tolerance for this measure. Nevertheless, we will continue to closely monitor the situation. The primary reasons for the incidents which have occurred are as follows:

- In the London North Eastern region the overhead line equipment performance is representative of a system designed to a tight budget and operated to its limit, thereby compromising long-term reliability. Continued operation at its limit in terms of electrical loading and high train speeds, combined with an increase in traffic, is now taking its toll, leading to component failures.
- In East Anglia two areas have largely contributed to the increase in incidents this year, these being OLE failures at Trowse Swingbridge and Pitsea/Benfleet dewirements. The bespoke OLE equipment on Trowse Swingbridge has now been replaced. Likewise the life expired contact wire at Pitsea/Benfleet, deemed to be major contributor to the dewirements, has now been renewed.
- In the North West Region the key driver behind the number incidents during 2002/03 is the level of WCRM project work, which has seen a number of failures during initial operation. However, there has been an improvement in the quality control measures on the work carried out by the OLE Alliance.
- In the North West region a combination of improved vegetation management, improved fencing and the replacement of a large number of porcelain insulators with polymeric have led to an overall reduction in the number of incidents.

DC Traction Power Incidents Causing Train Delays (MI2)

This measure reports the number of conductor rail component related failures that lead to incidents of duration exceeding 500 train delay minutes. It excludes incidents proved to have been caused by defective TOC equipment, outside parties, vandalism, animals and those arising as a direct result of extreme weather conditions.

Results

Table 32 Electrification Failures – Conductor Rail			
	2000/01	2001/02	2002/03
East Anglia	0	0	1
Great Western	0	0	0
London North Eastern	0	0	0
Midlands	1	0	1
North West	2	2	0
Scotland	0	0	0
Southern	42	28	30
Number of incidents	45	30	32

Regulatory Target and Tolerance

The regulatory target is for no deterioration from the number of incidents reported for 2000/01 (45).

All infrastructure output measures are subject to statistical variability caused by random fluctuation and the accuracy of data measurement. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target; the assessment of the tolerance is based on an analysis of historical data. The statistical tolerance for Conductor rail failures is assessed as $\pm 47\%$ of the target.

Commentary

Although the reported number of incidents is more than 2001/02 it is well within the regulatory target for this measure.

The conductor rail renewals programme in the North West Region is now almost complete, removing most of a vulnerable type of conductor rail.

There has also been a restructure within the IMCs in which the conductor rail has been redefined as an Electrification & Plant asset, resulting in a more vigilant inspection regime.

Electrification Condition – AC Traction Feeder Stations & Track Sectioning Points (MI3)

This is a measure of the condition of AC traction Feeder Stations (FSs) & Track Sectioning Points (TSPs), on a scale of 1-5, based on visual inspection and the age, robustness of design, maintenance/refurbishment history and operational performance of the 25kV switchgear:

- Band 1: Equipment is free from defects with negligible deterioration in condition.
- Band 2: Evidence of minor defects and/or early stage deterioration that may require some remedial work to be undertaken.
- Band 3: Defects and/or a level of deterioration that requires remedial work to be undertaken.
- Band 4: Significant defects and/or a high level of equipment deterioration needing major repairs/heavy maintenance or complete renewal to be programmed.
- Band 5: Serious defects and deterioration of a level that, should the equipment still be in operation, has potential for service disruption.

The measure reports the percentage of Feeder Stations & Track Sectioning Points falling within each of the defined condition grades.

Results

Table 33 Electrification Condition – AC Traction			
Condition grade	2000/01 1-year total Feeder stations & sectioning points	2000-02 2-year total Feeder stations & sectioning points	2000-03 3-year total Feeder stations & sectioning points
1	17%	20%	28%
2	57%	57%	52%
3	23%	21%	19%
4	3%	2%	1%
5	0%	0%	0%
Average condition grade	2.1	2.1	1.9

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for AC feeder station condition is assessed as ± 0.1 on the target.

Commentary

The current situation is that 52 FSs out of a network total of 85 have been inspected (61% of the asset base). For TSPs, 93 out of the network total of 209 have been inspected (44% of the asset base).

The improvement in the average condition grade reflects switchgear renewals in Scotland and new infrastructure associated with the WCRM works. Previous assessments for locations no longer functioning as FSs or TSPs have been omitted from the statistics.

Electrification Condition – DC Traction Substations (M14)

This is a measure of the condition of Network Rail's DC Traction Substations, on a scale of 1-5, based on visual inspection and the age, robustness of design, maintenance/refurbishment history and operational performance of the HV switchgear, rectifier transformers, rectifiers and DC switchgear:

- Band 1: Equipment is free from defects with negligible deterioration in condition.
- Band 2: Evidence of minor defects and/or early stage deterioration that may require some remedial work to be undertaken.
- Band 3: Defects and/or a level of deterioration that requires remedial work to be undertaken.
- Band 4: Significant defects and/or a high level of equipment deterioration needing major repairs/heavy maintenance or complete renewal to be programmed.
- Band 5: Serious defects and deterioration of a level that, should the equipment still be in operation, has potential for service disruption.

Results

Condition grade	2000/01 1-year total Feeder substations	2000-02 2-year total Feeder substations	2000-03 3-year total Feeder substations
1	14%	11%	16%
2	56%	55%	56%
3	30%	34%	27%
4	0%	0%	1%
5	0%	0%	0%
Average condition grade	2.2	2.3	2.1

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for DC feeder station condition is assessed as ± 0.1 on the target.

Commentary

The current situation is that 242 substations out of a network total of 408 have been inspected (59% of the asset base).

It is anticipated that the average condition grade will improve towards the end of CP2 with the impact of the Southern Region Power Supply Upgrade project.

Electrification Condition – AC Traction Contact Systems (MI5)

This is a measure of the condition of AC contact systems, on a scale of 1-5, based on physical wear measurement of contact wire and visual inspection of key components including contact and catenary wires, registration assemblies and structures. A condition grade of 1 is good and 5 is poor. This measure excludes all earthing, bonding and traction return circuits.

Results

Condition grade	2000/01 1-year total Contact wire/key components	2000-02 2-year total Contact wire/key components	2000-03 3-year total Contact wire/key components
1	22%	35%	35%
2	66%	55%	55%
3	11%	9%	10%
4	1%	1%	0%
5	0%	0%	0%
Average condition grade	1.9	1.8	1.8

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for overhead line condition is assessed as ± 0.1 on the target.

Commentary

Condition assessments are based on a combination of site inspections and service history.

The cumulative total for tension lengths of overhead contact system assessed between 2000/01 and 2002/03 represents 10% of the total population and is on target to meet the 20% of population required in the current control period. Consecutive tension lengths of the same design and traffic load are expected to be in similar condition, and so the 20% samples will be carefully selected to be representative of the whole network.

The assessment samples include WCML tension lengths, upgraded as part of WCRM.

Electrification Condition – DC Traction Contact Systems (MI6)

This is a measure of the condition of DC contact systems, on a scale of 1-5, based on physical wear measurement of conductor rail. A condition grade of 1 is good and 5 is poor. The measure excludes any associated equipment (e.g. insulators, anchor assemblies, protective boarding, etc.).

Results

Table 36 Electrification Condition – DC Traction Contact System			
Condition grade	2000/01 1-year total Conductor rail	2000-02 2-year total Conductor rail	2000-03 3-year total Conductor rail
1	40%	39%	37%
2	43%	43%	42%
3	16%	16%	16%
4	1%	2%	2%
5	0%	0%	0%
Average condition grade	1.8	1.8	1.8

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for Conductor rail condition is assessed as ± 0.1 on the target.

Commentary

There is very little change in the results this year as from last year.

The above results are based on data covering 88% of the Southern Region network (compared to 66% in 2001/02) plus 100% of the Midland Region network. It is anticipated that assessments from London North Eastern, East Anglia and North West Regions will be included by the end of the current control period. London North Eastern and East Anglia Regions have only small amounts of DC electrification representing some 1.4% of the DC network.

North West Region has 148 miles, representing 5.3% of the DC network. Some 40% of this is Aluminium/Steel composite type conductor rail which has been recently installed, and therefore in good condition.

Station Condition Index (M17)

This is the average condition rating of each station where trains make timetabled stops, summarised into categories (A – F, national hub – small unstaffed station) together with the overall condition rating for all stations.

This is calculated by assessing the condition of each element of a station by visual inspection. These condition scores are then combined into an overall score of each station.

Results

Table 37 Number of stations in each condition grade							
Station Category	Year	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Total
A – National hub	2000/01	1	15	10	0	0	26
	2001/02	0	15	11	0	0	26
	2002/03	1	19	7	0	0	27
B – Regional hub	2000/01	0	51	8	0	0	59
	2001/02	0	54	12	0	0	66
	2002/03	0	54	13	0	0	67
C – Important feeder	2000/01	7	191	50	0	0	248
	2001/02	8	179	49	0	0	236
	2002/03	8	175	59	0	0	242
D – Medium, staffed	2000/01	15	208	58	0	0	281
	2001/02	19	212	60	1	0	292
	2002/03	18	200	78	1	0	297
E – Small, staffed	2000/01	28	504	118	2	0	652
	2001/02	35	505	127	3	0	670
	2002/03	35	492	145	4	0	676
F - Small, unstaffed	2000/01	61	787	288	7	0	1,143
	2001/02	63	804	296	5	0	1,168
	2002/03	61	833	292	4	0	1,190
All Stations	2000/01	112	1,756	532	9	0	2,409
	2001/02	125	1,769	555	9	0	2,458
	2002/03	123	1,773	594	9	0	2,499

Scoring scale: Grade 1 is good, Grade 5 is poor

The average condition grade for all stations in 2002/03 is 2.25.

Regulatory Target and Tolerance

The regulatory target is to maintain the average condition grade at 2.2.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This "noise" is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for the station condition index is assessed as ± 0.1 on the target.

Commentary

The 2001 baseline of 2.2 was established by inspecting stations during that year and the previous 2 years.

The condition score is an average of the score from 34 elements on the stations such as platforms, canopies, structure and decoration. These elements are condition rated using a scale of 1 to 5, where one is 'as installed' and five is 'no longer serviceable'. Learning from the last round of inspections, procedures were put in place to improve consistency, briefing of all the contractor's inspectors was carried out by HQ personnel.

The total number of Network Rail stations is 2,507. A total of 647 are included in this year's sample including 190 inspections carried out in 2001/02 (inspections received after the cut off date for last year). The national average for the complete station portfolio now stands at 2.25, for the stations involved this year the average is 2.26.

Future inspections will form part of a larger 5 yearly inspection process where the focus will be business driven.

Station Facility Score (M18)

The level of facilities present at stations broken down by station category and by theme. The score is calculated by counting the number of specific items at each station.

Each station is allocated to one of six categories: (A) - National Hub, (B) - Regional Hub, (C) - Important feeder station, (D) - Medium staffed station, (E) - Small staffed station and (F) - Small unstaffed station.

The facilities are grouped into 'themes'. The themes include the following facilities:

- Access – disabled lavatories, induction loops, escalators;
- Comfort & convenience – lavatories, shelters, covered trail on platforms;
- Information & communications – clocks, public address, customer information systems;
- Integrated transport – taxi ranks, car parks, highway markings;
- Safety & security – lighting, handrails and anti-slip floors on footbridges & subways, CCTV, security doors & windows on staff accommodation, secure cash transfer facilities.

Results

Table 38 Access score			
Station category	2000/01	2001/02	2002/03
A	100 (955)	106.8 (1,020)	110.7 (1,057)
B	100 (1,026)	102.4 (1,051)	101.9 (1,045)
C	100 (2,272)	102.7 (2,334)	102.8 (2,336)
D	100 (1,959)	103.2 (2,022)	102.5 (2,008)
E	100 (2,435)	101.2 (2,465)	101.7 (2,477)
F	100 (3,775)	100.0 (3,774)	98.5 (3,720)

Table 39 Comfort & convenience score			
Station category	2000/01	2001/02	2002/03
A	100 (5,545)	97.3 (5,396)	102.2 (5,667)
B	100 (5,679)	103.6 (5,885)	100.0 (5,678)
C	100 (10,131)	100.2 (10,151)	99.5 (10,081)
D	100 (3,963)	101.8 (4,036)	101.2 (4,012)
E	100 (4,694)	101.3 (4,754)	101.5 (4,763)
F	100 (2,631)	98.7 (2,596)	97.8 (2,574)

Table 40 Information & communications score			
Station category	2000/01	2001/02	2002/03
A	100 (2,149)	102.9 (2,212)	106.8 (2,295)
B	100 (1,860)	103.4 (1,923)	100.3 (1,865)
C	100 (3,803)	102.8 (3,909)	105.3 (4,005)
D	100 (2,738)	106.7 (2,921)	107.4 (2,941)
E	100 (2,676)	101.9 (2,728)	103.7 (2,775)
F	100 (49)	100.0 (49)	128.6 (63)

Table 41 Integrated transport score			
Station category	2000/01	2001/02	2002/03
A	100 (603)	100.3 (605)	104.6 (631)
B	100 (1,062)	105.0 (1,115)	96.2 (1,022)
C	100 (2,517)	100.2 (2,522)	99.2 (2,496)
D	100 (1,644)	102.6 (1,687)	102.3 (1,682)
E	100 (1,373)	100.6 (1,381)	100.1 (1,374)
F	100 (1,590)	99.1 (1,576)	98.1 (1,559)

Table 42 Safety & security score			
Station category	2000/01	2001/02	2002/03
A	100 (15,919)	101.5 (16,161)	111.0 (17,670)
B	100 (12,462)	101.8 (12,681)	102.8 (12,812)
C	100 (23,583)	102.1 (24,088)	103.4 (24,388)
D	100 (17,209)	102.9 (17,715)	103.7 (17,852)
E	100 (21,568)	101.2 (21,822)	101.1 (21,812)
F	100 (15,577)	100.2 (15,614)	98.9 (15,398)

Table 43 Network score			
All Stations	2000/01	2001/02	2002/03
Network Score	100 (173,447)	101.6 (176,193)	102.7 (178,056)

Regulatory Target

There is no regulatory target for this measure.

Commentary

This was a new measure introduced for the 2001 Annual Return and the scores for 2000/01 are presented as an index of 100 for ease of onward tracking of performance. Scores for 2001/02 and 2002/03 are shown relative to the index base. The number of relevant assets in each category is shown in parenthesis.

Overall the scores for 2002/03 show the total asset units for all stations to have increased against the base of 2000/01. The key themes which have contributed to this increase are Information and Communication i.e. customer information systems and Safety and Security i.e. lighting, CCTV. This is consistent with our continuing strategy to work with our customers in improving passenger facilities at stations, which customers, third parties and in some cases Network Rail have funded.

Light Maintenance Depot – Condition Index (MI9)

This measure assesses the overall average condition of Light Maintenance Depots (LMDs) by providing, at each financial year end, the number of depots in individual average condition ratings of 1 – 5.

Results

Condition grade	2000/01 1-year total No. of depots (in each grade)	2000-02 2-year total No. of depots (in each grade)	2000-03 3-year total No. of depots (in each grade)
1	0	0	1
2	1	3	11
3	6	18	23
4	2	6	6
5	0	0	0
Average condition grade	3.1	3.0	2.7

Scoring scale: 1 good, 5 poor.

Regulatory Target and Tolerance

The regulatory target is for no deterioration from a baseline average condition grade which will be established once a sufficient sample is achieved.

All asset condition measures are subject to statistical variability caused by the accuracy of condition assessment (there is inevitably some subjectivity involved in condition surveys), and because not every asset is assessed each year. This “noise” is expressed as a tolerance when comparing actual values in this Annual Return with any regulatory target. The tolerance for the depot condition index is assessed as ± 0.1 on the target.

Commentary

An average condition score of 2.7 has been generated this year, based upon a sample of 45% of the 91 LMD properties. The measure covers 11 major elements at all LMDs such as track, superstructure and plant & equipment, albeit not all LMDs have all elements.

This year's sample size is 14 and the average for the sample is 2.19, this shows a significant improvement on the previous years samples. Combining this year's 14 inspections with those previously carried out gives a score of 2.74 on a total sample surveyed to date of 41.

Future inspections will form part of the 5 yearly inspection process, and as such the focus will be business driven inspections rather than an asset reporting exercise.

Section 3 – Activity Volumes

Introduction

This section provides data on the level of renewal activity on the network by giving volumes of work undertaken for 8 separate measures.

The 2002 NMS included forecasts for some of the activity measures and in these cases the planned quantities are shown in the tables below to compare with actual values delivered in the year. NMS forecasts are put together at a date which is often several months in advance of work banks being finalised. In addition, each category of work is subject to variation in content for a variety of reasons.

All track work is subject to delivery logistics-based variation. If a particular site or a particular type of work cannot be resourced and possession opportunities are missed, then work will be carried over to another year. Rail renewal plans are sensitive to emerging defects such as RCF, and major variations can be introduced. A close focus on track condition-related temporary speed restrictions can result in wholesale programme changes. Track renewals in general are subject to information revealed during further site inspections during the months preceding the works; particularly at 22 weeks out, when construction details are finalised. This can lead to a change in category, perhaps from re-rail to full rail/sleeper/ballast renewal or vice versa.

Signalling projects are under development for longer than track works due to their more complex nature, and work programmes can change for reasons of complexity revealed during detailed design, or in response to the difficulties of scheduling limited design, installation or testing resources. Network Rail may re-assign staff from one renewal onto another as priorities are fine-tuned to the best overall advantage.

Network Rail strives to achieve a balance between the economies of forward planning, and an ability to react to short notice imperatives.

Activity volumes are not subject to any regulatory target but are closely monitored by the Regulator.

Rail Renewed (M20)

The total length of track in kilometres where re-railing has been carried out. This measure counts the total length of plain line track where both rails have been replaced; if one rail is replaced the length counts as half.

Results

Table 45 Rail Renewed				
	Actual 2000/01 (km)	Actual 2001/02 (km)	NMS Forecast 2002/03 (km)	Actual 2002/03 (km)
WCRM	210	88	133	69
Non-WCRM				
East Anglia	142	101	121	65
Great Western	115	146	184	171
London North Eastern	110	217	147	161
Midlands	229	92	204	224
North West	108	102	121	106
Scotland	28	93	82	85
Southern	124	145	151	128
Network total	1,064	983	1,142	1,010

Commentary

The overall rail renewal volume reported is slightly below the NMS forecast. It is known that in some Regions the full extent of "minor" re-railing works undertaken by the infrastructure maintenance contractors has not been included in the reported totals. The reasons vary from practical data collection issues to inconsistent interpretation of the definition of the measure. We will clarify these issues for future returns.

Regional variations from NMS forecasts are generally small, occurring for specific reasons. Midlands increased volume is attributable to the insertion of the CCRM programme upgrade works. East Anglia reduced volume is attributable to the successful use of a rail grinding programme allowing the cancellation of some planned RCF rail replacement. Reasons for the WCRM difference between forecast and actual are: (1) an overstated figure in the NMS that did not properly take account of resource constraints and available possessions, (2) possession disruptions and re-prioritisation, (3) delivery problems from the long welded rail train, and (4) a revised programme to accommodate the work at Ledburn junction.

Sleepers Renewed (M2I)

The total length of track in kilometres where re-sleepering has been carried out.

Results

Table 46 Sleepers Renewed – All Types				
	Actual 2000/01 (km)	Actual 2001/02 (km)	NMS Forecast 2002/03 (km)	Actual 2002/03 (km)
WCRM	122	169	152	137
Non-WCRM				
East Anglia	29	52	50	52
Great Western	40	63	93	131
London North Eastern	40	80	70	76
Midlands	72	74	81	87
North West	109	89	66	70
Scotland	21	41	41	39
Southern	42	67	73	74
Network total	475	636	625	666

Table 47 Concrete Sleepers		
	Actual 2001/02 (km)	Actual 2002/03 (km)
WCRM	169	137
Non-WCRM		
East Anglia	37	25
Great Western	26	58
London North Eastern	20	24
Midlands	15	30
North West	17	17
Scotland	1	2
Southern	62	73
Network total	347	367

Table 48 Timber Sleepers		
	Actual 2001/02 (km)	Actual 2002/03 (km)
WCRM	0	0
Non-WCRM		
East Anglia	0	2
Great Western	0	16
London North Eastern	1	3
Midlands	2	1
North West	11	15
Scotland	0	0
Southern	3	0
Network total	17	37

Table 49 Steel Sleepers		Actual 2001/02	Actual 2002/03
		(km)	(km)
WCRM		0	0
Non-WCRM			
East Anglia		15	25
Great Western		37	57
London North Eastern		59	49
Midlands		57	56
North West		61	38
Scotland		41	37
Southern		2	1
Network total		272	263

Commentary

Overall volume and most regional volumes reported are close to the NMS forecast. Midlands increased volume is attributable to the insertion of the CCRM programme upgrade works. Great Western increased volume is due to the introduction of additional work, particularly steel sleeper renewals. Reasons for the WCRM difference between forecast and actual are: (1) an overstated figure in the NMS that did not properly take account of resource constraints and available possessions, (2) possession disruptions and re-prioritisation, (3) a revised programme to accommodate the work at Ledburn junction, and (4) the impact of the EWS strike.

Ballast Renewed (M22)

The total length of track in kilometres where re-ballasting has been carried out. For the first time we are also reporting data for 3 different types of ballast renewal.

Results

Table 50 Ballast Renewed – All Types				
	Actual 2000/01 (km)	Actual 2001/02 (km)	NMS Forecast 2002/03 (km)	Actual 2002/03 (km)
WCRM	112	90	148	90
Non-WCRM				
East Anglia	35	61	50	52
Great Western	44	80	197	120
London North Eastern	58	100	98	98
Midlands	61	78	89	127
North West	96	82	68	65
Scotland	40	53	43	39
Southern	50	80	79	74
Network total	496	624	775	665

Table 51 Full Ballast Renewal by Excavation		Actual 2002/03 (km)
WCRM		0
Non-WCRM		
East Anglia		24
Great Western		64
London North Eastern		33
Midlands		39
North West		23
Scotland		7
Southern		72
Network total		262

Table 52 Partial Reballast (automatic ballast cleaning)		Actual 2002/03 (km)
WCRM		90
Non-WCRM		
East Anglia		2
Great Western		2
London North Eastern		17
Midlands		32
North West		2
Scotland		1
Southern		1
Network total		147

Table 53 Scarify (Reballast with steel sleeper relay)		Actual 2002/03 (km)
WCRM		0
Non-WCRM		
	East Anglia	25
	Great Western	54
	London North Eastern	48
	Midlands	56
	North West	41
	Scotland	32
	Southern	0
	Network total	256

Commentary

Overall volumes were slightly below NMS forecast. This should be understood in the context that we have in practice used about 90% of UK ballast-to-site production capacity in recent months. Most Regions delivered close to their forecast; the increase in Midlands was principally attributable to the CCRM Programme, and the decrease in GW principally due to NMS over-estimation but also to a switch from concrete sleeper to steel sleeper renewal without the need for additional ballast. Reasons for the WCRM difference between forecast and actual are: (1) an overstated figure in the NMS that did not properly take account of resource constraints and available possessions, (2) possession disruptions and re-prioritisation, (3) a revised programme to accommodate the work at Ledburn junction, and (4) the impact of the EWS strike.

Bridges Renewed (M23)

The total number of bridge spans that have been renewed or undergone major maintenance. The term 'bridge' shall include only over and under bridges, side of line bridges and footbridges.

Results

Table 54		Bridge Renewal		
		Actual 2000/01 (Nr)	Actual 2001/02 (Nr)	Actual 2002/03 (Nr)
WCRM		5	21	24
Non-WCRM				
East Anglia		0	4	5
Great Western		1	9	8
London North Eastern		2	23	31
Midlands		13	24	13
North West		14	11	9
Scotland		6	11	4
Southern		4	22	3
Network total		45	125	97

Commentary

There are distinct regional variations in the type of structural "stock", and in the engineering approach taken to maintain that stock in acceptable condition. This is noticeable in the contrast between LNE which conducts the most "renewals", and East Anglia which pursues work with a strong life-extension bias.

Differences between forecasts and actuals will arise as work assumed to be major is substituted by minor work, or as minor maintenance reveals the need for renewal during more detailed survey and design.

Signalling Renewed (M24)

The total length of track in kilometres where all of the lineside signalling has been renewed. Piecemeal renewals where only part of the existing signalling is renewed is excluded from this measure.

Results

Table 55 Signalling Renewed			
	Actual 2000/01 (km)	Actual 2001/02 (km)	Actual 2002/03 (km)
WCRM	142	0	125
Non-WCRM			
East Anglia	55	60	0
Great Western	1	0	0
London North Eastern	41	6	0
Midlands	5	0	47
North West	1	0	0
Scotland	0	0	0
Southern	95	27	0
Network total	340	93	172

Commentary

The main resignalling projects completed during the year were the Chiltern line and Wellington line (Shrewsbury to Wolverhampton) schemes in Midlands, and the North Staffs scheme as part of the WCRM.

Our reporting against this measure suffers from the very precise definition of work qualifying. We renew a great deal of signalling equipment that cannot be strictly described as “No. single track kilometres of resignalling” and this methodology does not provide a linear relationship with output volume.

We have developed a new measure for “Signalling Equivalent Units” (SEU), that we believe provides a more complete assessment of renewal work and may therefore be a better way of reporting activity in the future.

Our indicative assessment of past volumes by “equivalent SEU” is as follows:

- 2000-2001...1,338 (plus TPWS equivalent effort of 598) Total 1,936
- 2001-2002...1,440 (plus TPWS equivalent effort of 1,485) Total 2,925
- 2002-2003...1,120 (plus TPWS equivalent effort of 1,952) Total 3,072

S&C Renewed (M25)

The total number of switch and crossing (S&C) units that have been renewed. This measure records the number of units installed (i.e. not the number removed and replaced with plain line track). Partial renewals (i.e. of individual components) are excluded.

Results

Table 56 S&C Renewals			
	Actual 2001/02 (Nr)	NMS Forecast 2002/03 (Nr)	Actual 2002/03 (Nr)
WCRM	26	108	50
Non-WCRM			
East Anglia	6	5	0
Great Western	17	42	58
London North Eastern	38	26	20
Midlands	34	48	88
North West	0	2	0
Scotland	0	0	1
Southern	15	66	37
Network total	136	297	254

Commentary

Overall volumes were slightly below NMS forecast. Our S&C volumes, out of all the work types reported on here, are accelerating the most rapidly. Practical resource-related barriers to delivery are starting to be encountered. The year 2002-03 was made more complex for the delivery of S&C by the widespread introduction of UIC60 rails and HPSS points motors as a new standard type, replacing the "113A rail/ HW motor" standard of the last 15 years. The changed geometry and signalling control arrangements were a significant challenge.

The main reasons for the differences between actual and forecast figures are as follows:- in Midlands the difference was due to the CCRM Programme; GW took advantage of a dynamic delivery team to bring work forward; East Anglia deferred work pending the appointment of a new delivery supplier, and Southern delivered their final annual plan accurately - the NMS forecast was over-estimated. Reasons for the WCRM difference between forecast and actual are: (1) Rugby remodelling scheme deferred as part of the SRA strategy, (2) a shortage of signalling source records, (3) design changes, and (4) a shortage of possessions for the slow lines.

Culverts Renewed (M26)

The total number of culverts that have been renewed or where major components have been replaced.

Results

Table 57 Culverts Renewed		Actual 2002/03 (Nr)
WCRM		2
Non-WCRM		
East Anglia		0
Great Western		3
London North Eastern		0
Midlands		24
North West		0
Scotland		13
Southern		7
Network total		49

Commentary

This is a new measure which is reported for the first time in this Annual Return. Enhanced guidance will be given to Regions over the reporting of renewals to multiple-bore culverts carrying a single watercourse.

Retaining Walls Renewed (M27)

The total area in square metres of retaining walls where renewal works have been carried out.

Results

Table 58 Retaining Wall Renewed		Actual 2002/03 (m ²)
WCRM		320
Non-WCRM		
East Anglia		0
Great Western		358
London North Eastern		0
Midlands		0
North West		60
Scotland		390
Southern		80
Network total		1,208

Commentary

This is a new measure that is reported for the first time in this Annual Return.

Section 4 – Network Capability

This section reports data on four measures of network capability:

- Linespeed Capability
- Gauge Capability
- Structures Route Availability
- Electrification

The capability data reported in the 2002 Annual Return was completely re-based in that year, rather than being an increment to the previous year. This re-basing had problems, as each region had its own preferred way of calculating this data, using different sources, and so it was decided that, for 2002/03, Network Rail HQ should calculate this data centrally, using a repeatable process. The consequence of using this new process is that the figures for 2003 have unexplained differences to 2002, as the new process uses different data sources.

It is intended that, during 2003/04, all regions should correct the appropriate databases and the same process will be repeated, with the aim that, at the year end, there will be closer agreement between the HQ calculated figure and the region's own figure. Once the baseline is agreed, the regions will only need to account for the actual changes made in the year.

It is considered that the figures from this new method of calculation are repeatable and thus more reliable. The variability for each measure is calculated by a comparison of each region with the HQ figure, and the aim is to reduce this in 2003/04, thus providing a greater degree of confidence in the totals. The overall variability has been calculated as 2% for 2002/03.

The overall accuracy of the figures is shown in the comparison between the values for line speed and Route Availability. These two values should be exactly equal as all running lines must have both these values allocated – in 2002 the difference was 873 km but for 2003 this has reduced to 359km.

There have been no reported physical changes of any of these four measures in 2002/3.

Regulatory Targets

The regulatory targets for each of the network capability measures is for no overall reduction in functionality during the control period except as agreed through the network change procedure.

Linespeed Capability (C1)

This is a measurement of the length of running track in kilometres in the following speed bands:

- up to 35 miles per hour
- 40-75 miles per hour
- 80-105 miles per hour
- 110-125 miles per hour
- over 125 miles per hour

The measure includes running lines and loops but excludes sidings and depots. Where differential speeds apply to a section of track, the highest linespeed shall be assessed for that section of track.

Results

Table 59 Linespeed Capability	
Speed band (mph)	March 2003 km of track in each speed band
Up to 35	5,289
40 – 75	16,978
80 – 105	7,106
110 – 125	2,393
Over 125	0
Total	31,766

Gauge Capability (C2)

This is a measurement of the length of route in kilometres capable of accepting different freight vehicle types and loads by reference to size (gauge). This measurement is reported against five gauge bands:

- W6, height of vehicle (h)3338mm- width of vehicle (w)2600mm
- W7, (h)3531mm- (w)2438mm
- W8, (h)3618mm- (w)2600mm
- W9, (h)3695mm- (w)2600mm
- W10, (h)3900mm- (w)2500mm

Results

Table 60 Gauge Capability	
Gauge band	March 2003 km of route in each gauge band
W6	16,670
W7	11,291
W8	9,659
W9	2,533
W10	163

Note: A route can have more than one gauge band allocated to it.

Structures Route Availability (C3)

This is a measurement of the length of track in kilometres capable of accepting different loaded vehicle types by reference to the Structures Route Availability (RA) value. There are three RA value bands:

- RA 1-6
- RA 7-9
- RA 10

This measure represents the lesser of the maximum single axle weight or the maximum equivalent load effect of a whole vehicle for underline bridges and structures on a route, specified in the definitive operating publication.

Results

Table 61 Structures Route Availability	
RA bands	March 2003 km of track in each RA band
RA 1-6	2,411
RA 7-9	24,262
RA 10	4,734
Total	31,407

Commentary

Structures Route Availability relates solely on the capability of the network to accept different loaded vehicle types by reference to the RA value. It does not report on permitted traffic flows, which require operating restrictions to permit the passage of traffic heavier than the capability of the structure at the maximum permitted line speed of the route.

Electrification (C4)

This is a measurement of the length of electrified track in kilometres in the following bands:

- Overhead line at 25kV a.c.
- 3rd rail 650/750V d.c.

The measurement includes the length of running track, including loops but excluding sidings and depots. Lengths of track that have more than one type of electrification count towards each of the respective electrification types. In addition, line that is not energised and permanently earthed is not included.

Results

Table 62 Electrification capability	
Type	March 2003 km of electrified track
25 kV a.c. overhead	7,803
3 rd rail 650/750V d.c.	4,496
Total	12,299

Section 5 – Reconciliation for 2002 NMS

This Reconciliation Statement reports upon:

- the extent to which forecasts shown in the 2002 Network Management Statement (NMS) were achieved in the year 2002/03.
- the extent to which the forecasts were not achieved
- reasons for material changes to works forecast in the 2002 NMS.

This section of the Annual Return contains the Reconciliation Statement for 2002/03 works and expenditure, which was forecast in the 2002 NMS.

Existing NMS routes do not generally align with Region boundaries. Our project planning and subsequent project monitoring is carried out on a Region-wide programme basis for track, structures and other renewals and on a project basis for specific projects such as resignalling and enhancements. These projects and programmes do not generally align with the current 45 NMS routes.

In order to present renewal and enhancement data by route in the NMS, it is necessary to apportion forecast expenditure between routes. The process of cutting projects, which were previously a recognised entity, across several routes and then again by asset category, can lead to inaccuracy and some incorrect assignment. Some projects are not appropriate for assignment to individual routes and this leads to Regional totals being greater than the sum of routes. It also contributes to changes between routes and between asset categories during the year.

Following publication of the NMS, work is managed by Regional programmes and projects, and changes to scope, cost, and timescales are recorded on this basis. Reconciling actual expenditure captured by project to forecast expenditure previously presented by route is therefore a very resource-intensive exercise. As can be seen from this Annual Return, a large number of reported changes are as a result of a different re-allocation between routes/asset categories rather than physical changes to scope or cost.

The financial forecasts in this Reconciliation Statement are shown as they were stated in the 2002 NMS, (i.e. 2002/03 prices). The actuals for 2002/03 are shown in cash prices.

Data for 2002/03 on operational performance, condition of certain assets and the volume of renewal activities is reported in other sections of this Annual Return.

With a view to providing greater visibility of delivered expenditure against forecast expenditure, additional reconciliation tables have been produced for the Headquarters/Central, Major Stations and West Coast Route Modernisation business units.

The following explanations are common across the project portfolio and are not repeated in individual tables:

Contingencies/Overlays

References are occasionally made within this section to HQ overlays or contingencies. These are centrally held/applied funds used to align individual business units aims and objectives with those of the Corporate body. In most instances the funding levels are proportionately low in the context of overall expenditure.

TPWS

This programme is managed on a Regional basis but its forecast expenditure was disaggregated by route in the NMS. Re-allocation of TPWS expenditure between routes has occurred because actual expenditure is based on a more fully developed scope of work and was influenced by changes to the programme between routes, in order to optimize delivery of the overall project.

Regional comparisons

The Annual Return provides details of expenditure by region, thus enabling cost and performance comparisons to be made. Any such comparisons should be treated with extreme caution because of the different operating characteristics of each region. These differences include geography, network density, freight tonnage, degree of congestion, length of electrified track and the age of assets.

Network total

Table 63 National expenditure to sustain the network (£m)			
(2002/03 prices)	NMS Forecast	Actual	Variance
Maintenance	1112	1184	72
Renewals			
Track	790	911	121
Signalling	454	564	110
Structures	326	364	38
Electrification	161	144	-17
Plant & Machinery	170	41	-129
Information Technology	127	142	15
Telecoms	249	101	-148
Stations	129	112	-17
Depots	64	30	-34
Lineside Buildings	21	12	-9
Other	2	0	-2
Total renewals	2,493	2,421	-72
Total enhancements	1,493	746	-747

For an explanation of variances, please see individual Regional tables.

The figures for actual renewal expenditure in 2002/03 presented in this Annual Return are slightly different to those in the Regulatory Accounts because the Regulatory Accounting Guidelines require a different treatment in 2 areas as follows: (1) Stations and depots where £35m of renewal expenditure is shown as a RAB addition in the Regulatory Accounts, and (2) £15m for capitalised interest that has been shown within a category for capital financing in the Regulatory Accounts.

East Anglia Region

	NMS Forecast	Actual	Variance
Maintenance expenditure	105	155	50
Renewals			
Track	58	58	0
Signalling	31	60	29
Structures	24	12	-12
Electrification	10	8	-2
Plant & Machinery	6	6	0
Information Technology	3	2	-1
Telecoms	9	6	-3
Stations	10	12	2
Depots	3	2	-1
Lineside Buildings	3	1	-2
Other	0	0	0
Total renewals	157	167	10
Total enhancements	15	19	4

Maintenance: £39m of the variance relates to additional expenditure in Area Track Maintenance (West Anglia £16M, Great Eastern £1m), plus unbudgeted Scrap Clearance initiatives of £12m (HMRI enforcement). The balance is due to the centrally applied overlay.

Signalling: The variance of £29m relates to a centrally applied deliverability cap that was placed on East Anglia's budget at the beginning of 2002/03. It was assumed that due to the severe resource constraints in this area, a sum of circa £31m represented the maximum the Region could deliver in the financial year. However, excellent progress was made with the West Anglia Route Modernisation project, together with additional resource becoming available during the year as the TPWS project began to ramp down, meant that many previously deferred signalling works could now be delivered.

Structures: The variance relates primarily to the formation of Eastern Region (the merger of East Anglia and London North Eastern). The merger resulted in a reallocation of structures resources to London North Eastern Region based on engineering prioritisation.

Electrification: The £2m variance is due to slow progress during the development phase of various projects. Projects in this discipline, along with Telecoms, Plant & Machinery and to some extent Signalling, have suffered due to a lack of a dedicated framework contractor to undertake the development work of these often complex projects. This has been addressed for the 2003/04 financial year, and better progress is expected in these areas.

Telecoms: The £3m variance is due to slow progress during the development phase of various projects (see Electrification – above).

Stations, Depots and Lineside Buildings: The variances of £2m, £1m and £2m respectively are due to accounting reclassifications during the course of the year.

London North Eastern

Table 65 London North Eastern Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	132	136	4
Renewals			
Track	122	103	-19
Signalling	43	44	1
Structures	30	37	7
Electrification	3	1	-2
Plant & Machinery	4	0	-4
Information Technology	0	0	0
Telecoms	23	20	-3
Stations	14	26	12
Depots	6	2	-4
Lineside Buildings	6	0	-6
Other	0	0	0
Total renewals	251	233	-18
Total enhancements	56	62	6

Maintenance: The variance of £4m relates to unbudgeted Scrap Clearance initiatives resulting from an HMRI enforcement order.

Track: The variance of £19m is partially as a result of the need to divert funding to Maintenance to balance a significant overspend on Eastern Region, and partially as a result of resources being transferred to the East Anglia element of Eastern Region during the merger.

Structures: The variance of £7m relates primarily to the formation of Eastern Region (the merger of East Anglia and London North Eastern). The merger resulted in a reallocation of structures resources to London North Eastern Region based on engineering prioritisation. However, there was unbudgeted expenditure of £2m due to the emergency reinstatement of Dutch River Bridge.

Electrification: The full variance of £2m can be accounted for due to a lack of development resource resulting in underspends on numerous projects within the portfolio.

Plant & Machinery: The majority of the £4m variance can be accounted for due to a lack of development resource resulting in underspends on numerous projects within the portfolio, eg Switch Heater Renewal programmes.

Telecoms: The £3m variance relates to slippage of the Concentrator Renewal programme due to FTN requirement and the CIS agreement with GNER was delayed due to Technical workscope issues remaining unresolved.

Stations, Depots and Lineside Buildings: The variances of £12m, £4m and £6m respectively are due to accounting reclassifications during the course of the year.

Enhancements: The variance of £6m comprises: Sunderland Direct re-authorisation due to increased costs against budget counteracted by Neville Hill Depot works slippage to 2003/04.

Great Western

Table 66 Great Western Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	176	181	6
Renewals			
Track	109	108	-1
Signalling	25	28	3
Structures	63	61	0
Electrification	1	0	-1
Plant & Machinery	4	2	-2
Information Technology	0	0	0
Telecoms	8	5	-3
Stations	5	5	0
Depots	14	6	-8
Lineside Buildings	3	2	-1
Other	0	0	0
Total renewals	231	218	-13
Total enhancements	48	49	1

Maintenance: The majority of the £5m variance relates to additional expenditure due to the impact of an HMRI enforcement notice on track defects and higher than expected contract inflation rates.

Signalling: The £3m variance relates primarily to three main projects. A £3m increase in the Reading Remodelling project due to a higher than budgeted contractor claim settlement; a £3m overspend resulting from increased volume delivery of S&C units, off-set by a £3m underspend at Ladbroke Grove due to more efficient possession usage.

Telecoms: The £3m variance comprises a £2m underspend on the Gloucester SPT concentrator renewal due to the re-programming of the works to align to the FTN (Fixed Telecom Network) project, and a £1m deferral of Personal Announcement Improvements works due to the lack of a business case.

Depots: The variance of £8m relates primarily to three projects. £3m underspend at Old Oak Common Depot, delayed due to asbestos found in the roof. £1m underspend at St Philips Marsh depot due to the procurement strategy being reassessed and the scope being further developed. £3m underspend for works at Worcester, Penzance and Plymouth carriage washing machines due to re-prioritisation.

Lineside Buildings: The £1m variance arose due the deferral of a number of small expenditure projects. These have largely been re-scheduled for 2003/04.

Midlands

Table 67 Midlands Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	167	173	6
Renewals			
Track	145	146	1
Signalling	56	53	-3
Structures	33	39	6
Electrification	12	5	-7
Plant & Machinery	2	7	5
Information Technology	0	0	0
Telecoms	13	7	-6
Stations	17	18	1
Depots	6	0	-6
Lineside Buildings	3	3	0
Other	0	0	0
Total renewals	287	278	-9
Total enhancements	87	59	-28

Maintenance: Of the £6m variance, £3m is due to the NMS Forecast figures excluding RPI, £2.5m additional expenditure for Vegetation Management and £0.5m for the WCRM impact on Scada.

Structures: Of the £6m variance, £3m relates to region-wide embankment strengthening, £1.7m due to additional fencing works and £1.3m as a result of additional expenditure on the main structures renewals programme

Electrification: The £7m variance relates to slippage on various programmes of work, the most significant of which are £1.5m 25kv Switchgear Renewals; £1.5m Transformer Rectifier Renewals; £2.5m IMC delivered OLE Renewals on the West Coast Main Line.

Plant & Machinery: £5m variance due to additional expenditure for the repair, renewal and refurbishment of equipment at Amey depots in Banbury, Saltley and Walsall, combined with a re-classification of prior year's Signalling expenditure.

Telecoms: Of the £6m variance, £1.5m is due to slower than expected progress of the Bedford to Moorgate CCTV project and £4.7m relates to an underspend on the region-wide Telephone Concentrator Renewals programme.

Depots: The £6m variance relates to two main areas. The dowry deal for Neville Hill Depot was not completed and therefore £3m has been deferred into 2003/04. Also, £2m originally allocated to the cyclical and reactive depot budget, was spent on stations.

North West

Table 68 North West Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	138	142	4
Renewals			
Track	52	46	-6
Signalling	19	10	-9
Structures	28	27	-1
Electrification	5	1	-4
Plant & Machinery	6	2	-4
Information Technology	0	0	0
Telecoms	4	2	-2
Stations	11	10	-1
Depots	3	2	-1
Lineside Buildings	2	2	0
Other	0	0	0
Total renewals	130	102	-28
Total enhancements	24	15	-9

Maintenance: The £4m variance relates to Test Site A maintenance works incurred on behalf of WCRM. A budget increase to reflect this was processed in January.

Structures: Overall, an underspend of approximately £1 million is shown, over a number of routes and packages with no one significant factor to report

Signalling: Similarly as in 2001/02, a major factor in the regions inability to meet its signalling programme has been the lack of resource across all areas. Specific areas of difficulty have been, the lack of specialist engineering resource e.g. signalling level crossing engineers, the unavailability of source records due to TPWS and WCRM requirements and the single contractor resource. This is reflected across all routes and hence we have not put in individual explanations. Most of the underspend has been rolled into later years delivery when increased internal and external resources will be available to achieve the planned outturn.

Telecoms: The low outturn is mainly due to the TEC wires scheme being placed on hold and the deferral of the Virgin Retail Telecoms Renewals programme.

Track: The variance relates to a centrally held contingency.

Electrification/Plant & Machinery: Major underspend predominately related to the transfer of the 25Kv Substation renewals programme to West Coast and the deferral to next year of the Crewe area H.V. Plant renewal.

Stations: At the time of compiling this report, the Region was still awaiting a detailed expenditure breakdown (in terms of locations) from the Property framework contractor SERCO. In the absence of this information, it has only been possible to identify approximately £4m of the £10m expenditure to specific routes.

Enhancements: The majority of the £9m of the variance is due to TPWS deferral £4m and cancellation of SPAD management packages £3m. Of the £15m actual expenditure in 2002/03, £2m is classified as Region-wide, hence the sum of the route expenditure only amounts to £13m.

Scotland

Table 69 Scotland Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	96	106	10
Renewals			
Track	48	54	6
Signalling	28	32	4
Structures	57	93	36
Electrification	4	2	-2
Plant & Machinery	3	2	-1
Information Technology	0	0	0
Telecoms	8	5	-3
Stations	11	5	-6
Depots	3	2	-1
Lineside Buildings	1	2	1
Other	0	0	0
Total renewals	163	197	34
Total enhancements	19	15	-4

Maintenance: The variance of £10m is primarily due to additional manual grinding carried out for 2002/3 and preparatory work undertaken for Winny in 2003/4. There was also additional spend on backlog for S & T required to remove an HMRI improvement notice.

Track: The variance of £6m relates primarily to the issue of rolling contact fatigue. This resulted in both higher than budgeted expenditure, and also significant variances to the forecasted route expenditure.

The later than anticipated availability of the new high capacity rail grinding train delayed the introduction of a systematic programme of rail grinding on ECML and WCML. This resulted in a higher than planned volume of re-railing as sites deteriorated more quickly into the severe category and required the application of Temporary Speed Restrictions as a control measure.

A lesser, but important, factor was indifferent performance of rail lubrication on these principal routes. Although a considerable increase in RCF rerailing costs was incurred, good targeting of the work ensured that the need for safety controls by application of a TSR were kept to a minimum. This avoided significant disruption to the timetable and out payments to Train Operators

Signalling: The variance of £4m is due to additional funding requirements for the Edinburgh and Mossend Wire Degradation project.

Structures: The variance of £36m can almost wholly be attributed to unforeseen and therefore unbudgeted works at Dolphinstone. The work carried out by Network Rail at Dolphinstone in East Lothian, consists of a permanent 1.8km diversion of the 125mph East Coast Main Line which was completed at Easter 2003.

The £56million, state of the art engineering solution, is designed to bypass a historic mining issue in the area which is criss-crossed by shallow mine workings, some dating back as far as the early 1700s. Site investigations commenced early in 2002 following two instances of subsidence in fields adjacent to the ECML and led to the best solution being the construction of a new piece of railway to by pass the undermined site with work starting on site in the Autumn of 2002 and continuing 24 hours a day culminating in major disruptive possessions in January and April 2003.

Telecoms: The £3m variance relates to the deferral of the Edinburgh Concentrator Phase 2 scheme pending resolution of National Bearer Network project.

Stations: The £6m variance is due to late definition of scope from the relevant Asset Engineer, particularly in respect of Aberdeen and Perth. This has delayed the commencement of these schemes, resulting in a significant underspend of the budget.

Enhancements: The primary variance is that of TPWS (£3m) and a small underspend of circa £0.5m on each of Mossend Wire Degradation and the BP Scottish Project.

Southern

Table 70 Southern Region expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance expenditure	204	226	22
Renewals			
Track	95	91	-4
Signalling	45	60	15
Structures	58	50	-8
Electrification	19	8	-11
Information Technology	0	0	0
Plant & Machinery	1	4	3
Telecoms	9	5	-4
Stations	24	19	-5
Depots	9	7	-2
Lineside Buildings	2	2	0
Other	0	1	1
Total renewals	262	248	-14
Total enhancements	161	84	-77

Maintenance: Of the £22m variance, £12m relates to Regional budget overspends, and £10m relates to budget overspends on all three GM Areas. The £12m Regional overspend constitutes: Safety & Environment Plan £9m, Hand Grinding £2m and Tree Felling £1m. The £10m Area Overspend constitutes: Kent £3m due to higher than budgeted costs for Category A agency staff; Sussex £2m due to higher than budget costs for RCF Hand Grinding (£1m), Pan 8 Inspections (£0.5m) and Freight Haulage (£0.5m); Wessex £5m represents the original bid figure.

Track: The variance relates to a centrally applied contingency.

Signalling: The variance of £15m relates to overspend on the Dorset Coast (£9m) and Horsham (£9m) resignalling schemes. Both these schemes involve the use of novel technology and costs are significantly higher than expected as a result. This was partially offset by some small underspend elsewhere in the signaling portfolio.

Structures: The £8m variance is due to the original budget for earthworks and flood prevention being overstated.

Electrification: The £11m variance relates to a re-categorisation of M&EE (£3m) to Plant & Machinery, together with slow development and delivery of numerous projects within the electrification portfolio.

Plant & Machinery: The £3m variance is due to the re-categorisation of M&EE from electrification.

Telecoms: The £4m variance relates to slippage in the DOO project (£1.6m), an accounting adjustment for the SWT CIS project (£1m) and some minor budget overstatements across various projects.

Stations and Depots: The variances of £5m and £2m for Stations and Depots respectively relate to numerous reclassifications between the two accounting assets on work items undertaken during the year. Additionally, there was some slippage on the SRP works at Wimbledon, Strawberry Hill and Selhurst.

Enhancements: £30m of the variance relates to several projects; CTRL budget overstated and contingency release (£14m), Ashford-Minster slippage (£6m), Two Thirds Rule delays (£4m), Fencing transfers and underspends (£3m).

Other: The balance of the variance relates to a centrally held contingency.

Major Stations

Table 71 Major Stations expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance	8	8	0
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	9	6	-3
Stations	37	15	-22
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	46	21	-25
Total enhancements	45	49	4

Telecoms: The variance relates to the Euston, Kings Cross & Glasgow CIS Renewals delayed implementation authority pending technical Peer reviews.

Stations: The variance primarily relates to an accounting reclassification between renewal and enhancement funding types.

West Coast Route Modernisation

Table 72 West Coast Route Modernisation expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance	15	0	-15
Renewals			
Track	150	298	148
Signalling	203	279	76
Structures	34	44	10
Electrification	106	119	13
Plant & Machinery	0	2	2
Information Technology	0	0	0
Telecoms	41	26	-15
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	-2	-2
Total renewals	534	766	232
Total enhancements	255	180	-75

Maintenance: The full variance is due to a transfer of funding to the Regional delivery teams.

For an explanation of renewal and enhancement variances, please see Route 1.

Headquarters/Central

Table 73 Headquarters/Central expenditure (£m)			
	NMS Forecast	Actual	Variance
Maintenance	70	57	-13
Renewals			
Track	10	9	-1
Signalling	5	-5	-10
Structures	1	0	-1
Electrification	1	0	-1
Plant & Machinery	142	15	-127
Information Technology	124	140	16
Telecoms	127	20	-107
Stations	0	0	0
Depots	20	9	9
Lineside Buildings	0	0	-20
Other	2	0	-2
Total renewals	432	187	-245
Total enhancements	782	215	-567

Maintenance: The variance relates to unused contingency.

Plant & Machinery: The variance of £127m primarily relates to: £23m Box Wagons & Depot Development (technical delays); £24M High Output Renewals (technical delays); £10M Rail Grinding; £13M CSR/NRN Resilience (slower than anticipated authorisation); £6M Wheel Condition Management; £5M National Rail Defect Programme; £21m reclassification of costs to IT.

Information Technology: The variance of £16m is due to an accounting reclassification from Plant & Machinery (£21m), off-set by minor underspends on various projects.

Telecomms: The variance of £107m is almost wholly attributable to delays encountered in rolling out the Fixed Telecomm Network. Specifically, the need for repeated evaluation of both the transmission and route work contracts was responsible for the programme slippage.

Depots and Lineside Buildings: The variance is partly due to an accounting reclassification and partly due to an underspend on forecasted works.

Enhancements: The variance relates to the following projects:

Property: £36m variance due to delays to Spacia related property projects.

MFAS: £76m resulting from delays to implementation works due to continued funding uncertainty.

IOS: £11m resulting from delays to implementation works due to continued funding uncertainty.

TPWS: £9m variance due to unused contingency (to date).

Southern Region Power Supply Upgrade: £98m due to programme delays and funding issues remaining unresolved throughout 2002/03.

Thameslink 2000: £74m due to deferral of implementation works pending outcome of Public Inquiry.

Cat A SPADs £21m, Level Crossings works £38m, Signalling Simulators £6m, Contaminated Land £4m, SMART £2m – all of these projects were subjected to delays due to scope definition issues and/or a lack of contractor resource.

Unallocated Contingency: £119m

Route I – West Coast Main Line: London – Glasgow and Edinburgh

Route I	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	22	19	-3
Signalling	24	16	-8
Structures	2	0	-2
Electrification	11	5	-6
Plant & Machinery	1	0	-1
Information Technology	0	0	0
Telecoms	3	1	-2
Stations	8	10	2
Depots	2	0	-2
Lineside Buildings	1	1	0
Other	0	0	0
Total renewals	74	52	-22
Committed enhancement			
TPWS	1	4	3
Other	1	2	1
Total committed enhancements	2	6	4

Track: The £3m variance is due to the original plan figures being based on an assessment of what re-railing would be necessary on the West Coast Main Line but be delivered by the region rather than the West Coast Route Modernisation team. Due to an overlap of programmed work and a clash of possession requirements the regional spend was reduced by £3m in the year.

Signalling: The £8m variance is due to; Bedford Blethley project delays resulting from changes in which signalling technology to use -£3m, and Slippage of the Willesden Surban project in 2003/4 - £3m

Structures: £2m incorrectly allocated to the West Coast Main Line route in the plan.

Electrification: Of the £6m variance, £3m relates to a reduction in the amount of renewals work undertaken on the overhead line, £1.5m to slippage on the development and delivery of renewals of the 25kv switchgear, £0.5m to slippage of development and delivery of renewals to South Hampstead DC substation rectifier transformer and £0.5m on the structures painting programme. The balance of the variance is on a variety of schemes, all of which have taken longer in development than was originally envisaged. As far as is possible, all the above works have been reprogrammed for the 2003/4 financial year.

Plant & Machinery: all of the £1m variance is due to slippage of development and delivery of renewal works to the voltage regulators and uninterrupted power supplies. These works have been reprogrammed for the 2003/4 financial year.

Telecoms: The £2m variance is due to the Customer Information Systems at Virgin stations project failing to obtain authorisation on business case grounds.

Stations: The full £2m variance is due to completion of the Station Regeneration Programme in 2002/3, originally planned for completion in 2001/2. The 2 stations completed in 2002/3 were Rugby and Harrow & Wealdstone.

Depots: The £2m variance on depot spend was primarily attributable to the rephrasing of Depot works on the West Coast Main Line.

TPW: The £3m variance is as a result of additional West Coast Main Line activity not originally budgeted for.

Other: The £1m variance is due to Silverlink station improvements not in the original plan.

Route 1	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	6	5
Signalling	1	0	-1
Structures	2	2	0
Electrification	4	0	-4
Plant & Machinery	2	0	-2
Information Technology	0	0	0
Telecoms	2	0	-2
Stations	2	1	-1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	15	9	-6
Committed enhancement			
SPAD Management	1	0	-1
Preston Station	1	0	-1
Stockport Station	1	0	-1
Other	1	1	0
Total committed enhancements	4	1	-3

Electrification: Spending for the 25Kv Substation renewals has been transferred to the West Coast Route Modernisation scheme from the regional budget.

Plant & Machinery: An underspend of £2 million which relates to the rollover of the Crewe Area HV Renewals package into 2003/04 as a result of contract and supply derived delays.

Telecoms (Virgin Retail Telecoms Renewals): Underspend due to a re-prioritisation exercise for the 2003/04 business plan, the Virgin Telecoms schemes has been deferred to 2004/05 and hence spend this year has stopped.

Track: The actual spend of £6 million against target of £1 million shows a discrepancy of £5 million. At the time of the business plan submission it was not known where the Rolling Contact Fatigue programme works would be focused. Over £6million from the Region wide budget of approximately £7 million was subsequently spent on this route and when combined with the deferral to 2004/05 of buffer stops of renewal at Piccadilly station while the signalling alliance completes re-correlation, the overspend is reduced by £1 million.

SPAD Management: Works for both categories A and B were deferred.

Stockport Station: Works have been rolled into 2003/04 and enhancement costs at Preston have been recovered. Stockport Station has rolled £207k into next year and financial adjustments from packages in previous years has refunded over £120k.

Route I	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	8	8
Signalling	3	3	0
Structures	1	0	-1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	0	-1
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	5	11	6
Committed enhancement			
TPWS	0	0	0
Total committed enhancements	0	0	0

Track: The variance of £8m is due exclusively to the issue of Rolling Contact Fatigue, resulting in unbudgeted and therefore unplanned expenditure on this route.

Route I	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	4	3	-1
Stations	3	2	-1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	8	5	-2
Committed enhancement			
Euston Masterplan	4	1	-3
Manchester Piccadilly Masterplan	13	16	3
Total committed enhancements	18	17	0

Telecoms: The variance is due to the Manchester CIS project not being included in the original 2002/03 NMS forecast. Euston and Glasgow CIS was budgeted spend, but again, not in the original NMS forecast.

Euston Masterplan: The £3m variance results from a 6 month delay to the Design and Development phase due to funding issues with the SRA, and difficulties in identifying Stakeholder requirements.

Manchester Piccadilly: The £3m variance is due to higher than anticipated expenditure, resulting in the project being re-authorised.

Route 1	West Coast Route Modernisation Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	150	298	148
Signalling	203	279	76
Structures	34	44	10
Electrification	106	119	13
Plant & Machinery	0	2	2
Information Technology	0	0	0
Telecoms	41	26	-15
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	-2	-2
Total renewals	534	766	232
Committed enhancement			
WCRM	239	160	-79
TPWS	16	20	4
Total committed enhancements	255	180	-75

Track: Of the £148m variance, £18m relates to a reclassification of Track spend from enhancements to renewals; £25m is due to the blockade strategy, introduced in the financial year, resulting in significant up-front design and stockpile of materials to support the 2003/04 blockades; £100m due to both the Track Alliance & S&C Alliance budget being set at conservative levels due to the scope uncertainty of the overall programme.

Signalling: The £76m overspend is due to the significant uncertainty around the future deliverables of the WCRM programme at the time of the budget setting. Therefore the budget was set on a conservative basis to reflect this uncertainty. Following the Baseline 3 reviews and scope decisions, there has been a significant ramp-up in the activity levels on the major remodelling/resignalling schemes of Watford/Bletchley, Rugby and Norton Bridge.

Structures: The variance of £10m is primarily due to the significant additional work undertaken by North West Region on embankments in the year. In addition, the delays at the end of 01/02 resulted in a number of key structure renewals schemes slipping into 02/03.

Electrification: The variance of £13m was predominantly due to better progress than planned on the OLE Alliance works in the financial year (£10m) plus advance material purchases and design for the Crewe-Kidsgrove Electrification not planned at the start of the financial year (£3m).

Telecoms: The £15m variance relates to delays in the award of contracts on the telephone concentrator renewals schemes in both Midlands and North West Regions, the planned spend on Warrington/Carlisle concentrator renewal and Trent Valley concentrator renewals has slipped into 2003/04. In addition, the improving market conditions for telecoms equipment resulted in significant improvements against the original budget price.

Enhancements: The £74m variance resulted from the production of the Baseline 3 document, whereby WCRM funding split was reviewed and a revised series of funding percentages applied to the spend and forecast to reflect the changes in scope and timing. This resulted in a £85m movement from enhancement to renewals. This movement was primarily due to the reclassification of Track as all renewal funded (£18m) and the reclassification of signalling remodelling schemes (£65m).

The increase in TPWS is the result of the transfer of central held provisions to the WCML during the financial year.

Route 2 – East Coast Main Line: London – Edinburgh

Route 2	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	36	33	-3
Signalling	18	13	-5
Structures	19	18	-1
Electrification	3	1	-2
Plant & Machinery	2	0	-2
Information Technology	0	0	0
Telecoms	8	3	-5
Stations	7	12	5
Depots	2	1	-1
Lineside Buildings	2	0	-2
Other	0	0	0
Total renewals	97	81	-16
Committed enhancement			
ECML Enabling Works	20	17	-3
TPWS	2	8	6
Other	10	6	-4
Total committed enhancements	32	31	-1

Track: The variance of £3m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Signalling: The variance of £5m is as a result of changes to the level crossing and interlocking renewals programmes during the year. Similar variances can be seen on all other routes, i.e. North East England.

Electrification: the £2m variance is due to various OLE projects (Structure Stabilisation/Wind Resistance) not progressing as quickly as expected. This is partly due to limited engineering resource during the development phase.

Plant & Machinery: The £2m variance relates to an accounting reclassification during the course of the year.

Telecoms: The variance of £5m relates to slippage on the Regional Concentrator Renewals CIS projects.

Stations, Depots and Lineside Buildings: The aggregate variance of £2m is due to an increase in reactive maintenance costs.

ECML Enabling works: The variance of £3m is due to a £2m release of contingency on the Leeds 1st Risk Mitigation project, allied to a £1m saving in TOC Compensation following negotiations.

TPWS: the £6m variance relates to additional signals being fitted following authorisation from the National Team.

Other: the £4m variance comprises: an underspend of £1m on the Class 373/2 project and slower than expected progress on a variety of projects such as SPAD Mitigation and UPS works.

Route 2	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	7	7
Signalling	1	0	-1
Structures	0	44	44
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	0	-1
Stations	0	0	0
Depots	0	1	1
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	2	52	50
Committed enhancement			
TPWS	0	1	1
Other	0	0	0
Total committed enhancements	0	1	1

Track: The variance of £7m is due exclusively to the issue of Rolling Contact Fatigue, resulting in unbudgeted and therefore unplanned expenditure on this route.

Structures: The variance of £44m is wholly attributable to Dolphingstone. See Regional Table for full explanation.

Route 2	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	2	1	-1
Stations	3	1	-2
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	5	2	-3
Committed enhancement			
Other	0	2	2
Total committed enhancements	0	2	2

Telecoms: The £1m variance relates to the Kings Cross CIS project. The Implementation phase has been delayed until the beginning of the 2003/2004 financial year, pending technical Peer review, and subsequent Investment authority from Network Rail Board.

Stations: The £2m variance relates to Edinburgh SRP Phase 3 being reclassified as enhancement expenditure. This accounts for the resulting variance in enhancement expenditure.

Route 3 – Great Western Main Line (Paddington to Bristol and Swansea)

Route 3	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	33	47	14
Signalling	19	22	3
Structures	13	19	6
Electrification	0	0	0
Plant & Machinery	3	2	-1
Information Technology	0	0	0
Telecoms	4	2	-2
Stations	1	2	1
Depots	10	6	-4
Lineside Buildings	1	1	0
Other	0	0	0
Total renewals	85	101	16
Committed enhancement			
Great Western Depot Upgrades	6	6	0
ATP Infill Programme: Bath – Bristol	1	1	0
CRR – FGW New Rolling Stock – Route Clearance	4	0	-4
UPS Cat B SPAD Reduction	1	1	0
Reading IDS Stage 2	2	2	0
TPWS	8	11	3
Other	2	8	6
Total committed enhancements	24	29	5

Track: The £14m variance is as a result of movement in several track related items: £6m increase in S&C due to increased activity and volumes; £10m increase in plain line track due to a mixture of increased activity and volumes and re-prioritisation of the workbank from other parts of the region; £2m underspend in freight haulage due to this being incorporated in the main plain line track contract.

Signalling: The variance of £3m relates to: a £3m increase in the Reading Remodelling project due to a higher than budgeted contractor claim settlement; a £3m overspend resulting from increased volume delivery of S&C units, off-set by a £3m underspend at Ladbroke Grove due to more efficient possession usage.

Structures: The variance of £6m comprises an £8m increase in Earthwork stability due to re-prioritisation of the work-bank from other parts of the region; a £2m underspend on the Old Oak Wheel Lathe project where the costs for undertaking the works came in far higher than expected. The project since has been re-evaluated and re-scoped to a reasonable cost and will commence delivery in year 2003/04. This constitutes the £2m underspend in 2002/03.

Telecoms: The £2m variance reflects underspends of £1m for Bristol Temple Meads SPT concentrator renewals due to a change in scope, and £1m for Personal Announcement Improvements works being withdrawn due to the lack of a business case.

Depots: The £4m variance relates to a £3m underspend at Old Oak Common Depot works delayed due to asbestos being found in the roof, and a £1m underspend at St Philips Marsh depot due to the procurement strategy being reassessed and the scope being further developed.

FGW route clearance works: £4m underspend due to a change in the project scope. It was subsequently found that the Class 180s were to gauge. Therefore, no expenditure required.

Other: Platform 4 at Swindon Station: £5m additional expenditure, funded by the SRA..

CAT A SPADs: £1m increase for the accelerated implementation programme of works.

TPWS: The £3m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 3	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	1	0
Stations	0	1	1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	2	1
Committed enhancement			
Paddington LTVA	12	1	-11
Other	0	0	0
Total committed enhancements	12	1	-11

Paddington LTVA project: This has been delayed pending the signing of a collaboration agreement for implementation with City of Westminster and BAA/HEX.

Route 4 – Reading and Bristol – Penzance and Branches

Route 4	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	23	25	2
Signalling	3	4	1
Structures	16	20	4
Electrification	0	0	0
Plant & Machinery	1	1	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	1	0	-1
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	45	51	6
Committed enhancement			
UPS Cat B SPAD Reduction	2	0	-2
TPWS	4	5	1
Other	0	2	2
Total committed enhancement	6	7	1

Track: The £2m variance is as a result of movement in several track related items: £3m increase in works associated with RCF due to re-prioritisation of the works from other parts of the region; £2m increase in the Regional patch re-sleepering on branch lines programme due to re-prioritisation of the works from other parts of the region; £2m underspend on freight haulage as this was incorporated in the plain line track programme; £1m underspend of track life extension budget due to changes in priorities to accommodate the increase in plain line track activities else where in the region.

Signalling: The variance of £1m represents an overspend relating to the implementation of improved troughing routes associated with TPWS works – this was not funded by the TPWS programme.

Structures: The £4m variance comprises; £3m increase in Earthworks stability due to re-prioritisation of the work bank from other parts of the region; £2m increase for works at Royal Albert Bridge as opportunities arose to accelerate new works and gain efficiencies; £1m underspend for non-track, track drainage works. These works were re-prioritised to other parts of the region.

Enhancements: UPS Cat B SPAD Reduction: £2m underspend as works were reprogrammed to a future date due to higher priority locations elsewhere on the region.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Other: Cat A SPADs: £1m underspend due to lack of signalling contractor resource.

Probus-Burngullow double tracking project: £1m increase due to funding being unexpectedly made available by the SRA.

Route 5 – Midlands Main Line: London Sheffield

Route 5	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	12	8	-4
Signalling	1	0	-1
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	3	1	-2
Stations	0	1	1
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	16	10	-6
Committed enhancements			
Cross Country Routes Upgrade	4	5	1
Other	1	1	0
Total committed enhancement	5	6	1

Track: The variance of £4m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Telecoms: The variance of £2m is due to slippage on Concentrator Renewals and CIS projects.

Cross Country Route Upgrade: Variance of £1m due to additional scope authorised by the Central Sponsor of the project.

Route 5	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	26	27	1
Signalling	4	8	4
Structures	6	8	2
Electrification	1	0	-1
Plant & Machinery	1	2	1
Information Technology	0	0	0
Telecoms	5	4	-1
Stations	4	3	-1
Depots	3	0	-3
Lineside Buildings	1	1	0
Other	0	0	0
Total renewals	50	53	3
Committed enhancements			
TPWS	1	0	-1
Other	0	0	0
Total committed enhancements	1	0	-1

Track: The £1m variance is the Midlands Main Line route element of the regional budget increase during 2002/03 to facilitate the bringing forward of works aimed at prevention and/or mitigation of Rolling Contact Fatigue.

Signalling: The principal elements of the £4m variance are unplanned expenditure on East Midlands re-signalling £2m; Trent Life extension work £1m; Performance Improvement related schemes £1m; TDM renewal at West Hampstead £0.5m and Corby Multiple train Working £0.5m.

Structures: The main element of the £2m variance was on Bridgeguard 3 activity. Works Agreements were put in place with several local authorities post the publication of the plan and items were subsequently been included where it is to the benefit of all concerned. In addition, an element of the regional structures budget increase was allocated to the Midlands Main Line route for both fencing and embankment works.

Electrification: the £1m variance is due to a lack of contractor resource to deliver the MSE Protection Relay Replacement scheme - £0.5m and the Protection Relay Renewals scheme - £0.5m. These have been reprogrammed for the 2003/4 financial year.

Telecoms: the £1m variance is due to slippage on the Bedford to Moorgate Driver Only Operation (CCTV) Scheme which has now been reprogrammed into 2003/4.

Depots: the £3m variance is due to the dowry deal concerning Neville Hill Depot not being concluded in the financial year. The £3m funding has been rolled into 2003/4, with the money being passed to Eastern Region for them to close out the deal.

TPWS NMS forecast £467k actual £210k therefore work not undertaken of £257k

UPS work (forecast £150k) has been deferred into 2003/4.

Route 6 – Channel Tunnel Routes

Route 6	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	28	23	-5
Signalling	3	3	0
Structures	6	13	7
Electrification	4	2	-2
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	2	2	0
Depots	0	3	3
Lineside Buildings	0	0	0
Other	0	1	1
Total renewals	44	47	3
Committed enhancements			
CTRL – Shortlands Grade Separation	39	27	-12
Ashford to Minster AWS	10	5	-5
TPWS	8	9	1
Other	40	40	-40
Total committed enhancements	97	41	-56

Track: The £5m variance relates to an underspend on CTRL associated renewals of £7.4m, offset by additional Freight Haulage £1.1m and an overspend on the Plain Line and S&C programme.

Structures: The variance of £7m is due to: Earthworks overspend of £2.6m primarily due to inclement weather, Crowhurst, Nunhead and Hollingbourne. Overspend on minor new works £1.5m, Headcom £0.6m. Remaining overspend due to route allocation of NMS forecast.

Depots: The variance of £3m is due to an overspend on residual SRP works (e.g. Stewarts Lane).

CTRL: The £12m variance relating to the CTRL project represents an underspend due to significant contingency release following successful commissioning and reduced capitalised interest charges.

Ashford Minster AWS: The £5m variance represents slippage to the Ashford-Minster AWS project.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Other: The variance relates to a centrally held contingency.

Route 6	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	2	1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	2	1
Committed enhancements	0	2	2
Other	0	0	0
Total committed enhancements	0	2	2

Stations: £1m variance is due to overspends on Charing Cross Toilets, London Bridge Glazing, Landlords AMP budgeted spend.

Enhancements: The £2m variance is due to Cannon Street retail enhancements post acquisition of station from Connex, and budgeted small retail enhancements, not in original NMS forecast.

Route 7 – Derby to Didcot and Bristol via Birmingham

Route 7	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	13	14	1
Signalling	1	1	0
Structures	21	8	-13
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	3	1	-2
Stations	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	38	24	-14
Committed enhancements			
TPWS	1	1	0
Cross Country Routes Upgrade	3	7	4
Total committed enhancements	4	8	4

Track: The £1m variance is as a result of movement in several track related items: £6m increase in Plain Line track works due to re-prioritisation and increases in both activity and volumes; £2m underspend relating to works associated with Virgin Cross Country due to a reclassification from renewal to enhancement; £2m reduction for freight haulage costs which were incorporated in the plain line track contract; £1m additional expenditure for the re-prioritisation of patch re-sleeper works on branch lines.

Structures: Of the £13m variance, £12m relates to the re-prioritisation of Earthworks stability works to other areas of the region, and £1m is due to the re-prioritisation of a number of small structures projects along the Cambrian route.

Telecoms: The variance of £2m represents an underspend on the Gloucester SPT concentrator renewal due to the re-programming of the works to align to the FTN (Fixed Telecom Network) project

Enhancements: The £4m variance is an increase in the Virgin Cross Country works due to a £2m transfer from renewal to enhancement for track works, and an increase in the work scope.

Route 7	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	69	70	1
Signalling	4	11	7
Structures	4	4	0
Electrification	0	0	0
Plant & Machinery	0	3	3
Information Technology	0	0	0
Telecoms	2	1	-1
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	80	90	10
Committed enhancements			
Cross Country Routes Upgrade	23	12	-11
Other	2	0	-2
Total committed enhancements	25	12	-13

Track: The £1m variance is the Derby to Didcot and Bristol via Birmingham route element of the regional budget increase during 2002/03 to facilitate the bringing forward of works aimed at prevention and/or mitigation of Rolling Contact Fatigue.

Signalling: The main constituent of the £7m variance is the £8m unplanned work on the Cross Country Route Modernisation project.

Plant & Machinery: the variance of £3m was due to the refurbishment of two depots, at Walsall and Banbury, which were not included in the original plan.

Telecoms: all of the £1m variance is due to the slippage of development and delivery of the scheme to renew the Signal Post Telecom Concentrator at Saltley power signal box. This has now been reprogrammed for 2003/4.

Cross Country Routes Upgrade: The £11m variance is due to a reallocation of actual expenditure relating to the Cross Country Route Modernisation upgrade.

Route 8 – North Trans-Pennine (Main)

Route 8	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	20	5	-15
Signalling	12	1	-11
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	1	0	-1
Information Technology	0	0	0
Telecoms	3	1	-2
Stations	2	5	-3
Depots	4	1	-3
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	44	15	-30
Committed enhancements			
Neville Hill Depot Works	2	0	-2
TPWS	1	1	0
Other	1	0	-1
Total committed enhancements	4	1	-3

Track: The variance of £15m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Signalling: The variance of £11m relates to a change in the route strategy.

Telecoms: The variance of £2m is due to slippage on Concentrator Renewals and CIS projects.

Stations, Depots and Lineside Buildings: The variances of £3m, £3m and £1m respectively are due to accounting reclassifications during the course of the year.

Neville Hill Depot Works: The variance of £2m relates to the Project being deferred until 2003/04.

Route 8	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	2	1
Signalling	2	1	-1
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	5	5	0
Committed enhancements			
TPWS	1	1	0
Other	1	1	0
Total committed enhancements	2	2	0

Track: The increased spend in track renewals relates to RCF works for which the budget was held as region wide and haulage and materials cost increases. These were offset by the delay of completion at Combrook drainage works to next year.

Route 8	Major Stations expenditure (£m)			
		NMS Forecast	Actual	Variance
Renewals				
	Track	0	0	0
	Signalling	0	0	0
	Structures	0	0	0
	Electrification	0	0	0
	Plant & Machinery	0	0	0
	Information Technology	0	0	0
	Telecoms	1	0	-1
	Stations	6	3	-3
	Depots	0	0	0
	Lineside Buildings	0	0	0
	Other	0	0	0
	Total renewals	7	3	-4
Committed enhancements				
	Leeds 1 st	6	6	0
	Other	0	0	0
	Total committed enhancements	6	6	0

Telecoms: The variance of £1m relates to savings against the agreed budget for the Leeds CIS project.

Stations: The variance of £3m is due to the final costs for the Leeds 1st project being lower than budgeted, and £2m of spend authorised as Backlog expenditure.

Route 9 – Birmingham and Coventry to Peterborough

Route 9	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	4	-2
Signalling	4	3	-1
Structures	1	2	1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	12	10	-2
Committed enhancements			
TPWS	1	0	-1
Total committed enhancements	1	0	-1

Track: Of the £2m variance, £1m relates to a centrally applied contingency included within the plan figure. The balance of the variance is due to two possessions being cancelled and the proposed schemes being reprogrammed for the 2003/4 financial year.

Signalling: The £1m variance is due to the slippage of the Glen Parva – Nuneaton re signalling into 2003/4.

Structures: the variance of £1m is due to increased expenditure on Bridgeguard 3 strengthening works that were not included in the original programme for the year.

Route 10 – Crewe to Newport via Shrewsbury

Route 10	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	8	4	-4
Signalling	1	0	-1
Structures	2	3	1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	12	7	-4
Committed enhancements			
TPWS	1	1	0
Total committed enhancements	1	1	0

Track: The £4m variance relates to three main areas: a reprioritisation of the Plain Line workbank during the year (£2m); Freight Haulage costs being incorporated within the Plain Line contract (£1m); a reprioritisation of patch re-sleeping works on branch lines (£1m).

Signalling: The £1m variance is due to the slow progress of the Type Approval process in respect of the novel equipment being used for the fitment of Level Crossing Warning Devices.

Structures: The £1m is due to additional expenditure requirements on Earthworks Stabilisation works along the Cambrian route. This is off-set by underspends on other routes.

Route 10	Midland Region expenditure (£m)			
		NMS Forecast	Actual	Variance
Renewals				
Track		0	0	0
Signalling		0	0	0
Structures		0	0	0
Electrification		0	0	0
Plant & Machinery		0	0	0
Information Technology		0	0	0
Telecoms		0	0	0
Stations		0	0	0
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		0	0	0
Committed enhancements				
Other		0	0	0
Total committed enhancements		0	0	0

Route 10	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	0	0	0
Committed enhancements			
Other	1	0	-1
Total committed enhancements	1	0	-1

Route 11 – Wolverhampton to Chester, Aberystwyth and Pwllheli

Route 11	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	2	2	0
Signalling	0	0	0
Structures	0	1	1
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	1	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	4	4	1
Committed enhancements			
TPWS	0	0	0
Other	0	0	0
Total committed enhancements	0	0	0

Structures: The £1m is due to additional expenditure requirements on Earthworks Stabilisation works along the Cambrian route. This is off-set by underspends on other routes e.g. West Wales.

Route 11	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	2	3	1
Signalling	11	13	2
Structures	2	3	1
Plant & Machinery	0	1	1
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	16	20	5
Committed enhancements			
TPWS	1	0	-1
Other	0	0	0
Total committed enhancements	1	0	-1

Signalling: The £2m variance is the result of a centrally applied efficiency overlay.

Structures: The main element of the £1m variance was on Bridgeguard 3 activity. Works Agreements were put in place with several local authorities post the publication of the plan and items were subsequently been included where it is to the benefit of all concerned. In addition, an element of the regional structures budget increase was allocated to the Wolverhampton to Shrewsbury route for both fencing and embankment works.

Route 11	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	1	0	-1
Structures	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	0	-1
Committed enhancements			
TPWS	0	0	0
Other	0	0	0
Total committed enhancements	0	0	0

Signalling: The variance relates to minor underspends on a variety of projects.

Route 12 – Manchester and Crewe to North Wales

Route 12	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	4	4	0
Signalling	1	1	0
Structures	5	5	0
Plant & Machinery	0	1	1
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	12	12	1
Committed enhancements			
TPWS	2	1	-1
Other	0	0	0
Total committed enhancements	2	1	-1

Plant & Machinery: Funding for point heater renewals as achieved though the reallocation of £450k similarly targeted funding from route 1. Financial adjustment from the previous year and remote condition monitoring, funded though transfer from reallocation of spend for similar works from Route 32.

Telecoms: Approximately £100k has rolled into next year with a late start made on the Llandudno Junction SPT concentrator scheme - contractor resource was focused on signalling schemes.

TPWS: We have spent only £1 million against the target of £2 million with the remainder going into 2003/04 relating to PSRs.

Route 13 – South Trans – Pennine

Route 13	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	15	10	5
Signalling	5	5	0
Structures	2	1	-1
Electrification	0	0	0
Plant & Machinery	1	0	-1
Information Technology	0	0	0
Telecoms	4	3	-1
Stations	1	4	3
Depots	1	0	-1
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	29	23	-6
Committed enhancements			
TPWS	1	1	0
Other	1	1	0
Total committed enhancements	2	2	0

Track: The variance of £5m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Telecoms: The variance of £1m is due to slippage on Concentrator Renewals and CIS projects.

Stations, Depots and Lineside Buildings: The aggregate variance of £2m is due to an increase in reactive maintenance costs.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 13	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	1	0
Signalling	2	1	-1
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	5	4	-1
Committed enhancements			
TPWS	1	1	0
Other	1	0	-1
Total committed enhancements	2	1	-1

Other: Underspend relates to the deferral of SPAD management packages.

Route 14 – Edinburgh to Glasgow and Edinburgh to Aberdeen and Inverness

Route 14 Scotland Region expenditure (£m)		NMS Forecast	Actual	Variance
Renewals				
Track		9	10	1
Signalling		12	17	5
Structures		32	30	-2
Electrification		0	0	0
Plant & Machinery		2	0	-2
Information Technology		0	0	0
Telecoms		4	1	-3
Stations		6	2	-4
Depots		1	1	0
Lineside Buildings		1	1	0
Other		0	0	0
Total renewals		67	62	-5
Committed enhancements				
TPWS		3	3	0
Other		3	3	0
Total committed enhancement		6	6	0

Signalling: The £5m variance relates to overspends on the following projects: Edinburgh Waverley (£4m) and Perth Cable Renewals (£1m).

Structures: The variance of £2m comprises a £1m underspend on Moy Viaduct and the deferrals of various minor schemes to balance the regional overspend at Dolphinstone.

Telecoms: The £3m variance relates to the deferral of the Edinburgh Concentrator Phase 2 scheme pending resolution of National Bearer Network project

Stations: The £4m variance comprises underspends at Aberdeen Station Platforms (£1m) and Perth Station (£2m). This resulted from a delay to the definition of the works scope. There was also a £1m underspend to various Escalators & lifts, again due to scope definition issues.

Route 15 – West Anglia Main Line and Branches

Route 15	East Anglia Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	21	15	-6
Signalling	28	53	25
Structures	6	4	-2
Electrification	7	6	-1
Plant & Machinery	5	5	0
Information Technology	0	1	1
Telecoms	5	5	0
Stations	3	3	0
Depots	0	0	0
Lineside Buildings	0	1	1
Other	0	0	0
Total renewals	75	93	18
Committed enhancements			
SPAD Mitigation	1	0	-1
TPWS	3	4	1
Total committed enhancements	4	4	0

Track: The variance of £6m primarily relates to £5m of forecast expenditure on the West Anglia Route Modernisation Scheme being utilised mainly on signalling.

Signalling: The bulk of the £25m variance relates to the centrally applied deliverability cap (£20m). The balance (£5m) reflects an accounting reclassification between Track and Signalling.

Structures: The variance of £2m was due to an underspend on Bridgeguard 3 works (£1m) and a deferral to 2003/04 of some items within the general structures programme to facilitate the Regional reprioritisation exercise.

SPAD Mitigation: The variance of £1m is due to a lack of contractor signalling design resource.

Route 16 – Great Eastern Main Line and Branches

Route 16	East Anglia Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	24	23	-1
Signalling	1	5	4
Structures	10	5	-5
Electrification	2	1	-1
Plant & Machinery	1	1	0
Information Technology	0	1	1
Telecoms	1	1	0
Stations	4	4	0
Depots	2	1	-1
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	46	42	-4
Committed enhancements			
TPWS	6	9	3
Other	1	2	1
Total committed enhancements	7	11	4

Signalling: Of the £4m variance, £2m is due to an overspend against budget of £2m on performance improvement related schemes. The balance relates to the centrally applied deliverability cap.

Structures: The variance of £5m primarily relates to the deferral to 2003/04 of some items within the general structures programme to facilitate the Regional reprioritisation exercise. There were also efficiencies within the general structures renewals programme of approximately £1.5m.

TPWS: The £3m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 16 Major Stations expenditure (£m)		NMS Forecast	Actual	Variance
Renewals				
Track		0	0	0
Signalling		0	0	0
Structures		0	0	0
Electrification		0	0	0
Plant & Machinery		0	0	0
Information Technology		0	0	0
Telecoms		0	0	0
Stations		0	1	1
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		0	1	1
Committed enhancements				
Liverpool Street		2	3	1
Other		0	0	0
Total committed enhancements		2	3	1

Stations: The £1m variance is minor spend on Liverpool Street Fire Alarms, and Landlords AMP budgeted spend, not included in original NMS forecast.

Route 17 – London, Tilbury and Southend

Route 17	East Anglia Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	10	4
Signalling	0	1	1
Structures	2	1	-1
Electrification	1	1	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	0	-1
Stations	1	3	2
Depots	1	1	0
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	12	17	4
Committed enhancements			
TPWS	1	3	2
Provision of UPS	1	0	-1
Total committed enhancements	2	3	1

Track: The variance of £4m relates to an overspend on the route Renewals Programme £1m (off-set by £1m underspend on GE Main Line) and additional expenditure on RCF related works (£3m).

Stations: The variance of £1m resulted from a rescheduling of the AMP Property Maintenance Programme during the course of the year. These items have been rescheduled for 2003/04.

TPWS: The £2m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Provision of UPS: The variance of £1m is due to a lack of contractor signalling design resource.

Route 17	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	1	0
Committed enhancements			
Fenchurch Street	0	0	0
Other	1	0	-1
Total committed enhancements	1	0	-1

Fenchurch Street: The £1m variance relates to Fenchurch Street's acquisition as a Major Station resulting in delays to the implementation of Retail Enhancements to the station.

Route 18 – Chatham Main Line and North Kent

Route 18	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	7	10	3
Signalling	10	14	4
Structures	9	6	-5
Electrification	4	1	3
Plant & Machinery	0	1	1
Information Technology	0	0	0
Telecoms	0	1	1
Stations	3	3	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	33	36	3
Committed enhancements			
TPWS	6	4	-2
Other	5	1	-4
Total committed enhancements	12	5	-7

Track: The £3m variance is due to the plain line and S&C programmes being revised during the course of the year. This is off-set by overspends on other routes within the Region.

Signalling: The primary variance is due to an overspend on the Hither Green project.

Structures: The £4m variance is due to excessive forecast allocation of drainage and earthworks on this route. However, this is off-set by additional structures related expenditure on the Brighton Main Line.

Electrification: the £2m variance comprises a re-classification of £1m from Electrification to Plant & Machinery (MEE project), combined with multiple project budget overstatements at the beginning of the financial year.

Plant: The £1m variance is due to a re-classification from Electrification to Plant & Machinery (MEE project).

TPWS: The £2m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 19 – Brighton Main Line and South London Network

Route 19	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	27	23	-4
Signalling	7	14	7
Structures	7	15	8
Electrification	3	2	-1
Plant & Machinery	0	1	1
Information Technology	0	0	0
Telecoms	3	2	-1
Stations	3	3	0
Depots	3	1	-2
Lineside Buildings	0	1	1
Other	0	0	0
Total renewals	54	62	8
Committed enhancements			
Fencing	1	0	-1
TPWS	6	6	0
Other	11	3	-8
Total committed enhancements	17	9	-9

Track: The £4m variance is due to the plain line and S&C programmes being revised during the course of the year. This is off-set by overspends on other routes within the Region.

Signalling: The variance of £7m relates to a significant overspend (£10m) on the Horsham re-signalling project, offset by Victoria TDM Renewals underspend (£3m).

Structures: The £8m variance is primarily due to emergency embankment repair/stabilisation works such as Merstham slip. This is off-set by structures related underspends on other routes within the Region.

Other: The variance relates primarily to a centrally held contingency.

Route 19	Major Stations expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	2	1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	2	1
Committed enhancements			
Victoria Masterplan	2	0	-2
Other	0	1	1
Total committed enhancements	2	1	-1

Victoria Masterplan: The £2m variance to the Victoria Masterplan is due to programme delays pending the outcome of the Transport for London Study.

Stations: The £1m variance relates to Landlords AMP budgeted Spend and Victoria Toilets accounting adjustment to reflect authorised spend as renewals, as opposed to enhancements.

Route 20 – South Coastal Route: Portsmouth to Ashford

Route 20	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	2	2	0
Signalling	2	1	-1
Structures	5	3	-2
Electrification	2	1	-1
Plant & Machinery	0	1	1
Information Technology	0	0	0
Telecoms	1	1	0
Stations	9	1	-8
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	22	10	-11
Committed enhancements			
TPWS	1	2	1
Other	1	1	0
Total committed enhancements	2	3	1

Structures: The £2m variance is due to excessive forecast allocation of drainage and earthworks on this route. However, this is off-set by additional structures related expenditure on the Brighton Main Line

Stations: The full variance of £8m is attributable to slippage on the Hastings redevelopment scheme.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 21 – London to Portsmouth and Weymouth

Route 21	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	24	20	-4
Signalling	15	22	7
Structures	11	8	-3
Electrification	3	2	-1
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	3	1	-2
Stations	3	5	2
Depots	4	2	-2
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	62	60	-2
Committed enhancements			
TPWS	7	9	2
Signalling	4	3	-1
Fencing	3	0	-3
Other	12	4	-8
Total committed enhancements	26	17	-9

Track: The variance of £4m relates to changes to the regional track renewals programme during the course of the year (£2m) and lower than budgeted expenditure on RCF related works (£2m).

Signalling: Of the total £7m variance, £10m relates to the Dorset Coast re-signalling project (multiple technical issues), offset by the slippage of Portsmouth, Basingstoke and Brockenhurst projects (£3m).

Structures: The £3m variance is due to excessive forecast allocation of drainage and earthworks on this route. However, this is off-set by additional structures related expenditure on the Brighton Main Line

Telecoms: The £2m variance relates to an accounting adjustment relating to SWT CIS (£1m) and slippage of Critical Control Circuits (£1m).

Depots: The £2m variance is due to some slippage on various projects.

TPWS: The £2m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Fencing: The £3m variance is an accounting re-classification to renewals.

Other: The variance relates primarily to a centrally held contingency.

Route 2 Major Stations expenditure (£m)			
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	1	0
Stations	21	2	-19
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	22	3	-19
Committed enhancements			
TPWS	0	0	0
Other	0	18	18
Total committed enhancements	0	18	18

Stations: The variance relates to the Waterloo Roof project, where £18m was reclassified as enhancement expenditure as opposed to renewals.

Route 22 – Wessex routes

Route 22	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	4	0	-4
Signalling	0	0	0
Structures	1	1	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	6	1	-4
Committed enhancements			
TPWS	0	0	0
Other	0	0	0
Total committed enhancements	0	0	0

Track: The £4m variance relates to three main areas: a reprioritisation of the Plain Line workbank during the year (£2m); Freight Haulage costs being incorporated within the Plain Line contract (£1m); a reprioritisation of patch re-sleeper on branch lines and RCF related works during the year (£1m).

Route 22 Southern Region expenditure (£m)		NMS Forecast	Actual	Variance
Renewals				
Track		3	3	0
Signalling		1	1	0
Structures		8	2	-6
Electrification		1	0	-1
Plant & Machinery		0	1	1
Information Technology		0	0	0
Telecoms		2	0	-2
Stations		3	1	-2
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		19	8	-10
Committed enhancements				
TPWS		1	1	0
Other		2	1	-1
Total committed enhancements		3	2	-1

Structures: Of the £6m variance, £4m is due to excessive forecast allocation of drainage and earthworks. However, this is off-set by additional structures related expenditure on the Brighton Main Line. Additionally, the Minor Work budget underspent by approximately £2m on this route.

Telecoms: The £2m variance relates to an incorrect forecast allocation to this route of £1.8m for the DOO project in Kent and Sussex.

Stations: The variance of £2m is due to incorrect forecast allocation for expenditure on this route.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 23 – Clapham Junction to Reading and branches

Route 23	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	2	10	8
Signalling	5	5	0
Structures	8	4	-4
Electrification	2	1	-1
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	3	3	0
Depots	2	1	-1
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	21	24	3
Committed enhancements			
TPWS	1	2	1
Other	2	4	2
Total committed enhancements	3	6	3

Track: The variance of £8m relates to changes to the regional track renewals programme during the course of the year. This particular route has experienced a higher number of S&C unit renewals than budgeted for.

Structures: The £4m variance is due to excessive forecast allocation of drainage and earthworks. This is off-set by additional structures related expenditure on the Brighton Main Line.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 24 – Isle of Wight: Ryde to Shanklin

Route 24	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	0	0	0
Committed enhancements			
Other	0	0	0
Total committed enhancements	0	0	0

Although works were undertaken and therefore funds expended on this route, only relatively significant expenditure is incorporated in this analysis.

Route 25 – Chiltern Lines

Route 25	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	5	-1
Signalling	0	0	0
Structures	6	10	4
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	13	16	3
Committed enhancements			
TPWS	1	0	-1
Project Evergreen	49	35	-14
Other	3	0	-3
Total committed enhancements	53	35	-18

Structures: The main element of the £4m variance was on Bridgeguard 3 activity. Works Agreements were put in place with several local authorities post the publication of the plan and items were subsequently been included where it is to the benefit of all concerned. In addition, an element of the regional structures budget increase was allocated to the Chiltern Line for both fencing and embankment works.

Project Evergreen: £14m variance is as a result of the project being delivered without the need to utilise the project contingency.

Route 26 – North London Line Routes

Route 26	East Anglia Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	10	4
Signalling	0	1	1
Structures	3	2	-1
Electrification	2	0	-2
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	0	-1
Stations	1	2	1
Depots	0	0	0
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	14	15	1
Committed enhancements			
TPWS	2	1	-1
Other	0	0	0
Total committed enhancements	2	1	-1

Track: The variance of £4m relates to an overspend on the route Renewals Programme. This was deemed necessary as a result of the engineering reprioritisation exercise that was undertaken during the formation of Eastern Region. This facilitated the movement of some funding between London North Eastern and East Anglia.

Electrification: The variance of £2m relates to forecast work on NLL OHL Foundations not proceeding due to the requirement for additional testing to be undertaken on the structures.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 27 – Cotswolds

Route 27	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	7	2	-5
Signalling	0	0	0
Structures	3	4	1
Electrification	0	0	0
Plant & Machinery	0	0	0
Telecoms	1	0	0
Stations	0	0	0
Depots	3	0	-3
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	13	6	-8
Committed enhancements			
TPWS	1	1	0
Total committed enhancements	1	1	0

Track: The £5m variance relates to three main areas: a reprioritisation of the Plain Line workbank during the year (£3m); Freight Haulage costs being incorporated within the Plain Line contract (£1m); a reprioritisation of RCF works during the year (£1m).

Structures: The £1m variance is due to the reprioritisation of the Earthworks workbank during the year.

Depots: The £3m variance primarily relates to the deferral of planned works at Worcester, Penzance and Plymouth carriage washing machines. These works have now been reprogrammed for 2003/04.

Route 28 – Cardiff Valleys

Route 28	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	6	0
Signalling	1	1	0
Structures	2	2	0
Electrification	0	0	0
Plant and Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	1	0
Depots	0	0	0
Lineside buildings	0	0	0
Other	0	0	0
Total renewals	10	10	0
Committed enhancements			
TPWS	1	1	0
Total committed enhancements	1	1	0

Route 29 – West Wales

Route 29	Great Western Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	6	3	-3
Signalling	0	0	0
Structures	2	1	-1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	1	1
Stations	1	0	-1
Depots	0	0	0
Lineside buildings	0	0	0
Other	0	0	0
Total renewals	9	5	-4
Committed enhancements			
TPWS	1	1	0
Other	0	0	0
Total committed enhancements	1	1	0

Track: The £3m variance relates to three main areas: a reprioritisation of the Plain Line workbank during the year (£1m); Freight Haulage costs being incorporated within the Plain Line contract (£1m); a reprioritisation of RCF works during the year (£1m).

Structures: The £1m variance reflects a re-allocation of major maintenance expenditure across other routes within the region.

Telecoms: Increased activity on a variety of small Telecoms schemes accounts for the £1m overspend on budget.

Stations: The £1m variance is due to a re-prioritisation of several stations in West Wales, resulting in a small underspend.

Route 30 – West Midlands local routes

Route 30	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	7	7	0
Signalling	0	0	0
Structures	5	8	3
Electrification	0	0	0
Plant & Machinery	1	1	0
Information Technology	0	0	0
Telecoms	2	1	-1
Stations	1	1	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	16	18	2
Committed enhancements			
TPWS	2	2	0
West Midlands PTE (WCML related)	3	3	0
Total committed enhancements	5	5	0

Structures: The £3m variance was due to additional fencing and embankment works on the West Midlands local routes.

Telecoms: The £1m variance is due to the slippage of development and delivery of the scheme to renew the Signal Post Telecom Concentrator at Walsall power signal box.

West Midlands PTE: The £3m variance relates to the deferment of the West Midlands PTE scheme.

Route 31 – East Midlands local routes

Route 31	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	8	10	2
Signalling	0	05	5
Structures	1	2	-1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	10	15	6
Committed enhancements			
TPWS	1	1	0
AWS	1	1	0
Other	0	0	0
Total committed enhancements	2	2	0

Track: The variance of £2m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Signalling: The variance of £5m is as a result of changes to the level crossing and interlocking renewals programmes during the year. Similar variances can be seen on all other routes.

Route 3 Midlands Region expenditure (£m)		NMS Forecast	Actual	Variance
Renewals				
Track		5	5	0
Signalling		4	2	-2
Structures		1	1	0
Plant & Machinery		0	0	0
Information Technology		0	0	0
Telecoms		0	0	0
Stations		0	0	0
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		10	8	-2
Committed enhancements				
TPWS		1	1	0
Other		0	0	0
Total committed enhancements		1	1	0

Signalling: The £2m variance is due to small underspends on various projects within the portfolio.

Route 3 North West Region expenditure (£m)		NMS Forecast	Actual	Variance
Renewals				
Track		1	1	0
Signalling		0	0	0
Structures		0	0	0
Electrification		0	0	0
Plant & Machinery		0	0	0
Informations Technolgy		0	0	0
Telecoms		0	0	0
Stations		0	0	0
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		1	1	0
Committed enhancements				
Other		0	0	0
Total committed enhancements		0	0	0

Route 32 – Merseyside

Route 32	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	8	6	-2
Signalling	2	1	-1
Structures	4	3	-1
Electrification	1	1	0
Plant & Machinery	1	0	-1
Information Technology	0	0	0
Telecoms	1	1	0
Stations	2	1	-1
Depots	1	1	0
Lineside Buildings	0	1	1
Other	0	0	0
Total renewals	20	15	-5
Committed enhancements			
TPWS	2	1	-1
Other	1	0	-1
Total committed enhancements	3	1	-2

Plant & Machinery: A major overhaul (10 yearly) of pump No1 at George dock was originally expected to take place in 2002/03. A delay in the overhaul of George Dock No2 pump meant that it would be unwise to effect substantial overhaul work to the 'standby' pump too soon after so it was been postponed

Electrification: An underspend of £450k is reports, with the renewals of Motorised switches deferred into 2003/04 pending survey results, some substation asbestos removal works also deferred and the cancellation of the Red Bonding scheme (progressed as OPEX).

Conductor rail work and feeder cable at Shore Road has been achieved under budget.

Stations: Consultation is taking longer than allowed for in the programme for SRP Garswood and completion of the project will be in the next financial year. This accounts for £359k underspend.

An increase in cost to maintain the lift and escalators in the Merseyrail area (cost reported at Regional level and not route), has resulted in reallocation of budget from AMP Merseyrail . This shows an apparent underspend of £336k.

Track: There has been deferral of works associated with Liverpool underground works where the long welded rail delivery train (Putler) has been barred from use by EWS. This decision has now been re-visited by EWS who have brought one unit back into service. Provisions set against potential availabilities for level crossing renewals did not in every instance transpire and there were efficiencies achieved though the reduction in unit rate delivery for Broken Rails.

TPWS: Due to PSRs into 2003/04 we have rolled £300k of work into 2004/05 and also £220k from the cancellation of SPAD management packages.

Route 33 – Manchester to the coast

Route 33	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	10	9	-1
Signalling	5	4	-1
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	2	1	-1
Depots	1	1	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	20	17	-3
Committed enhancements			
TPWS	5	3	-2
Other	2	1	-1
Total committed enhancements	7	4	-3

Signalling: The variance relates to minor underspends on a variety of projects.

Stations: A £552k underspend is reported of which Manchester Victoria represents £226k with the works completed under target, Station AMP - Lancashire Locals where £115 planned expenditure was re-prioritised to other routes and programme slippage on SRP Salford Central of £46k.

Enhancements: £2 million relates to TPWS where, due to PSRs into 2003/04 we have rolled work into 2004/05 and also £1m from the cancellation of SPAD management packages.

Route 34 – Lancashire

Route 34	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	9	9	0
Signalling	2	1	-1
Structures	1	1	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	12	11	-1
Committed enhancements			
TPWS	1	1	0
Other	1	0	-1
Total committed enhancements	2	1	-1

Signalling: The variance relates to minor underspends on a variety of projects.

Other: Underspend predominately resulting from the cancellation of SPAD management packages.

Route 35 – Cumbria

Route 35	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	5	4	-1
Signalling	3	1	-2
Structures	2	2	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	11	7	-3
Committed enhancements			
TPWS	1	1	0
Other	0	0	0
Total committed enhancements	2	1	-1

Track: The variance is due to an underspend caused by close out works and subsequent refund from last years Blockade at Windermere & Southport and also deferral of Broken Rail works to 2004/05.

Signalling: The variance relates to minor underspends on a variety of projects.

TPWS: Overall an underspend of £400k due to shortfall in TPWS caused by PSRs forcing workings into 2004/05.

Route 36 – Yorkshire

Route 36	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	16	17	1
Signalling	7	9	2
Structures	5	11	6
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	3	5	2
Stations	2	3	1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	34	45	12
Committed enhancements			
TPWS	3	1	-2
Other	1	1	0
Total committed enhancements	4	2	-2

Signalling: The variance of £2m is as a result of changes to the level crossing and interlocking renewals programmes during the year. Similar variances can be seen on all other routes.

Structures: The variance of £6m is primarily as a result of additional earthworks undertaken on this route. The additional expenditure was facilitated via the engineering reprioritisation exercise undertaken during the formation of Eastern Region.

Telecoms: The variance of £2m is due to additional expenditure on Concentrator Renewals and CIS projects (off-set by underspends on other routes).

Stations, Depots and Lineside Buildings: The total variance of £1m is due to increase in reactive maintenance costs.

TPWS: The £2m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 36	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	1	0	-1
Structures	6	6	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	7	6	-1
Committed enhancements			
TPWS	1	1	0
Other	0	0	0
Total committed enhancements	1	1	0

Route 37 – North East England

Route 37	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	7	10	3
Signalling	1	11	10
Structures	2	4	2
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	4	6	2
Stations	1	1	0
Depots	0	0	0
Lineside Buildings	1	0	-1
Other	0	0	0
Total renewals	16	32	16
Committed enhancements			
Sunderland Direct	4	15	11
TPWS	3	2	-1
Other	0	0	0
Total committed enhancements	7	17	10

Track: The variance of £3m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Signalling: The variance of £10m is as a result of changes to the level crossing and interlocking renewals programmes during the year. Similar variances can be seen on all other routes, ie ECML.

Sunderland Direct: The £11m variance relates primarily to the requirement to undertake additional works not in the original scope in order to effect successful handback to Maintenance.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 38 – South West Scotland

Route 38	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	3	3	0
Signalling	1	0	-1
Structures	4	8	4
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	1	0	-1
Depots	0	0	0
Lineside Buildings	0	1	1
Other	0	0	0
Total renewals	8	12	3
Committed enhancements			
TPWS	2	0	-2
Other	0	2	2
Total committed enhancements	2	2	0

Signalling: A £1m variance due to worse than expected Wire Degradation.

Structures: The £4m variance resulted from overspends at Portrack Viaduct (£2m) and various Embankments & Cuttings (£2m).

Stations: The £1m variance relates to an underspend on Reactive AMP expenditure on this particular route.

Lineside Buildings: Additional funding of £1m was required due to the poorer than expected condition of Fabric Repairs to Signal Boxes.

TPWS: The £2m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Other: The variance of £2m relates to higher than budgeted costs in fitting AWS between Ayr and Stranraer.

Route 38	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	0	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	0	0	0
Committed enhancements			
TPWS	0	0	0
Other	0	0	0
Total committed enhancements	0	0	0

Route 39 – Strathclyde

Route 39	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	11	11	0
Signalling	7	10	3
Structures	8	4	-4
Electrification	3	2	-1
Plant & Machinery	1	1	0
Information Technology	0	0	0
Telecoms	2	2	0
Stations	2	1	-1
Depots	1	1	0
Lineside Buildings	1	1	0
Other	0	0	0
Total renewals	36	33	-3
Committed enhancements			
Mossend Yard Improvements	1	1	0
TPWS	3	4	1
Other	2	1	1
Total committed enhancements	6	6	0

Signalling: The £3m variance is due to higher than budgeted costs on the Mossend Wire Degradation scheme.

Structures: Of the total £4m variance, £2m is attributable to an underspend on the Minor Works route budget, and the other £2m is attributable to an underspend on 7 embankments and cuttings on the route.

Stations: The £1m variance relates to lower than expected costs at Gourock Station.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 40 – Edinburgh and Fife

Route 40	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	1	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	3	1	0
Committed enhancements			
TPWS	1	0	-1
Other	0	0	0
Total committed enhancements	1	0	-1

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Route 41 – Highlands

Route 41	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	1	0
Signalling	2	2	0
Structures	6	5	-1
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	1	1	0
Stations	0	1	1
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	11	10	0
Committed enhancements			
TPWS	2	1	-1
Other	1	0	-1
Total committed enhancements	3	1	-2

Structures: The £1M variance relates to reallocation of resources to other routes in terms of embankments and cuttings expenditure.

TPWS: The £1m variance relates to revisions to the programme by route during the course of the year. This programme flexibility is required to optimise use of booked possessions.

Other: The £1m variance is due to inactivity on the BP Scottish Project which had forecast expenditure in 2002/03.

Route 42 – Southern England and South Wales Freight

Route 42	East Anglia Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	0	0
Signalling	0	0	0
Structures	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	1	0	-1
Committed enhancements			
TPWS	0	0	0
Total committed enhancements	0	0	0

Route 42		Great Western Region expenditure (£m)		
		NMS Forecast	Actual	Variance
Renewals				
Track		5	5	0
Signalling		0	0	0
Structures		2	2	0
Electrification		0	0	0
Plant & Machinery		0	0	0
Information Technology		0	0	0
Telecoms		0	0	0
Stations		0	0	0
Depots		0	0	0
Lineside Buildings		0	0	0
Other		0	0	0
Total renewals		7	7	0
Committed enhancements				
Barry to Bridgend Route Upgrade		11	2	-9
Other		0	0	0
Total committed enhancements		11	2	-9

Barry to Bridgend Route Upgrade: The variance of £9m relates to an agreement between Network Rail and the Local Authority to suspend works on the Barry to Bridgend Route Upgrade project. The project has subsequently recommenced.

Route 42	Southern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	1	1	0
Signalling	0	0	0
Structures	3	0	-3
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	5	1	-4
Committed enhancements			
TPWS	0	0	0
Other	0	0	0
Total committed enhancements	0	0	0

Structures: The £3m variance is due to excessive forecast allocation of drainage and earthworks. This is off-set by additional structures related expenditure on the Brighton Main Line.

Route 43 – Midlands freight only routes

Route 43	Midlands Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	3	5	2
Signalling	0	0	0
Structures	3	3	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	6	8	2
Committed enhancements			
TPWS	0	0	0
Total committed enhancements	0	0	0

Track: the primary reason for the £2m was a budget increase during the year to bring forward works aimed at prevention and/or mitigation of Rolling Contact Fatigue.

Route 44 – Northern England Freight

Route 44	London North Eastern Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	8	10	2
Signalling	1	0	-1
Structures	1	1	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	1	1
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	10	12	2
Committed enhancements			
Other	0	0	0
Total committed enhancements	0	0	0

Track: The variance of £2m is due to the reallocation of funding between various routes during the course of the year, combined with the transfer of funding to balance overspends on maintenance.

Route 44	North West Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	4	3	-1
Signalling	1	0	-1
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	1	0	-1
Information Technology	0	0	0
Telecoms	0	1	1
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	1	1
Other	0	0	0
Total renewals	8	7	-1
Committed enhancements			
Barry – Bridgeend Route Upgrade	0	0	0
TPWS	0	0	0
Total committed enhancements	0	0	0

Plant & Machinery: Due to delays in the contract for the renewal of the H.V ring main in the Crewe area, majority of scope/ forecast spend was rollover into 2003/04.

Telecoms: Approximately £900k was spent on renewals at Buxton - Great Rocks. Funding made available from HQ following approval at Enhancements Board, additionally monies were transferred following the deferral of Slade Lane TDM Diverse Links.

Route 45 – Scotland freight only routes

Route 45	Scotland Region expenditure (£m)		
	NMS Forecast	Actual	Variance
Renewals			
Track	19	12	-7
Signalling	0	0	0
Structures	2	2	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Information Technology	0	0	0
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
Lineside Buildings	0	0	0
Other	0	0	0
Total renewals	22	14	-7
Committed enhancements			
Other	0	1	1
Total committed enhancements	0	1	1

Track: The £7m variance comprises: a £5m underspend due to Rolling Contact Fatigue expenditure requirements elsewhere on the region, an underspend of £5m on budget re ballast Drops, partially off-set by a £3m overspend on Plain Line renewals.

Enhancements: The £1m variance is due to unplanned and therefore unbudgeted expenditure on the Edinburgh Crossrail project.

Section 6 – Customer Reasonable Requirements

This report summarises progress from 1st April 2002 to 1st April 2003.

CRRs form part of Network Rail's planning process and are reviewed at our Account Management meetings with operators and PTEs. Operators and PTEs can at any time add, or withdraw CRRs and they can use the CRR process to record and track the delivery of their reasonable requirements.

During the year we introduced a centralised planning database of CRRs which is used by all account teams to record new CRRs, track their progress and monitor their delivery. We have also encouraged customers to include CRRs in their 'provision of information' section of Local Output Commitments, to help provide an overarching document and process for recording and monitoring the delivery of future plans and actions.

Key Overall Results

In summary, progress of CRRs during the year shows:

Table 74 Summary of Customer Reasonable Requirements (CRRs)	
Live CRRs at start of year	403
Numbers submitted during the year	44
Numbers completed or withdrawn during the year	-286
Number of live CRRs at 31st March 2003	161

Efforts have continued with operators and PTEs to improve the clarity and robustness of CRRs, and numerous CRRs that were ill defined or were no longer part of operators business plans have either been withdrawn or redefined and resubmitted or, if funding was currently not available, reclassified as 'aspirations'.

In a number of cases, 'account management process' CRRs were withdrawn on the basis that the operators' requirements were being delivered through the provision of information section of Local Output Commitments. Of the 286 CRRs that were classed as completed or withdrawn during the year, 83% were related to account management processes. The remaining 17% were enhancement projects.

The number of new CRRs taken on for Strathclyde Passenger Transport Executive (SPTE) include 11 which were actually taken on during 2001/02 but were not registered until 2002/03, similarly Eurostar include 3 which were actually taken on during 2001/02 but were also not registered until 2002/03.

Successfully completed CRRs during the year included:

- Track Doubling from Aynho to Bicester for freight diversions and increased Chiltern passenger services.
- Route Clearance of new First Great Western Rolling Stock, Class 180s Adelante Trains.
- New Depot at Old Oak Common to accommodate Class 180s Adelante Trains.
- Leeds/Neville Hill to Doncaster Route Clearances.
- Station Enhanced Waiting Facilities Sheffield Platforms 2/5.
- Signalling Enhancements – Provision of flashing aspects at West Hampstead South Junction.
- New Standard Class Lounge on Concourse at Manchester Piccadilly Station.
- Provision of Multi Storey Car Park at Manchester Piccadilly Station.
- Witham Station Footbridge Extension.
- Provision of Lifts on Footbridge at Runcorn Station.
- Car Park Extensions at Kilmarnock and Kilwinning.
- Customer Information Systems (CIS) improvements at Market Harborough, Kettering, Wellingborough, Derby and Leicester.
- Improved station facilities at Guiseley and Bristol Parkway.

The majority of the 102 Enhancement CRRs in place at the end of 2002/03 are expected to be completed during 2003/04, although there are a number of schemes not expected to be completed until the following year.

Table 75 Customer Reasonable Requirements (CRRs) by customer

Customer or Funder	Totals			Breakdown of Live CRRs by category			
	Number of live CRRs (April 02)	No. withdrawn / completed during the year	No. Submitted during the year	Number of live CRRs (April 03)	Enhancement	Process	Agreement not reached
Anglia	3	0	0	3	3	0	0
Arriva Merseyside	3	0	0	3	2	1	0
Arriva Northern	4	4	0	0	0	0	0
ATOC	1	0	0	1	1	0	0
C2C	4	0	1	5	5	0	0
Central Trains	19	7	0	12	10	2	0
Centro	3	1	0	2	2	0	0
Chiltern Railway	19	19	2	2	2	0	0
Connex	25	11	2	16	0	16	0
DRS	10	5	0	5	0	5	0
Eurostar	6	0	5	11	0	11	0
EWS Freight	47	46	1	2	2	0	0
EWS Passenger	2	1	0	1	0	1	0
First Great Eastern	6	6	0	0	0	0	0
First Great Western	11	11	0	0	0	0	0
First North Western	9	9	0	0	0	0	0
Freightliner	2	2	0	0	0	0	0
Gatwick Express	9	8	1	2	0	2	0
GMPT	8	1	0	7	7	0	0
GNER	16	7	0	9	9	0	0
Heathrow Express	18	11	0	7	0	7	0
Hull Trains	1	1	0	0	0	0	0
Island Line	3	3	0	0	0	0	0
LUL – Bakerloo Line	0	0	0	0	0	0	0
LUL – District Line	0	0	0	0	0	0	0
Merseytravel	6	1	0	5	5	0	0
Midland Mainline	12	9	1	4	4	0	0
NEXUS	1	0	0	1	1	0	0
ScotRail	5	6	1	0	0	0	0
Silverlink	11	10	1	2	2	0	0
South Central	3	0	0	3	3	0	0
South West Trains	4	0	2	6	4	2	0
SPTE	10	13	23	20	16	4	0
SYPT	1	0	0	1	1	0	0
Thames Trains	61	50	3	14	6	8	0
Thameslink	18	11	0	7	7	0	0
Virgin Cross Country	0	0	0	0	0	0	0
Virgin West Coast	16	13	0	3	3	0	0
WAGN	14	14	0	0	0	0	0
Wales & Borders	9	5	1	5	5	0	0
Wessex	0	0	0	0	0	0	0
West Coast Railway	2	1	0	1	1	0	0
WYPT	1	0	0	1	1	0	0
TOTAL	403	286	44	161	102	59	0
Percentage of total				100%	63%	37%	0%

Glossary of Terms

AC	Alternating current
Action Plans	Programme of highly focused improvement plans by which Network Rail will deliver the corporate goals
AHB	Level crossing protected by automatic half-barrier
Alliance	Close working arrangement between Network Rail and one or more of its contractors
Amey	Infrastructure maintenance contractor
AMP	Asset Maintenance Plan
Annual Return	The report which Network Rail is required to submit to the Regulator
ATOC	Association of Train Operating Companies
ATP	Advanced Train Protection
AWS	Automatic Warning System
BAA	British Airports Authority, owner and operator of a number of airports in Great Britain
Blockade	Extended possession of a section of line which may enable works to be carried out in a more efficient manner
Cat A SPAD	A SPAD where a stop aspect was correctly displayed in time for the train to stop safely at the signal
CCRM	Cross Country Route Modernisation, scheme to create extra capacity and enhancement
CCTV	Closed-circuit television
CIS	Customer information system
Class 180	New 125mph diesel multiple unit rolling stock used by First Great Western
Class 373/2	Eurostar train sets
Concentrator	Telecommunications equipment connecting and controlling lineside telephones
Connex	Connex South Eastern (part of the Vivendi Group)
Control Period (CP)	The period (normally five years) for which the Rail Regulator fixes our access income from franchised passenger train operators

Crossing	The component of a turnout that enables a train wheel to complete the transfer from one line to another. It is this unit which enables the wheel to cross the original line being traversed
CRR	Customer Reasonable Requirement
CSR	Cab Secure Radio
CTRL	Channel Tunnel Rail Link
Culvert	Small bridge or pipe crossing under the railway track for the passage of watercourses
Cyclic Budget	Budget set aside for planned renewals
DC	Direct current
DOO	Driver Only Operation
DRS	Direct Rail Services
DTLR	Department of Transport, Local Government and the Regions
Earthworks	Embankments and cuttings
ECML	East Coast Main Line
Enhancement	Project that results in additional outputs from the infrastructure
ESR	Emergency Speed Restriction
Evergreen (Project)	Project to install a second line on single line sections of track
EWS	English Welsh & Scottish Railway
Freight Haulage	Operation/cost of bringing track renewal materials to site
FGW	First Great Western
FRAME	Fault Reporting And Monitoring of Equipment
FS	Feeder Station
FTN	Fixed Telecom Network
Funders	Authorities and agencies which provide funding to secure rail services
Gauge	Distance between the inner running faces of two rails or the 'envelope' through which train profiles must fit
GCC	Gauge Corner Cracking, now renamed Rolling Contact Fatigue (RCF)
GE	Great Eastern
GMPT	Greater Manchester Passenger Transport Executive
GNER	Great North Eastern Railway

Grinding	Reprofiling of the rail head to remove defects and extend the life of the rail
HEX	Heathrow Express
High Output renewal	Track renewals using the latest specialist equipment that enhances productivity eg Track Relaying Machine, and High Output Ballast Cleaner
HMRI	Her Majesty's Rail Inspectorate
HV	High Voltage
IECC	Integrated Electronic Control Centre
IMC	Infrastructure Maintenance Contractor
IMC2	Second generation maintenance contract
IMC2000	Third generation maintenance contract
Interlockings	Mechanical, electrical or electronic. These execute the safety logic to reduce the risk of error when controlling points and signals.
IOS	Incremental Output Statement
IT	Information Technology
kV	Kilovolt (= 1,000 volts)
L2	See Level 2 Exceedences
LC	Level crossing
Leaf Fall	Refers to the period in autumn where leaves fall on the track requiring measures to assure adhesion
Leeds First	Project to regenerate the Leeds Station area
Level 2 Exceedence	A measure of track geometry indicating isolated deviations from Standards
LMD	Light Maintenance Depot
LNE Region	London North Eastern Region
Loop	A facility to allow a train to stop and be overtaken by a faster train
LTVA	Long Term Vehicular Access project at Paddington Station
LUL	London Underground Limited
M&EE	Mechanical and Electrical Engineering
Maintenance	Periodic work to uphold the reliability and safety of assets
Masterplan	The plans for the development of each of the major stations – those stations that are operated by Railtrack

MFAS	Modern Facilities at Stations project
MSE	Midland Suburban Electrification
National Bearer Network	Network providing telecommunication circuits
NLL	North London Line
NMS	Network Management Statement
NR	Network Rail (Infrastructure Limited)
NRN	National Radio Network
OHL	Overhead line
OLE	Overhead line equipment
Opex	Operational expenditure
ORR	Office of the Rail Regulator
Pan 8	Older type of fixing that secures rail to sleepers
Patch Resleepering	Replacement of an average of less than 1 in 3 sleepers under maintenance
Peer Review	HQ review of regional plans
Periodic Review	The process by which the Regulator establishes Railtrack's revenue requirements for a quinquennium
PFI	Action Plan established to address train performance improvement
PfPI	Process for Performance Improvement
Possession	The closure of a line to allow engineering works
PSB	Power signal box
PSR	Permanent Speed Restriction
PTE	Passenger Transport Executive
PTI 2000	Public Transport Information 2000
PUG	Passenger Upgrade
RA	Route availability: RA1–6 up to 20.3 tonnes; RA7–9 up to 23.4 tonnes; RA10 up to 25.4 tonnes
RAB	Regulatory Asset Base
RCF	Rolling Contact Fatigue
Reactive Budget	Budget set aside for urgent/emergency works not previously identified
Regulatory Accounts	Annual financial information provided to ORR
Renewal	Like for like replacement of an asset

Rules of the Route	Agreement between Railtrack and train operators as to when lines can be temporarily closed for maintenance and renewal work
Running Lines	Lines used for running services, not sidings
S&C	Switches & Crossings. Component units that make up points or a turnout
S&T	Signalling and Telecommunications
SAMP	Signalling Asset Maintenance Plan
SCMI	Structures Condition Monitoring Index
Scrap Clearance	Initiative to remove maintenance/renewals scrap material from the lineside
SD	Standard Deviation
SEC	Structures Examination Contract
SERCO	Infrastructure maintainer for East Midlands contract area
SEU	Signalling Equivalent Units
SICA	Signalling Infrastructure Condition Assessment
Silverlink	Passenger operator providing high-intensity commuter services from London Euston over the southern end of the WCML
Spacia	Property letting company owned by Network Rail
SMART	Scheme to provide information on train running
SPT	Signal Post Telephone
SPAD	Signal Passed At Danger
SRA	Strategic Rail Authority
SRP	Station Regeneration Programme
Stakeholder	Those who have a vested interest in the company and the service it provides
Sunderland Direct	Extension of Tyne & Wear metro system to Sunderland and South Hylton
Switchgear	Equipment used to control the supply of power to electrified railways
Switch Heater	Device to avoid point ends freezing together in cold weather
SWT	South West Trains
SYLTE	South Yorkshire Passenger Transport Executive
TDM	Train Describer Modules found on the panels within some signal boxes

Tension Length	Discrete run of overhead catenary wire
TfL	Transport for London
Thameslink 2000	Project by which existing north-south cross London Thameslink route is modernized
Third Rail	Carries power to electrified trains for direct current electrified railway systems
TOC	Train Operating Company
TPWS	Train Protection Warning System
TPWS+	TPWS functionality at higher speed
Track circuit	An electrical device using the rails in an electrical circuit, which detects the presence of trains on a defined section of line
Transformer Rectifier	Equipment to convert Area Board electricity to 600/750V direct current electricity for use by third rail systems
Troughing	Protective runs in which power, signaling and telecom cables are placed
TSP	Track Sectioning Point
TSR	Temporary speed restriction
Turnback	A facility allowing trains to reverse their direction
Type Approval	Process of gaining approval to operate new type of equipment or infrastructure on the rail network
UK	United Kingdom
UPS	Uninterruptible Power Supply
Virgin	Main line passenger operator for WCML and Cross Country route
Voltage Regulator	Equipment used to maintain voltage within specified limits
W10w	This gauge was previously known as 9'6" refrigerated container gauge. It is now called W12.
W11	The gauge capable of handling 4m-high lorry trailers on rail wagons. This gauge is now known as W18
W12	Freight gauge formerly known as W10W
W18	The gauge formerly known as W11
W6A	Loading gauge for standard freight vehicles
W7	Previously called WG8 8' container gauge
W8	Previously 8'6" container gauge

W9	Previously SBlc gauge
W10	Previously 9'6" container gauge
WAGN	West Anglia & Great Northern Railway
WCML	West Coast Main Line
WCRM	West Coast Route Modernisation, scheme for modernisation of the WCML
WON	Weekly Operating Notice