

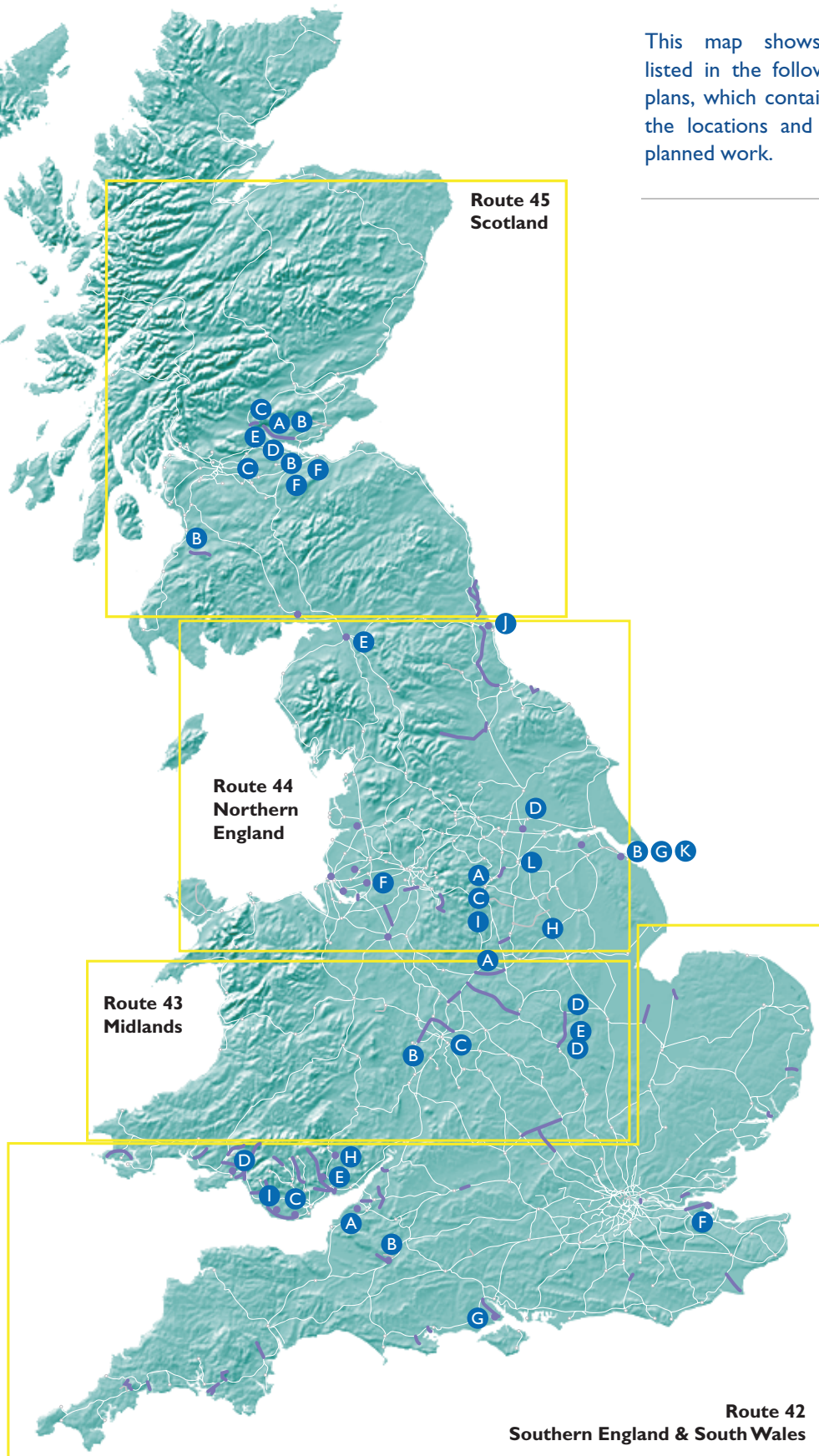
# Section 3

## Freight-Only Routes

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# Map of Freight-Only Routes

This map shows projects listed in the following route plans, which contain a key to the locations and detail the planned work.



## Route 42: Southern England & South Wales

This geographically dispersed group of routes conveys predominantly freight trains. Linespeeds are low, generally 20mph to 40mph.

Our key customers who run over part or all of these routes include English Welsh and Scottish Railway (EWS) the freight operating company, Freightliner Ltd, Freightliner Heavyhaul, GB Railfreight and Direct Rail Services.

<b>Route 42: Route capability</b>	
<b>Linespeeds (km of track)</b>	
Up to 35mph	504
40 to 75mph	190
<b>Gauge (km of route)</b>	
W6A	534
W7	480
W8	319
W9	11
W10	11
<b>Axle Weight (km of track)   km too many here</b>	
Up to 20.3 tonnes	36
20.4 tonnes – 24.1 tonnes	248
24.2 tonnes – 25.4 tonnes	411
<b>Total km of track</b>	<b>694</b>
<b>Total km of route</b>	<b>534</b>

### Key route issues & solutions

The majority of issues on the various freight lines covered in this route plan relate to customer or third party aspirations for new freight facilities or capacity enhancements to existing sidings and connections and the interaction that these may have with the other parts of the network

### Operations, capacity & performance

A new scrap metal facility has been developed at Plymouth Cattewater with the aid of a Freight Facilities Grant. The facility opened in late Autumn 2002 with a traffic flow to Cardiff.

Following the opening of the line to Royal Portbury Docks in late 2001 we are pleased to see that the transportation of imported cars by rail has been secured during the course of 2002.

A new aggregates terminal opened in 2002 on the Colnbrook Branch to supply west London markets. Foster Yeoman carried out the connection works with Network Rail acting as supervising engineer. The work was completed on time and on budget. We are also working closely with British Airports Authority PLC (BAA) to provide the facilities necessary to handle up to 3 million tonnes of construction material for the Heathrow Terminal 5 project. The works are expected to be completed in spring 2003. The opening of these two new facilities on this branch line will require the introduction of some new operating instructions and these will be developed jointly with the FOCs and terminal operators.

Dibden Bay – Network Rail is continuing to work with ABP PLC in developing the works associated with the proposed container port development at Southampton.

Felixstowe container port, owned by Hutchinson Whampoa, continues to develop additional demands for containerised rail freight services. In the past year new services have been developed for a number of freight operating companies utilising recent capacity improvements on the branch.

Work is proceeding on assessments to various network enhancements required for freight. Key among these is the Felixstowe - Nuneaton route. The SRA has received the first feasibility report from Network Rail for gauge clearance to W10 and W12 from Felixstowe to the West Coast Mainline via both London and Peterborough. Network Rail and the SRA have begun planning physical works to W10 gauge along the route from Felixstowe to the West Coast Mainline via Ipswich Tunnel, Stratford, the North London line and Primrose Hill. These works will also open up the route from Tilbury and North Thameside, via Forest Gate and Stratford, to the W10 network. The SRA have indicated in their Strategic Plan that implementation is likely to start in 2003.

Additional traffic on the network is being generated by the construction of CTRL phase 2. Spoil traffic will be moved by rail from Kings Cross to Calvert. It is expected that this traffic will commence in 2003.

A new flow of household waste is expected to commence operation this year between Barking and Calvert. This will result in one train per day in each direction.

We are working with the owners of the Shellhaven site to assess the impact that the development of this facility as a new deep water port will have on the remainder of the network.

Freight traffic from Ebbw Vale ceased in the summer of 2002, the line remains open for one train a week conveying scrap as demolition of the steelworks progresses. The aspiration of TIGER (Transport Integration in the Gwent Economic Region) is for passenger services from Ebbw Vale to Cardiff & Newport. Capital funding has been identified from the Welsh Assembly Government (WAG) and the Corus Regeneration Fund for a passenger reopening scheme. A formal agreement has yet to be agreed with TIGER on how development and implementation might be undertaken though discussions are ongoing concerning this and possible future freight developments.

The route between Barry and Bridgend is planned to be upgraded to a passenger line serving two new stations at Rhoose and Llantwit Major. The funding implementation agreement between Network Rail and WAG is expected to be in place during the course of this year. Passenger services could then be expected to be operating during the latter part of 2004.

## Engineering access

Engineering access on freight routes is always undertaken with the minimum of disruption and wherever possible is planned to coincide with any planned plant shutdowns. Currently there are only two planned significant blockages over 2 days long on the freight routes.

Within the Margam area there is a planned 1 week closure of a route to undertake track renewals. The work is due to take place in November 2003 and an alternative route will be made available for freight train services.

In the west of England the Heathfield branch will be shut for 80 hrs in January 2004 to undertake heavy maintenance.

Possession requirements in connection with the Felixstowe to Nuneaton upgrade have yet to be finalised though it is expected to include a blockade of Ipswich Tunnel to undertake the gauge clearance works.

Possession requirements in connection with the renewal of Port Talbot Panel signal box have yet to be formulated. Once outline plans are available we will enter into discussions with EWS and Corus.

## Track

S&C at Kemick on the Comish china clay services network will be renewed during 2004/05.

S&C on the mainline connecting the Merehead quarry line will be renewed during 2003.

For Plain Line we plan to sustain the routes by undertaking like for like renewals, based on condition monitoring.

## Structures

We intend to continue work to ensure that structures and tunnels are fit for purpose.

Earthworks: The recent and continuing trend towards wetter winters and drier summers can have an adverse effect on cuttings and embankments, leading to an increase in the risk of landslides and subsidence. We are undertaking a major programme of site evaluation and a phased programme of works to reduce these risks.

A bridge renewal in the Tondu area (South Wales) will be undertaken in June 2003.

Repair work and scour protection works will be undertaken to Bassaleg viaduct on the Machen Quarry branch in South Wales.

Repair work to Llangyfelach tunnel and aqueduct in South Wales are planned for 2004/05 and 2005/06.

## Signalling

There are no planned signalling renewals in the next 3 years. From 2006 onwards most of the Great Western Region panel signal boxes will need renewal and where possible feasibility studies will be undertaken to incorporate signalling on freight lines currently not within the panel signal box area.

Aberthaw signal box in South Wales will be rewired in 2004-06.

Port Talbot signal box is planned to be renewed during 2005/06 and it is planned that this will incorporate some proposed signalling and track alterations on the freight lines in the Margam area.

Level crossing renewals are planned on the Isle of Grain and Fawley Branches.

The resignalling of Basingstoke panel in the second half of the decade will require some signalling interface works on the Andover to Lurgershall branch.

## Electrification & plant

We will continue our programme of routine maintenance, which includes renewals and installation of Hot Axle Box Detectors, Wheelchex, Point Heaters and a phased programme of power distribution renewals.

## Telecoms

We plan to continue routine maintenance of the telecoms network, with condition based replacements as required under part of our continuing programme of Signal Post Telephone (SPT) concentrator replacement.

## Planned projects summary & diagram key

The table below shows key 2003/04–2005/06 projects planned for the route. The types of work are:

- R: Renewal.
- A: Enhancement schemes, where an implementation and funding agreement has been concluded with the SRA or others.
- B: Enhancement schemes, where a funding agreement for the development phase only has been concluded with the SRA or others.
- C: Safety enhancement schemes, for which a funding agreement may not have yet been concluded.
- D: Other enhancement schemes, for which no agreement or commitment has yet been concluded. These are included on the basis that they are likely to proceed during the period of time covered by the Plan.

Large items of maintenance work may be shown (M), but routine maintenance is not. For enhancements, the current development level is shown, based on the project development matrix in appendix I.

<b>Route 42: Planned projects summary &amp; diagram key</b>			
Diag. Ref.	Project description	Type of work	Dev. Level
A	2003/04: Major track renewals are planned on the Avonmouth line, to ensure right time presentation of trains joining the mixed traffic network at Stoke Gifford Junction.	R	
B	2002/03/04: We are planning S&C reballasting at East Somerset Junction and at locations along the branch.	R	
C	2003/04 & 2004/05 Rewire Aberthaw Signalbox	R	
D	2004/05 & 2005/06 Repairs to Llangyfelach Tunnel	R	
E	2003/04 & 2004/05 Repairs to Bassaleg Viaduct and scour protection	R	
F	2003/04 Level crossing renewal on the Grain Branch	R	
G	2003/04 Level crossing renewal on the Fawley Branch	R	
H	2003/04 to 2005/06 Upgrade works to the Ebbw Valley railway	D	I
I	2003/04 & 2004/05 Upgrade works to the Barry to Bridgend line	B	4

## Forecast expenditure on this route

<b>Route 42: Forecast expenditure (Eastern Region)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	6	9	0
Structures	1	1	0
<b>Total Renewals</b>	<b>8</b>	<b>11</b>	<b>0</b>

<b>Route 42: Forecast expenditure (Great Western)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	3	2	3
Structures	2	3	2
Signalling	0	1	1
Telecoms	0	0	0
Stations	0	0	0
Depots	0	0	0
<b>Total Renewals</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>Enhancements committed to implementation</b>			
Barry - Bridgend (VOG) Route Upgrade	9	3	0
<b>Total Enhancements committed to implementation</b>	<b>9</b>	<b>3</b>	<b>0</b>

<b>Route 42: Forecast expenditure (Southern)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	0	0	0
Structures	1	2	1
Signalling	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
<b>Total Renewals</b>	<b>2</b>	<b>3</b>	<b>1</b>

<b>Route 42: Forecast activity volumes</b>			
	2003/04	2004/05	2005/06
Rail renewal (km per year)	12.7	15.4	6.2
Sleeper renewal (km per year)	13.4	14.6	6.9
Ballast renewal (km per year)	9.6	11.2	6.8
S&C renewal (units per year)	1	2	4

## Route 43: Midlands freight-only routes

This geographically dispersed group of routes convey freight trains and provide diversionary routes for passenger services throughout Midlands Zone. There are two distinct categories of lines: main arterial routes and branches.

The main arterial routes include Sutton Park line, Kettering to Manton Junction, Sheet Stores to Stenson Junction, Saint Andrews Junction to Lawley Street and Knighton Junction to Burton Leicester Junction. Linespeeds are predominately 40mph to 75mph. The routes are supplemented by numerous facilities, including branch lines, which are predominately single track. A number of private sidings exist alongside the routes.

As part of the West Midlands Strategy a number of issues have arisen, affecting route 43, particularly relevant to the Sutton Park line and the St Andrews Junction to Lawley Street sections. For information on these issues and for an overview of the effects of the economic growth on this route, please see the comprehensive statement on West Midlands Strategy on page 30 of section 1.

The main operators on route 43 are English Welsh & Scottish (EWS), Freightliner and GB Railfreight.

<b>Route 43: Route capability</b>	
<b>Linespeeds (km of track)</b>	
Up to 35mph	24
40 to 75mph	181
<b>Gauge (km of route)</b>	
W6A	199
W7	68
W8	42
W9	21
<b>Axle Weight (km of track)</b>	
24.2 tonnes - 25.4 tonnes	205
<b>Total km of track</b>	<b>205</b>
<b>Total km of route</b>	<b>199</b>

<b>Route 43: Potential route capability changes</b>			
Measure	Year of change	New value	Reason & commitment level
<b>Gauge (km of route)</b>			
W10	2005	20	EA - Southampton to West Coast Gauge enhancement 1 April 2003

## Key route issues & solutions

### Operations, capacity & performance

The key issue affecting the operation and performance of this route is the significant number of ongoing TSRs on particular sections (see track section below for more details).

Increased freight traffic has raised potential capacity problems on the single line between Knighton Junction to Burton Leicester Junction. Although there are no plans at present to provide increased signalling capacity over this route section, progressive reduction of once extensive speed restrictions on this important section of the route has helped to ease the capacity problem.

Network Rail and the Strategic Rail Authority have identified a need to carry out feasibility work (2002/03) on the Sutton Park Line upgrade, for North - South, North East - South West and Birmingham area flows, and on the proposed re-opening of the Round Oak to Bescot Line. This would enable diversion of significant freight volumes from the Bromsgrove and Water Orton routes into Birmingham, releasing capacity for passenger growth and providing for future freight growth. Cognisance is being taken during the development of this project of the proposals for the Midland Metro Line 1 extension to Merry Hill.

With the introduction of the Winter 2004 timetable there is likely to be significant diversions of freight traffic through the West Midlands, which will impact particularly on the Sutton Park line.

### Round Oak – Bescot

There are two proposed uses for the disused RoundOak – Bescot freight route:

1. Re-opened freight route to provide additional freight capacity.
2. Extension to Merry Hill of the existing Metro Line.

Centro have proposed a joint scheme incorporating parallel-running to accommodate both projects. The priority for Network Rail is to facilitate the freight route re-opening. However, we are supportive of the Centro parallel-running proposal provided that both projects can be implemented without jeopardising the freight route in any way. Development work has confirmed that a single track with a passing loop in Dudley Tunnel will provide sufficient capacity to meet the SRA's freight requirements. A package of joint development work is now underway to determine the technical feasibility and respective costs of the parallel-running proposal.

### Engineering access

We are introducing the concept of Integrated Planning Units (IPU) throughout the business. To date our effort has been directed towards developing an integrated plan for 2004/5.

Some specific renewal works which have a significant possession impact are as follows:

- Restress works are planned between Leicester Junction and Branston Junction requiring a possession blockade, during the Autumn of 2003. This will mean no access to the Down Goods line during this period and westbound freight services will have to be regulated from Hominglow Bridge.
- S&C renewals at Stenson Junction are planned to take place in 2003/4 involving a series of possessions – 5 x 54 hours and 4 x 8 hours. Services will be diverted during this period.
- During 2003/4, between Corby North and Manton Junction, the Down and Up lines will be blocked for a period of 7 days. This is to allow steel sleeper relay, reballast and rerailing and reballast works to take place. During this blockade, services will be diverted via Market Harborough and Kettering. Access will still be maintained to Corby run-round sidings from the Kettering direction.
- The track and structures renewal programme.

## Track

In partnership with our contractors, we have assessed the route and proposed a prioritised rail renewal programme, to in future alleviate many of the concerns identified by our freight operating customers.

Significant progress has been made on the Sutton Park and Sheet Stores to Stenson Junction lines to remove all long-term speed restrictions – a position not seen for over a decade. Work has also been undertaken on the Manton to Corby line and between Knighton Junction and Bagworth Junction to remove or shorten long-running TSRs. Given the high level of resources required to remove TSRs, some are remaining on this route for longer than is normally anticipated. Each location is carefully reviewed within the Asset Management Team and the track renewals programme is planned to help to facilitate removal of temporary speed restrictions.

We have used the Track Infrastructure Condition Assessment (TICA) methodology to assess the relative priority of various sites on the route for replacement. In order to most efficiently address both asset and operational issues, our strategy is for targeted renewals.

The key items are as follows:

### *In 2003/04*

- Rerailing and resleeper works are planned on the up main at Kingsbury and Aldridge (Sutton Park Line).
- Resleepering works are planned at Kirby Muxloe and Aylestone.
- Resleepering and rerailing is planned at Gretton and rebalasting, resleepering and rerailing is planned at Corby.

### *In 2004/05*

- Formation and rebalasting works are planned at Corby Tunnel and at Gretton resleepering and rerailing works.
- Rerail and resleeper on the down main line at Whitacre Heath.
- Reballast at Aldridge (Sutton Park Line).

## Structures

Various locations across the route have been identified for attention as part of our Structures Renewals Plan. The key items are the ongoing brickwork repairs planned at Harringworth Viaduct (which will continue into 2004/05), and the major lining works planned at Corby Tunnel in 2004/05.

## Signalling

The Saltley and Walsall Power Signal Boxes (PSBs) control parts of this route and each is nearing the end of its operational life. As a consequence the infrastructure is increasingly difficult to maintain. A signalling contractor has been appointed to develop the progressive resignalling of the area over the next five years (for more details please see the West Midlands Strategy entry earlier in this document. Proposed timescales for the Sutton Park line is 2007-08.

## Electrification & plant

There are no significant electrification or plant asset considerations on this route, although it should be noted that as part of Zone-wide renewals programmes, a small number of items are planned over the next few years.

## Telecoms

There are no significant telecomms asset considerations on this route, however it should be noted that as part of the Zone-wide Telecoms work bank, it is intended to carry out a number of minor renewals on this route.

## Planned projects summary & diagram key

The table below shows key 2003/04–2005/06 projects planned for the route. The types of work are:

- R: Renewal.
- A: Enhancement schemes, where an implementation and funding agreement has been concluded with the SRA or others.
- B: Enhancement schemes, where a funding agreement for the development phase only has been concluded with the SRA or others.
- C: Safety enhancement schemes, for which a funding agreement may not have yet been concluded.
- D: Other enhancement schemes, for which no agreement or commitment has yet been concluded. These are included on the basis that they are likely to proceed during the period of time covered by the Plan.

Large items of maintenance work may be shown (M), but routine maintenance is not. For enhancements, the current development level is shown, based on the project development matrix in appendix I.

<b>Route 43: Planned projects summary &amp; diagram key</b>			
Diag. Ref.	Project description	Type of work	Dev. Level
A	2003/04: Newby Foundry: re-opening of part of the line between Walsall and Stourbridge to provide access to an aggregates distribution terminal.	D	1/ 2
B	Castle Donnington: Reconnection of former power station to provide rail served distribution warehousing	D	3/ 4
C	2003/04 - 2005/06: West Midlands Signalling Renewals Programme – Saltley Phase I Sutton Park Line, with options for SRA potential enhancement.	B, R	2/ 3
D	2003/04, 2004/05: Zone's AMP Structures Programme (including brickwork repairs at Haringworth Viaduct and major lining works at Corby Tunnel).	R	
E	2003/04, 2004/05: Zone's Track Renewal Programme (including renewals of ballast, rail and sleepers at Corby).	R	

## Land requirements

Wilson Bowden developments have obtained planning permission for a rail served warehouse and distribution facility at Castle Donnington on the Stenson Junction - Sheet Stores Junction freight line. The network connection will involve restoration of an out-of-use connection that previously served the power station on the site. In conjunction with the scheme, a new road bridge is to be constructed that will enable closure of Back Lane level crossing, thereby providing a safety enhancement.

## Forecast expenditure on this route

<b>Route 43: Forecast expenditure (Midlands)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	11	11	13
Structures	2	5	3
Signalling	1	4	9
Plant & Machinery	0	0	0
Lineside	0	0	0
<b>Total Renewals</b>	<b>14</b>	<b>21</b>	<b>25</b>
<b>Enhancements committed to implementation</b>			
West Coast Related Enhancements	1	1	0
West Midlands Strategy	0	0	0
<b>Total Enhancements committed to implementation</b>	<b>1</b>	<b>1</b>	<b>0</b>

<b>Route 43: Forecast activity volumes</b>			
	2003/04	2004/05	2005/06
Rail renewal (km per year)	19.9	20.8	26.0
Sleeper renewal (km per year)	18.9	19.8	22.1
Ballast renewal (km per year)	20.2	21.2	23.8
S&C renewal (units per year)	0	0	1

## Route 44: Northern England freight-only routes

This geographically dispersed group of lines and small networks is used almost exclusively by freight services and provide the essential link between traffic origin points, terminals and the rest of the rail network. Linespeeds are generally low and the signalling is predominantly controlled from traditional manually operated signal boxes.

Key sections of the route include the freight only lines from the Peak District, which are used to export millions of tonnes of aggregates by rail to Manchester, East Anglia, Birmingham and Yorkshire. Coal is imported through Liverpool Bulk Terminal using the dedicated freight link to the Port, which also handles intermodal and metals traffic. Increasing demand has been seen at Fiddlers Ferry Power Station, with trains using the route between Latchford Junction and Ditton. During 2001/02, significant increases in mineral traffic from Redcar to the West Yorkshire Power Stations took place, as well as large increases in mineral traffic from the Port of Immingham.

A particular point of interest is the potential for developments on either side of the Humber, which include those at the Hull and Immingham. Associated British Ports have commissioned their Bulk Handling Terminal and associated network connection as part of their Humber International Terminal (HIT) development. We are in discussion with our industry partners, particularly the SRA, about potential development of the Hull Docks Branch, which has seen an encouraging increase in traffic over the last 2 years.

<b>Route 44: Route capability</b>	
<b>Linespeeds (km of track)</b>	<b>1 April 2003</b>
Up to 35mph	349
40 to 75mph	269
<b>Gauge (km of route)</b>	
W6A	513
W7	428
W8	368
W9	27
<b>Axle Weight (km of track)</b>	
Up to 20.3 tonnes	29
20.4 tonnes - 24.1 tonnes	589
<b>Total km of track</b>	<b>618</b>
<b>Total km of route</b>	<b>513</b>

### Key route issues & solutions

A realistic view of the potential traffic for each route is required, to produce a coherent strategy which would protect those lines with real prospects of new business, as well as identifying opportunities for alternative uses for those lines with little or no chance of future traffic. This is especially relevant now that a number of coalmines are being closed/ mothballed as many of them have extensive connecting branches to the mainlines.

### Operations, capacity & performance

Many of the operational issues concern the potential freight developments on the associated main lines, which enables freight traffic to access these branch lines. The main issues in the region are discussed below.

### *ECML Upgrade*

This remains a key future development in respect of freight. During 2002/03, development work continued on the freight diversionary routes, which would effectively make the ECML a four-track railway between London and Newcastle. The sections connected to Route 44 are Leamside (reinstatement of branch from Pelaw to Tursdale Junction), Ferryhill - Stockton and Ferrybridge - Shaftholme Junction (where 75mph running with W9/W12 gauge, RA10 and 775m long train capability is proposed). Further feasibility work will depend on the outcome of the ECML Route Utilisation Strategy, which is due to be published in December 2003.

### *Trans-Pennine Upgrade*

The routes across the Pennines have potential for freight growth. However, a constraint for intermodal traffic is the existing loading gauge. We have been carrying out initial feasibility on this and await a decision from the SRA on future development work. Capacity constraints are also a major issue. Route 44 covers sections around Immingham and the little-used Brigg line, whose enhancement for full-time opening has been considered by an SRA funded feasibility report.

### *South Humberside*

With the anticipated increase in freight tonnage emanating from Immingham over the next few years, the route will need major investment if adequate capacity and quality of infrastructure is to be guaranteed under increased usage levels. We have been addressing this issue and are now discussing further South Humberside development work with the SRA.

## Engineering access

Engineering access is generally less of a problem on the majority of these routes and sufficient Saturday/ Sunday access is normally available to complete the works required. However, some midweek possessions are required for maintenance tasks, as discussed below.

Wherever possible on the routes, a limited level of midweek access is to be pursued to allow the completion of cyclic maintenance activities. The Tapton to Masborough via Barrow Hill route is one which requires midweek access to cater for the removal of defects and track quality concerns.

The South Yorkshire Joint line currently has no midweek availability and is heavily used by freight traffic. In order to maintain the route to the required standard (and in order not to detract from the allocation of available resource to the ECML), a series of 8 hour possessions, 1 week in 8 is required.

The main items of renewal work identified as requiring more than 54 hour possessions is the completion of major bridge reconstruction works on the South Yorkshire Joint, which will require a continuous shutdown for 3 weeks in 2004/05.

## Track

We are currently planning to carry out a mix of full track renewal, rerailling, re-sleepering and reballasting schemes across the route during 2003/04 and 2004/05. The works are located at Barrow Hill on the Chesterfield to Rotherham line, Clipstone and Maltby (North Notts coalfields), Drax power station and Tees Yard.

We are planning to renew 3km of track in Dove Holes tunnel in 2003/04, in order to improve track quality.

In 2004/05 we are planning steel sleeper relays at Fiddlers Ferry, Middlewich, Crowthorne Junction, Buxton and other renewals at Ashton Moss and Dove Holes Tunnel.

We are planning S&C renewals at Fiddlers Ferry in 2003/04. In 2004/05 we intend to renew S&C at Arpley, Peak Forest South Junction and Hindlow. Most works include relaying and reballasting.

## Structures

Our renewals plan also includes work to strengthen or replace bridges on the Jarrow branch, Immingham Docks branch and on the South Yorkshire Joint line. The latter including 2 bridge repairs in the Doncaster Decoy area.

We are continuing the Bridgeguard 3 programme across the route, which when completed will have strengthened, where necessary, railway overbridges to carry 40 tonne lorries. One bridge identified for reconstruction is No.11 Prescott Road on the Bootle to Seaforth Docks branch.

We are planning extensive Bridgeguard 3 works to bridge 5 Currock Road, comprising strengthening and reconstruction work, together with infilling the adjacent spans. The works have been agreed with the SRA as being compatible with the re-opening of the Carlisle Avoiding lines.

## Signalling

In order to maintain performance our renewal plans for 2003/04 to 2005/06 include the renewal of signalling equipment at Brightside (Sheffield), Immingham, and Treeton, near Tinsley.

We are also planning to carry out Level Crossing renewals at Linwith Lane and West Bank Hall on the Drax branch during 2003/04.

In order to improve safety we are planning to install AWS on the Arpley to Ditton line.

## Electrification & plant

In order to avoid delays in freezing weather we are planning to renew the point heaters at Great Rocks.

## Telecoms

The renewal plans include the replacement of signalbox telephone concentrators at Grimsby Docks, in the North Notts coalfields and at Tinsley.

The telecoms bearer network is being renewed and we are also developing our digital GSM-R radio system to replace the existing NRN radio system.

## Operational property (buildings, stations & depots)

There are no issues of note on these routes.

## Planned projects

The table below shows key 2003/04–2005/06 projects planned for the route. The types of work are:

- R: Renewal.
- A: Enhancement schemes, where an implementation and funding agreement has been concluded with the SRA or others.
- B: Enhancement schemes, where a funding agreement for the development phase only has been concluded with the SRA or others.
- C: Safety enhancement schemes, for which a funding agreement may not have yet been concluded.
- D: Other enhancement schemes, for which no agreement or commitment has yet been concluded. These are included on the basis that they are likely to proceed during the period of time covered by the Plan.

Large items of maintenance work may be shown (M), but routine maintenance is not. For enhancements, the current development level is shown, based on the project development matrix in appendix I.

<b>Route 44: Planned projects summary &amp; diagram key</b>			
Diag. Ref.	Project description	Type of work	Dev. Level
	2003/04 & 2004/05 Track renewals at Ashton Moss, Barrow Hill on the Chesterfield to Rotherham line, Buxton, Clipstone & Maltby (North Notts coalfields), Crowthorne Jcn., Dove Holes Tunnel, Drax power station, Fiddlers Ferry, Middlewich and Tees Yard.	R	
	2003/04 and 2004/05 S&C renewals at Arpley, Fiddlers Ferry, Hindlow, Peak Forest and Peak Forest South Junction.	R	
A	2003/04 –2005/06 Renew signalling equipment in Brightside, (Sheffield), interlocking area	R	
B	2004/05 Renew signalling equipment in Immingham Junction Signalbox control area.	R	
C	2004/05 & 2005/06 Renew signalling equipment in Treeton, (near Tinsley), remote signalling interlocking	R	
D	2003/04 & 2004/05 Level crossing renewals at West Bank Hall and Linwith Lane on the Drax branch.	R	
E	2003/04 Strengthening and reconstruction work, Bridge 5 Currock Road, near Carlisle.	R	
F	AWS fitment on the Arpley to Ditton line	R	
G	2004/05 Renew telephone concentrator at Pyewipe Road in Grimsby Docks.	R	
H	2004/05 Renew telephone concentrator at Thoresby Colliery in North Nottinghamshire.	R	
I	2004/05 Renew telephone concentrator at Tinsley, near Sheffield.	R	
J	2003/04 Works to overbridge on Jarrow branch	R	
K	2004/05 Replace bridge in Immingham Docks	R	
L	2004/05 Strengthening of 5 bridges on the South Yorkshire Joint and repairs to 2 bridges on the South Yorkshire Joint line in the Doncaster Decoy area.	R	

## Land requirements

The main issue concerns the future of the branches serving the coalfields as the various mines that they serve close. Their potential for future development needs to be explored by both the industry and the planning authorities.

## Other issues

Work to renew and enhance infrastructure to the Port of Tyne (on behalf of the Port) has been delayed pending the availability of funding and resources. We hope to carry out this work in 2003.

Work at Seaham on behalf of Seaham Harbour Dock Company, to reinstate the connection to the port, has now been completed and the facility commissioned.

We are in dialogue with the SRA regarding the Hull Docks Branch, to review the current status and future potential of the line for freight.

We are in the process of negotiating with the Wensleydale Railway Company to lease them the Redmire Branch. Freight traffic will still be able to operate over the branch.

A new cement plant has been completed at Tunstead, which could have implications for the loadings on the line via Peak Forest.

Following resignalling, there has been a resumption of freight traffic to Folly Lane in Runcorn during 2002.

We have had discussions with the Mersey Docks and Harbour Company over arrangements for the possible resumption of freight traffic from Birkenhead Docks, which could run via either Rock Ferry or Bidston. In addition we have recently renewed the level crossing on the branch at Regent Road.

We are currently assisting the Regional Development Agencies in the former coalfield development areas to examine the potential for alternative freight traffic flows.

## Forecast expenditure on this route

<b>Route 44: Forecast expenditure (Eastern Region)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	10	4	0
Structures	1	2	0
Plant & Machinery	0	0	0
<b>Total Renewals</b>	<b>11</b>	<b>6</b>	<b>0</b>

<b>Route 44: Forecast expenditure (North West)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	5	14	6
Structures	2	3	4
Signalling	1	1	3
Plant & Machinery	1	0	0
Telecoms	0	0	0
Lineside	0	0	1
<b>Total Renewals</b>	<b>8</b>	<b>18</b>	<b>14</b>

<b>Route 44: Forecast activity volumes</b>			
	2003/04	2004/05	2005/06
Rail renewal (km per year)	15.4	23.4	10.9
Sleeper renewal (km per year)	11.1	22.5	6.8
Ballast renewal (km per year)	11.4	24.2	11.2
S&C renewal (units per year)	5	22	5

## Route 45: Scottish Freight Only Routes

This series of Routes comprises 29 discrete lines, dispersed throughout Scotland. These lines are in some cases through routes, but the majority are dedicated freight branches serving one or a number of terminals. By the nature of these routes they are mostly single track, low speed lines. The double track Edinburgh South Suburban Line, which provides an avoiding route to the congested Waverley to Haymarket section around the southern side of Edinburgh is the exception to this. This Line provides a key freight link between the East Coast Main Line and the heart of central Scotland.

EWS operate on the majority of the Routes. Direct Rail Services operate over the Ayr to Mauchline via Annbank Junction sub-section and also serve the new freight terminal operated by W. H. Malcolm at Grangemouth. Freightliner Heavy Haul Ltd are now operating on a number of the Ayrshire freight branches handling Scots – anglo coal traffic.

The two freight terminals at Grangemouth now see regular services from EWS and Direct Rail Services.

Maintenance and renewal activity is driven in most instances by the comparatively lightly trafficked nature of the majority of the Routes. The exceptions to this are the Longannet branch and the Edinburgh South Suburban line where sustained heavy volumes of traffic require careful planning to reduce inconvenience to our freight customers to a minimum.

<b>Route 45: Route capability</b>	
<b>Linespeeds (km of track)</b>	<b>1 April 2003</b>
Up to 35mph	174
40 to 75mph	48
<b>Gauge (km of route)</b>	
W6A	193
W7	193
W8	34
W9	3
<b>Axle Weight (km of track)</b>	
Up to 20.3 tonnes	37
20.4 tonnes - 24.1 tonnes	82
24.2 tonnes - 25.4 tonnes	103
<b>Total km of track</b>	<b>222</b>
<b>Total km of route</b>	<b>193</b>

## Key route issues & solutions

The sub-route section from Newton-on-Ayr to Mauchline and the branch to Killoch can suffer capacity problems, particularly when high volumes of coal traffic are being handled in this part of Ayrshire. This is not major problem on the remaining branches, with terminals matched to the capabilities of the railway lines. However, accessing these branches can be difficult, particularly in the South West and Fife. Timetable management and train regulation can be challenging, especially in situations where freight branches join routes that carry high speed passenger traffic.

## Operations, capacity & performance

We are working with the Opencast Coal Mining industry and other stakeholders, to develop a coal loading terminal on the Methil Branch in Fife, to service the Earl's Seat opencast mining development. Another potential coal related development is the provision of a connection to a new coal loading terminal, at Greenburn near New Cumnock. This would entail a connection being provided off the Knockshinnoch Branch, to link on to the mining company's private line.

We are continuing to work with EWS, BP Oil, the Scottish Executive and the SRA to promote the reopening of the freight branch from Dumfries to Maxwelltown. This project involves reinstating approximately 4km of disused branch line for oil traffic from Grangemouth. The reopening project will facilitate a reduction in lorry journeys on the Scottish road network, which is in accord with meeting government targets to transfer freight from road to rail.

A strategy of Engineering, Education and Enforcement (The 3 "E's") has been developed in conjunction with our rail industry partners to reduce the incidence of route crime. As part of this initiative, we are developing a programme of fencing improvements, to target route crime locations and our area based Lineside Managers are implementing fencing programmes to reduce the incidence of animals straying onto the line in rural areas.

## Engineering access

For most cyclical maintenance and renewal works, "no trains" periods on the individual lines that comprise this route are normally sufficient for undertaking the work concerned.

Across the route we work with the freight operating companies to ensure that any line closures for maintenance and renewal works are planned to minimise disruption to their customers. Normally these line closures are programmed to take place on Saturdays and Sundays. The major possessions we are planning are between Dunfermline and Longannet/ Kincardine. We plan our major renewal works to coincide with the annual summer maintenance shutdown at Longannet Power Station. This is in July each year and has a duration of 2 weeks. In 2003/04 we will be undertaking track renewals at Longannet and Torryburn, as well as implementing coastal defence works at Culross and Newmills to coincide with the power station shutdown.

## Track

The track assets on this route are a mixture of CWR and jointed plain line track of a varied age profile and the S&C is a mixture of Flat Bottom and Bullhead. On the branch to Longannet power station we have been renewing jointed track with CWR and further work is planned during 2003/04 and 2004/05, which will see the majority of the branch provided with CWR. A similar strategy is being applied to the Newton-on-Ayr to Mauchline branch, where we plan to renew further sections of jointed Bullhead track and install CWR. This programme will be continued over the next 3 years and is in accord with the sustained levels of coal traffic that utilises this route.

On the Edinburgh South Suburban route we plan to carry out further renewals over the next 5 years with CWR, that will eliminate the remaining jointed track. Our renewal plans also include the Hunterston freight line, where we plan to renew further sections of jointed track during the next 2 years, these plans are driven by the condition of the assets.

As part of our plain line track renewals programme, we are planning renewals at a number of sites during the next 3 years. This is to address general asset condition, rail wear and sleeper degradation, the key sites are shown on the diagram (diagram ref A & B).

## Structures

The majority of structures were constructed at the time the route was built, with some subsequent upgrading and replacement being undertaken.

An ongoing programme of assessment and inspection has been implemented to identify and prioritise locations that require works to improve trackside drainage and reduce the risk of flooding and consequential damage to the track formation.

Various locations across the route have been identified for attention as part of our Structures Asset Maintenance Plan (AMP). Two structures have been identified in this route as requiring redecking, (diagram ref. C), OB253/001 Hornock Cottages and OBI 19/031 Clackmannan Village.

## Kincardine Branch

As a result of the ongoing inspection programme two locations have been identified as requiring repair/ reconstruction of costal defences and works are planned for 2003/4, 2004/5, 2005/6 the key sites are shown on the diagram (diagram ref D).

## Signalling

On those freight branches that have signalling there is a mix of colour light and semaphore signalling, with an age profile that ranges from the 1960's to the 1980's, asset condition is fair and we have no major concerns. On the majority of the freight branches there is no signalling equipment once past the main line connection.

On the Grangemouth freight branch, we are developing a project to upgrade the signal lamp circuits in the semaphore signals to comply with modern standards.

We are currently renewing the electro-mechanical point machines and lineside equipment cubicles at Longannet. Due to delays in sourcing suitable materials this renewals project will not be completed until 2003/04 (diagram ref F).

## Electrification & plant

The asset condition on this route is good, the majority of the E&P assets having been renewed during the 1990's. We have no major concerns on this route.

We plan to renew the points heaters installatons at Gorgie Junction, Niddrie West Junction, Millerhill South, Millerhill West/ East and Millerhill Diesel Depot in 2003/04 and 2004/05. This is due to the age and condition of the assets and involves renewing a total of 18 sets of point heaters (diagram ref G).

## Telecoms

The assets fall into 3 categories; telephone concentrators, NRN radio and fixed leased telecomms network equipment. The concentrators are in good condition.

The route is covered by the NRN radio network on the other Scottish mixed traffic routes and this equipment is due for renewal and the opportunity will be taken to standardise equipment as part of the national GSM-R project.

The fixed leased telecomms network equipment is generally in poor condition and we plan to renew this equipment as part of a national project during 2005/06.

As part of our national strategy to renew the fixed leased telecomms network equipment, we plan to renew the equipment on this route in 2005/06.

## Operational property (buildings, stations & depots)

The assets on this route are in good condition and there are no major issues or concerns.

## Planned projects summary & diagram key

The table below shows key 2003/04–2005/06 projects planned for the route. The types of work are:

- R: Renewal.
- A: Enhancement schemes, where an implementation and funding agreement has been concluded with the SRA or others.
- B: Enhancement schemes, where a funding agreement for the development phase only has been concluded with the SRA or others.
- C: Safety enhancement schemes, for which a funding agreement may not have yet been concluded.
- D: Other enhancement schemes, for which no agreement or commitment has yet been concluded. These are included on the basis that they are likely to proceed during the period of time covered by the Plan.

Large items of maintenance work may be shown (M), but routine maintenance is not. For enhancements, the current development level is shown, based on the project development matrix in appendix I.

<b>Route 45: Planned projects summary &amp; diagram key</b>			
Diag. Ref.	Project description	Type of work	Dev. Level
A	2003/04: Track renewals at a number of sites. Key locations Longannet and Torryburn are shown on the diagram. This renewals programme will continue at a number of sites during 2004/05.	R	
B	2005/06: Continuation of the track renewals programme. Again, key locations Newmills, Dalrymple and Winchburgh are shown on the diagram.	R	
C	2004/05: Re-decking works at OB253/001 Hornock Cottages and OB119/031 Clackmannan Village.	R	
D	2003/04: Coastal Defences reconstruction and repairs at Culross and Newmills. 2004/05 & 2005/06: Continuation of works.	R	
E	2003/04: Continuation and completion of the renewal programme for the electric point machines and lineside signalling locations cabinets at Longannet.	R	
F	2003/04: In the Millerhill and Gorgie areas we plan to renew 18 sets of points heaters. 2004/05: We will complete this programme of points heaters renewals.	R	

## Land requirements

We continue to manage our estate portfolio and work with Developers, Local Authorities, Railway Industry Partners and other stakeholders.

We continue to work with the freight and logistics industry to develop existing freight terminal sites and facilitate new freight connections.

A number of the Scottish freight branches have been out of use for some years, in some cases we are in negotiation with our industry partners and business interests to re-instate railfreight service to existing terminals, or in some cases establish a new freight connection. The latter requires land and boundary amendments that involve our Railway Estates Department amending existing boundary and connection agreements.

## Other issues

The following IOS proposals are currently under consideration by the SRA:

- **Falkland Yard and Shields Junction “Burma Road” Line operational flexibility.** Provision of infill electrification over the Burma Road Line at Shields Junction. This would deliver the ability to electrically haul coal trains from Falkland Yard, avoiding a change of traction at Mossend.
- **Deanside Branch operational flexibility.** Improvement to flexibility on the Deanside Branch, such that freight trains can enter and leave the branch at Cardonald Junction, at a speed of not less than 20mph.

## Forecast expenditure on this route

<b>Route 45: Forecast expenditure (Scotland)</b>			
£ m in 2002/03 prices	2003/04	2004/05	2005/06
<b>Renewals</b>			
Track	3	2	2
Structures	2	2	1
Signalling	0	0	0
Electrification	0	0	0
Plant & Machinery	0	0	0
Telecoms	0	0	0
Stations	0	0	0
<b>Total Renewals</b>	<b>5</b>	<b>4</b>	<b>3</b>

<b>Route 45: Forecast activity volumes</b>			
	2003/04	2004/05	2005/06
Rail renewal (km per year)	5.1	2.2	3.5
Sleeper renewal (km per year)	2.4	1.0	2.7
Ballast renewal (km per year)	2.4	1.0	2.9
S&C renewal (units per year)	2	0	3