

2

Customer plans, zone plans and route strategies



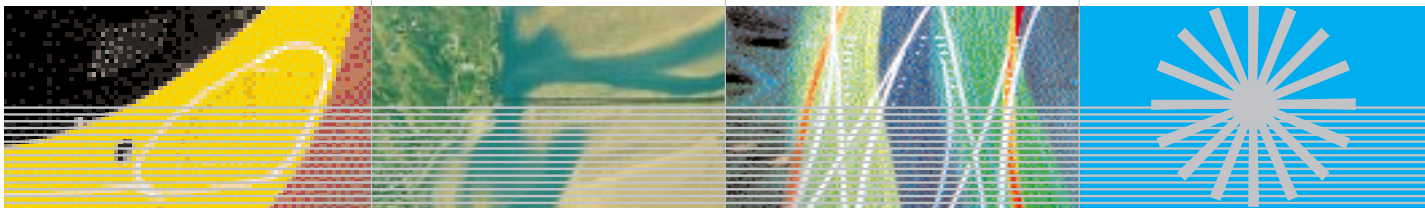
Volume 2

Customer plans
pages 2–35

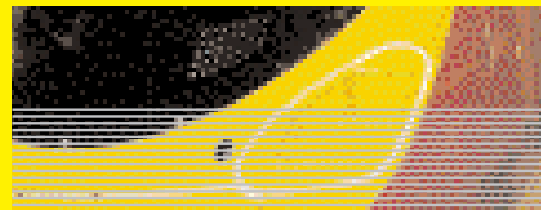
Zone plans
pages 36–53

Route Strategies
pages 54–297

**Abbreviations
and glossary**
pages 298–304



customer plans



In this section we have set out our customers' plans for the development of their services together with progress on their Customer Reasonable Requirements. We have also included an assessment of the changes to the capability of those elements of the network over which they operate. These result from our committed enhancement schemes.

Anglia Railways	4	London Underground Limited	20
Cardiff Railway Company	5	Merseyrail Electrics Ltd	21
Central Trains	6	Midland Mainline Ltd	22
Chiltern Railways	7	Northern Spirit Limited	23
Connex South Central	8	ScotRail Railways Ltd	24
Connex South Eastern	9	Silverlink	25
Eurostar	10	South West Trains	26
First Great Eastern	11	Thames Trains Limited	27
First Great Western	12	Thameslink Rail	28
First North Western	13	Virgin CrossCountry	29
Gatwick Express	14	Virgin West Coast	30
GNER Holdings Ltd	15	Wales & West Passenger Trains Ltd	31
Heathrow Express	16	West Anglia Great Northern Railway	32
Hull Trains	17	Direct Rail Services Limited	33
Island Line	18	English, Welsh and Scottish Railway	34
London, Tilbury and Southend Rail	19	Freightliner Limited	35



Anglia Railways

TRAIN OPERATOR

Anglia Railways operates services from Norwich, Ipswich and Colchester to Liverpool Street and local services radiating from Ipswich and Norwich, to Sheringham, Great Yarmouth, Lowestoft, Felixstowe, Cambridge and Peterborough. The backbone of its main line fleet is intercity electric locomotive-hauled sets.

A fleet of eight brand new Class 170 diesel multiple units is now in operation and will enable the company to run innovative new services like the new service to Basingstoke.

Anglia Railways' key objectives are to maintain high levels of service and customer care, consistently deliver excellent performance on all routes in order to develop the off-peak and 'Business Travel' market and to develop new retail opportunities at their main stations.

CRR PROGRESS

The CRR system has been a successful tool in delivering the requirements of Anglia. Since the implementation of the Felixstowe resignalling project, the performance and capacity on this line now meets the satisfaction of Anglia Railways. Other schemes that have been completed include:

- Installing new retail outlets, new toilets, and improving security at Norwich station
- Installing unassisted disabled access ramps at Newmarket, Stowmarket, Gunton and other stations
- Renovating many stations throughout the East Anglia area under the station regeneration project including restoring the famous 'fish-scale' roof at Norwich.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	85	13	10	21	5	1	20	6	8	1
2000	90	42	3	15	3	0	12	6	9	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Liverpool Street–Ipswich	111	1	58min (71mph)	57min (72mph)	57min (72mph)	55min (75mph)
London Liverpool Street–Norwich	185	2	1hr 35min (72mph)	1hr 34min (73mph)	1hr 34min (73mph)	1hr 31min (76mph)
LINESPEEDS (km of track)						
Up to 35mph			72	72	72	72
40–75mph			1134	1134	1134	1134
80–105mph			616	616	616	469
110–125mph			0	0	0	147
Over 125mph			0	0	0	0
TOTAL			1822	1822	1822	1822
GAUGE (km of route)						
W6A			1024	1024	1024	1024
W7			739	739	739	739
W8			739	739	739	739
W9			46	152	203	279
W10			0	106	203	220
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			101	101	101	101
20.4–24.1 tonnes			1721	1721	1721	1721
24.2–25.4 tonnes			0	0	0	0
TOTAL			1822	1822	1822	1822

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
 Capabilities are shown for all routes in this NMS over which customers operate either in part or in full
 The sum of the figures may not match totals due to rounding



Cardiff Railway Company

TRAIN OPERATOR

Cardiff Railway Company is franchised to PRISM Rail, and run under the service name of 'Valley Lines'. Valley Lines operates passenger rail services over 140 route km in the Cardiff Valleys, and south of Cardiff to Penarth, Barry and Cardiff Bay. Valley Lines primarily operates a commuter service, offering competitive journey times in comparison with congested roads into Cardiff during peak hours. Opportunities for further expansion in commuting and building the off-peak leisure travel market are key to their business strategy.

CRR PROGRESS

Railtrack has focused considerable effort on the progression of Cardiff Railway Company's CRRs during the past year and has completed a number of them. Completions include raising the linespeed over Nixon's Crossing, and the refurbishment of Cardiff Central Station.

The third tranche of Cardiff Valleys linespeed improvements is currently in implementation. This work will provide performance improvements, and (in the long term when non-stop services are introduced by Valley Lines) journey-time improvements.

Other developments include the completion of a feasibility study for a regular passenger service between Cardiff and Bridgend, and the construction of a new 'up' platform at Bargoed to increase capacity on the Rhymney Route.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	89	0	5	5	1	2	10	61	5	0
2000	110	23	20	5	1	2	7	50	2	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Cardiff Queen Street–Rhymney	37	14	53min (26mph)	53min (26mph)	53min (26mph)	50min (27mph)
Cardiff Queen Street–Merthyr Tydfil	37	11	49min (28mph)	49min (28mph)	49min (28mph)	46min (30mph)
Cardiff Queen Street–Barry Island	16	8	30min (20mph)	30min (20mph)	30min (20mph)	29min (20mph)
LINESPEEDS (km of track)						
Up to 35mph			86	86	86	86
40–75mph			179	179	179	180
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			265	265	265	266
GAUGE (km of route)						
W6A			149	149	149	149
W7			137	137	137	137
W8			17	17	17	17
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			78	78	78	78
20.4–24.1 tonnes			133	133	133	133
24.2–25.4 tonnes			54	54	54	55
TOTAL			265	265	265	266

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
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 The sum of the figures may not match totals due to rounding



Central Trains

TRAIN OPERATOR

The Central Trains' franchise was awarded to the National Express Group in 1997. The franchise runs until April 2004. Central operates over 1,300 trains a day on intercity, suburban and rural routes extending across the East and West Midland conurbations, Lincolnshire, Shropshire, Mid Wales, and into Manchester and Sheffield.

Central Trains seeks to reduce journey times and improve service frequencies on core intercity and suburban routes, and also to offer new direct-journey opportunities. Central has invested in a fleet of 76 new Class 170 vehicles while refurbishing its existing train fleet, and has opened improved facilities at maintenance depots in Birmingham and Nottingham.

Central Trains' vision is to provide a welcoming service for its customers which is reliable, clean, comfortable and value for money.

CRR PROGRESS

In 1999/2000, completed CRRs include extensions to Eastcroft and Soho depots and installation of a wheel lathe at Tyseley. This work has ensured that Central Trains is able to deploy its resources more efficiently.

In Wales, Barmouth Viaduct was refurbished between October and December 1999 allowing the linespeed to be returned to 20mph. A programme is being developed that will introduce linespeed improvements on the Cambrian routes for May 2001.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	87	19	6	9	2	12	14	12	12	1
2000	139	69	7	5	2	8	26	3	19	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Birmingham–Peterborough	147	5	1hr 45min (53mph)	1hr 45min (53mph)	1hr 40min (55mph)	1hr 40min (55mph)
Shrewsbury–Aberystwyth	132	6	1hr 45min (47mph)	1hr 45min (47mph)	1hr 45min (47mph)	1hr 35min (52mph)
Sheffield–Manchester	60	1	48min (47mph)	48min (47mph)	48min (47mph)	40min (56mph)
LINESPEEDS (km of track)						
Up to 35mph			931	931	926	936
40–75mph			6114	6111	5934	5863
80–105mph			3554	3557	3078	3109
110–125mph			2508	2508	2746	2623
Over 125mph			0	0	391	652
TOTAL			13107	13107	13075	13183
GAUGE (km of route)						
W6A			5997	5997	5978	5978
W7			5138	5138	5138	5138
W8			4586	4586	4587	4724
W9			1723	1733	1935	2885
W10			800	810	1057	2797
W11			0	0	0	1541
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1425	1425	1425	1427
20.4–24.1 tonnes			6988	6988	6955	6919
24.2–25.4 tonnes			4694	4694	4695	4836
TOTAL			13107	13107	13075	13182

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Chiltern Railways

TRAIN OPERATOR

Chiltern Railways is part of the Laing Group. The franchise expires in March 2004. Chiltern Railways operates services over a route network covering 255 route km including 21km on LUL infrastructure. It currently operates a long-distance train service between London Marylebone and Birmingham Snow Hill, and a shorter distance, frequent, commuter service between Marylebone and Aylesbury. It serves 43 stations including five on LUL.

Chiltern's passenger numbers have increased by 50%, supported by train operating company investment of some £50M including the increase in fleet size.

The vision is to make the Chiltern lines excel on quality and performance, supporting the provision of a highly reliable commuting service into London Marylebone combined with a long-distance service connecting Birmingham to London Marylebone.

FRANCHISE REPLACEMENT

On 24 November 1999, the Shadow Strategic Rail Authority invited proposals for the first tranche of replacement franchises. This includes Chiltern Railways and three companies prequalified to bid for this first phase of franchise replacement. It is expected that the replacement franchises will be determined in the spring and become effective in the second half of the year.

We are keen to play a pivotal role in developing and enhancing the network to meet the needs of a growing and stronger passenger business. As bidders prepare their proposals, they are in active discussion with us about the appropriate infrastructure investment to accompany their bids. The bids incorporate much that is within this document, but inevitably there will be some additional requirements. The process presents an opportunity for the industry to rally around common objectives and we have added the necessary resource to ensure that the sSRA can meet its timescale.

CRR PROGRESS

Chiltern Railways has adopted a strategic approach to the formulation and delivery of its CRRs. The process has been successful in ensuring that we are aware of Chiltern's objectives. Chiltern has also supported the franchise replacement work that is currently in progress.

CRRs successfully completed this year include the delivery of car-park expansion schemes at Denham, Haddenham and Thame stations. These schemes were completed on time and to budget which was key to the train operating company's revenue forecasts. Bicester station lifts were also completed on time and helped the customer meet a franchise commitment.

On a strategic nature, we are working jointly with Chiltern to deliver a number of schemes (Project Evergreen) aimed at increasing capacity and improving performance on Route 25. This work is currently at feasibility stage, and is, once again, on time and to budget.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	38	4	1	4	0	0	8	12	9	0
2000	63	21	1	9	2	0	6	9	15	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Marylebone–Aylesbury	61	3	49min (47mph)	49min (47mph)	49min (47mph)	49min (47mph)
London Marylebone–Banbury	109	0	1hr 6min (62mph)	1hr 6min (62mph)	1hr 6min (62mph)	60min (68mph)
LINESPEEDS (km of track)						
Up to 35mph			87	87	87	87
40–75mph			1010	1010	1010	1007
80–105mph			837	837	837	845
110–125mph			555	555	555	352
Over 125mph			0	0	0	0
TOTAL			2489	2489	2489	2552
GAUGE (km of route)						
W6A			1206	1206	1206	1206
W7			1032	1032	1032	1032
W8			955	955	955	955
W9			0	10	161	685
W10			0	10	161	685
W11			0	0	0	295
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			23	23	23	46
20.4–24.1 tonnes			431	431	431	444
24.2–25.4 tonnes			2035	2035	2035	2062
TOTAL			2489	2489	2489	2552

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Connex South Central

TRAIN OPERATOR

The Connex South Central franchise is one of two operated by Connex Rail (part of the Vivendi Group). The franchise expires in May 2003.

Connex South Central operates predominantly commuter services to London from Surrey and Sussex as well as services to Gatwick and Brighton and South Coast services between Bournemouth, Brighton, Hastings and Ashford.

Connex aims to improve customer satisfaction and attractiveness of their services. They intend to do this through improvements in station accessibility, safety and security, and via the introduction of a new fleet of 100mph, sliding door, air-conditioned stock on both franchises. The proposed electrification of Ashford–Ore and Oxted–Uckfield lines will enable Connex South Central to dispose of its remaining diesel fleet.

FRANCHISE REPLACEMENT

On 24 November 1999, the Shadow Strategic Rail Authority invited proposals for the first tranche of replacement franchises. This includes Connex Rail and three companies prequalified to bid for this first phase of franchise replacement. It is expected that the replacement franchises will be determined in the spring and become effective in the second half of the year.

We are keen to play a pivotal role in developing and enhancing the network to meet the needs of a growing and stronger passenger business. As bidders prepare their proposals, they are in active discussion with us about the appropriate infrastructure investment to accompany their bids. The bids incorporate much that is within this document, but inevitably there will be some additional requirements. The process presents an opportunity for the industry to rally around common objectives and we have added the necessary resource to ensure that the sSRA can meet its timescale.

CRR PROGRESS

The emphasis for Connex CRRs is currently firmly on infrastructure improvements for rolling stock and pre-feasibility studies in support of Connex's franchise replacement bid for South Central.

Successes include:

- Completion of pre-feasibility work to provide costs for capacity enhancements on the Brighton Main Line
- Completion of a jointly funded pre-feasibility study of electrification of the Ashford, Hastings and Uckfield lines
- Commencement of works to replace a wheel lathe at Selhurst depot
- Completion of works to facilitate driver-only operation (DOO) between Epsom and Dorking
- Completion of depot regeneration and station works at numerous sites throughout the franchise area.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	109	29	5	6	2	1	6	42	18	0
2000	139	58	23	2	1	0	4	35	16	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Victoria–Brighton	81	1	49min (62mph)	49min (62mph)	49min (62mph)	45min (65mph)
London Victoria–Havant (via Worthing)	140	10	1hr 51min (47mph)	1hr 51min (47mph)	1hr 51min (47mph)	1hr 48min (48mph)
Brighton–Hastings	56	6	1hr 3min (33mph)	1hr 3min (33mph)	1hr 3min (33mph)	1hr 1min (34mph)
LINESPEEDS (km of track)						
Up to 35mph			625	625	622	622
40–75mph			3574	3574	3482	3482
80–105mph			3189	3189	2656	2576
110–125mph			937	937	1175	1255
Over 125mph			0	0	391	391
TOTAL			8325	8325	8326	8326
GAUGE (km of route)						
W6A			3595	3595	3595	3595
W7			2358	2358	2358	2379
W8			1908	1908	1908	1950
W9			1179	1179	1179	1515
W10			800	800	800	1340
W11			0	0	0	1204
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			103	103	103	103
20.4–24.1 tonnes			1871	1871	1871	1871
24.2–25.4 tonnes			6351	6351	6351	6351
TOTAL			8325	8325	8326	8326

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Connex South Eastern

TRAIN OPERATOR

The Connex South Eastern franchise is one of two franchises operated by Connex Rail (part of the Vivendi Group). The franchise expires in 2011.

Connex South Eastern operates predominantly commuter services between central London and the south east London suburbs, the whole of Kent and part of Sussex.

Connex aims to improve customer satisfaction and attractiveness of their services. They intend to do this through investment in station accessibility, customer information systems and safety and security. New 100mph, sliding door, air-conditioned stock will be introduced during 2000/01. The revised timetable, to be introduced from summer 2000, will lead to increased off-peak frequency and reduced journey times on a number of routes.

CRR PROGRESS

The emphasis for Connex CRRs is currently firmly on infrastructure improvements for rolling stock. Progress on CRRs affecting Connex South Eastern includes:

- Clearance works completed for Class 375 introduction on some routes, work ongoing on others
- Clearance works ongoing to allow extension of the Class 465 operating area
- Completion of works at Charlton Station in time for the Millennium Dome opening
- Completion of Ashford depot improvements in association with CTRL
- Fitment of on-board sanders using new technology on two Class 465 trains in a trial during autumn 1999. The trial has given sufficient confidence for consideration of funding the entire Networker fleet by autumn 2000 – subject to negotiation
- Completion of depot regeneration and station regeneration works at numerous sites throughout the franchise area.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	109	29	5	6	2	1	6	42	18	0
2000	139	58	23	2	1	0	4	35	16	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Charing Cross–Ashford (via Tonbridge)	95	4	1hr 8min (52mph)	1hr 8min (52mph)	1hr 8min (52mph)	59min (60mph)
London Victoria–Ramsgate (via Faversham)	127	11	1hr 43min (46mph)	1hr 43min (46mph)	1hr 43min (46mph)	1hr 35min (50mph)
LINESPEEDS (km of track)						
Up to 35mph			402	402	402	402
40–75mph			2365	2365	2365	2365
80–105mph			1502	1502	1502	1422
110–125mph			209	209	209	289
Over 125mph			0	0	0	0
TOTAL			4479	4479	4479	4479
GAUGE (km of route)						
W6A			1954	1954	1954	1954
W7			787	787	787	808
W8			641	641	641	662
W9			348	348	348	410
W10			0	0	0	194
W11			0	0	0	133
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			200	200	200	200
20.4–24.1 tonnes			578	578	578	578
24.2–25.4 tonnes			3701	3701	3701	3701
TOTAL			4479	4479	4479	4479

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Eurostar

TRAIN OPERATOR

Eurostar is the international high-speed passenger train service linking London and Ashford in Kent with Paris and Brussels. Many trains also stop at Lille en route, and there are also direct services to Disneyland Paris and, in the ski season, to the French Alps.

There are currently up to 21 trains a day each way on the London–Paris Route and ten on the London–Brussels Route. Journey time to Paris is three hours, Brussels two hours and 40 minutes, and Lille two hours – one hour less from Ashford in all cases.

A key element in Eurostar's competitive position with the airlines is journey time, and Railtrack is working with Eurostar's sister company Union Railways to improve this still further with the construction of the Channel Tunnel Rail Link. The first section is under construction and due for completion in 2003, cutting journey times by 15–20 minutes.

CRR PROGRESS

Eurostar's focus for CRRs over 1999 was on performance improvement, with specific CRRs covering:

- Punctuality improvements
- Infrastructure performance
- Signallers' performance, through improved communication with Eurostar drivers
- Improved trespass and vandalism management
- Less-disruptive maintenance techniques.

Successes include:

- Completion of feasibility study for development of Shortlands Junction
- Data modifications at Ashford IECC to improve signalling/communication interface at Railtrack/Eurotunnel boundary.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	20	0	1	6	1	1	5	4	2	0
2000	21	3	1	6	1	1	4	2	3	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Waterloo–Paris	494	0	2hr 55min (105mph)	2hr 55min (105mph)	2hr 35min (119mph)	-
London St Pancras–Paris	494	0	-	-	-	2hr 20min (132mph)
LINESPEEDS (km of track)						
Up to 35mph			270	270	270	270
40–75mph			1522	1522	1522	1522
80–105mph			1148	1148	1148	1148
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			2941	2941	2941	2941
GAUGE (km of route)						
W6A			1249	1249	1249	1249
W7			517	517	517	538
W8			373	373	373	394
W9			220	220	220	329
W10			0	0	0	231
W11			0	0	0	133
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			99	99	99	99
20.4–24.1 tonnes			282	282	282	282
24.2–25.4 tonnes			2559	2559	2559	2559
TOTAL			2941	2941	2941	2941

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
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First Great Eastern

TRAIN OPERATOR

First Great Eastern is owned by FirstGroup plc.

It operates almost 800 trains per day between London and Southend, Chelmsford, Colchester, Clacton, Ipswich and with branches to Sudbury, Braintree, Harwich and Southminster. The Great Eastern vision is to run a safe, high-frequency, punctual and reliable train service and to improve quality in all areas.

The main focus of business development is targeted on substantially increasing the size of the off-peak market, by providing high-quality service and frequency ('the walk-on railway'), clean trains, reliable trains and well-informed customers.

CRR PROGRESS

The CRR system has been a successful tool in delivering the requirements of First Great Eastern. There have been many schemes completed on their behalf. These include:

- Introducing DOO between Ipswich and Colchester
- Installing ramps for unassisted station access at Ingatestone, Rayleigh, Rochford, Wickford, and Chappel
- Installing automatic ticket barriers at Shenfield and Southend Victoria
- Making Stratford Station compatible for Jubilee Line Extension requirements.

All CRRs are reviewed quarterly with First Great Eastern and a period pack is produced to give up-to-date information on the progress.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	75	6	6	17	5	0	26	7	8	0
2000	86	33	7	20	5	0	14	3	4	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Liverpool Street–Colchester	83	5	44min (70mph)	43min (72mph)	43min (72mph)	43min (72mph)
London Liverpool Street–Southend	67	9	55min (46mph)	54min (46mph)	54min (46mph)	54min (46mph)
LINESPEEDS (km of track)						
Up to 35mph			33	33	33	33
40–75mph			689	689	689	689
80–105mph			392	392	392	245
110–125mph			0	0	0	147
Over 125mph			0	0	0	0
TOTAL			1114	1114	1114	1114
GAUGE (km of route)						
W6A			644	644	644	644
W7			404	404	404	404
W8			404	404	404	404
W9			0	106	154	213
W10			0	106	154	154
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			84	84	84	84
20.4–24.1 tonnes			1030	1030	1030	1030
24.2–25.4 tonnes			0	0	0	0
TOTAL			1114	1114	1114	1114

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
 Capabilities are shown for all routes in this NMS over which customers operate either in part or in full
 The sum of the figures may not match totals due to rounding



First Great Western

TRAIN OPERATOR

First Great Western's franchise runs to February 2006. It provides high-quality, frequent express services linking London with the West of England, South Wales and the South Midlands. FGW and Railtrack are on course to achieve excellent punctuality and reliability for these services.

New 125mph trains with high specification passenger accommodation will be introduced this year to cater for growth and for enhanced frequencies to South Wales in 2001.

FGW and Railtrack are working together to deliver these enhancements and to address congestion problems. We are also investing in state-of-the-art customer information systems and CCTV at FGW stations.

CRR PROGRESS

Performance improvement has been the driver behind our delivery of a number of FGW's initial CRRs, including reducing flooding vulnerability at Chipping Sodbury and Staffords Bridge, improving sea defences at Dawlish, implementing the programmed maintenance of the Severn Tunnel and significantly reducing the number of 'Condition of track' speed restrictions. The regeneration of FGW stations and depots and the introduction of new CCTV/customer information screens is substantially complete. The reconstruction of Cardiff Central was completed in June 1999, shortly followed by new Motorail facilities at Paddington.

The introduction plan for FGW's fleet of new Class 180 trains is progressing. CRRs relate in particular to building a new depot and route clearance. Schemes that have moved forward on target over the last year include the re-introduction of Bristol Temple Meads platforms 13/15, Reading platform 3 and two additional platform faces at Taunton.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	65	22	0	5	2	1	6	19	10	0
2000	80	28	3	7	2	2	4	15	19	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Paddington–Reading	58	0	25min (86mph)	25min (86mph)	25min (86mph)	24min (91mph)
Reading–Exeter	245	4	1hr 55min (79mph)	1hr 55min (79mph)	1hr 55min (79mph)	1hr 48min (85mph)
Swindon–Bristol Parkway	56	0	25min (83mph)	25min (83mph)	25min (83mph)	23min (91mph)
LINESPEEDS (km of track)						
Up to 35mph			423	423	422	433
40–75mph			1950	1950	1951	1762
80–105mph			2134	2134	2134	1865
110–125mph			601	601	601	842
Over 125mph			0	0	0	261
TOTAL			5107	5107	5107	5162
GAUGE (km of route)						
W6A			2612	2612	2612	2612
W7			2175	2175	2175	2175
W8			1250	1250	1250	1408
W9			0	10	161	973
W10			0	10	161	973
W11			0	0	0	290
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			237	237	237	238
20.4–24.1 tonnes			1023	1023	1023	1047
24.2–25.4 tonnes			3847	3847	3847	3875
TOTAL			5107	5107	5107	5162

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First North Western

TRAIN OPERATOR

First North Western (FNW) is part of First Group. The franchise expires in April 2004. FNW operates around 1,500 services daily, equating to around 64 million annual vehicle km. FNW operates a broad mix of services: commuter services into Manchester/Liverpool, longer-distance semi-fast services to and from airports, ports and holiday destinations and vital rural services in more remote, low-population areas.

FNW is looking to Railtrack to deliver an increasingly reliable network, complemented by the speedy delivery of enhancements to facilities at stations, and the removal of known congestion bottlenecks, particularly around Manchester, in order to generate greater reliability and more passenger journeys. FNW requires a partnership approach with Railtrack in order to make significant improvements in performance and to focus on meeting the broad range of needs of its passengers.

CRR PROGRESS

In December 1998, we began work on meeting First North Western's requirement to build a completely new train maintenance depot at Chester. We handed over the £18M depot, with state-of-the-art equipment, on 23 December 1999.

Railtrack is also progressing works to improve linespeeds to a minimum of 90mph on the North Wales Coast Route (between Crewe and Bangor). This CRR will be completed by the start of the winter 2000 timetable (September 2000). FNW is satisfied that this CRR will complement the introduction of their new class 175 fleet.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	30	9	8	1	2	1	4	2	3	0
2000	31	16	6	1	3	0	1	1	3	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Manchester Piccadilly–Blackpool North (via Chorley)	78	9	1hr 16min (38mph)	1hr 16min (38mph)	1hr 16min (38mph)	1hr 2min (46mph)
Manchester Piccadilly–Glossop	21	9	31min (26mph)	31min (26mph)	31min (26mph)	31min (26mph)
Manchester Piccadilly–Chester (via Warrington)	65	7	1hr 2min (39mph)	1hr 2min (39mph)	1hr 2min (39mph)	50min (48mph)
LINESPEEDS (km of track)						
Up to 35mph			1101	110	1094	1095
40–75mph			6394	6262	5999	5777
80–105mph			2495	2627	2203	2360
110–125mph			1953	1953	2191	2271
Over 125mph			0	0	391	391
TOTAL			11942	11942	11878	11894
GAUGE (km of route)						
W6A			5493	5493	5454	5454
W7			4825	4825	4825	4825
W8			4116	4116	4118	4139
W9			1671	1671	1765	2091
W10			800	800	893	1991
W11			0	0	0	1246
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1208	1208	1208	1208
20.4–24.1 tonnes			7862	7862	7796	7809
24.2–25.4 tonnes			2872	2872	2874	2876
TOTAL			11942	11942	11878	11893

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Gatwick Express

TRAIN OPERATOR

The Gatwick Express franchise is operated by the National Express Group. The full 15-year franchise, which was awarded in 1996, was unique as it became the only train operating company not to receive a government subsidy.

Gatwick Express runs a dedicated non-stop rail service between London Victoria and Gatwick Airport. 164 trains run each day, with services departing every 15 minutes during the daytime and once an hour throughout the night. 4.5M passengers travelled on Gatwick Express in 1999, representing 63% of the Gatwick Airport–Central London market.

Key objectives for 2000 and beyond are:

- Introduction of new rolling stock
- Extension of airline passengers check-in at Victoria Station
- Development of Gatwick Airport Station
- Reduction to 25-minute journey time.

CRR PROGRESS

Gatwick Express's focus for CRRs was a mixture of enhanced customer service – through improved station facilities and introduction of new trains, and performance improvements – through linespeed improvements, reduced journey times and infrastructure development. Given the size of the projects, a number of CRRs were for feasibility studies, rather than physical works.

Successes include:

- Completion of SRP work and station enhancements at Gatwick Airport Station
- Completion of route clearance work for new trains – Class 460
- Work commenced on upgrading the Carriage Road at Victoria Station to increase capacity.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	12	1	0	1	1	0	1	5	3	0
2000	16	3	1	1	0	3	1	4	3	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Victoria–Gatwick	43	0	30min (53mph)	30min (53mph)	30min (53mph)	25min (64mph)
LINESPEEDS (km of track)						
Up to 35mph			97	97	97	97
40–75mph			653	653	653	653
80–105mph			195	195	195	195
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			945	945	945	945
GAUGE (km of route)						
W6A			426	426	426	426
W7			97	97	97	97
W8			82	82	82	82
W9			52	52	52	52
W10			0	0	0	10
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			89	89	89	89
20.4–24.1 tonnes			193	193	193	193
24.2–25.4 tonnes			664	664	664	664
TOTAL			945	945	945	945

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GNER Holdings Ltd

TRAIN OPERATOR

GNER Holdings Ltd is owned by Sea Containers Ltd based in London, whose parent company is Sea Containers Inc, based in Bermuda and quoted on the New York Exchange. Their franchise expires in April 2003. From summer 2000, they will operate 125 services per week day covering 57,300km.

Passenger numbers have grown by over 22% since 1995. Core growth has centred around business travel from Leeds, Wakefield, Newcastle and Edinburgh to London. They also operate a service that is of the highest standard in terms of speed and quality to London King's Cross from Hull, Skipton, Bradford, Aberdeen, Inverness and Glasgow Central.

Core future aspirations include significant journey-time improvements between London and Edinburgh, and increasing the number/frequency of services between London and Leeds/Edinburgh. Significant station and access improvements form a fundamental part of this operator's strategy for growth.

FRANCHISE REPLACEMENT

On 24 November 1999, the Shadow Strategic Rail Authority invited proposals for the first tranche of replacement franchises. This includes Great North Eastern Railway and two companies prequalified to bid for this first phase of franchise replacement. It is expected that the replacement franchises will be determined in the spring and become effective in the second half of the year.

We are keen to play a pivotal role in developing and enhancing the network to meet the needs of a growing and stronger passenger business. As bidders prepare their proposals, they are in active discussion with us about the appropriate infrastructure investment to accompany their bids. The bids incorporate much that is within this document, but inevitably there will be some additional requirements. The process presents an opportunity for the industry to rally around common objectives and we have added the necessary resource to ensure that the sSRA can meet its timescale.

CRR PROGRESS

GNER's initial phase of CRRs has focused Railtrack on delivering significant passenger benefits. In the past 12 months, completion of schemes at their leased stations – Dunbar, Berwick, Newcastle, Doncaster – has led to substantial improvements in the quality of lounges, toilet facilities and waiting shelters. The arrival of the autumn saw the opening of much refurbished and upgraded travel centres at both Edinburgh and King's Cross. In December, Railtrack completed lift works for the disabled at Newcastle. This fully refurbished facility will provide access between Platforms 2 and 3.

Demolition works started on site at Peterborough in December which will create 270 new parking spaces for passengers, as well as 145 spaces for railway staff. The expansion of the car park is targeted to complement the passenger growth at the station.

Further CRRs in development will enhance access, particularly at Berwick where a new lift is scheduled for completion during August 2000.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMENT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	73	12	0	2	2	0	4	15	38	0
2000	82	28	8	2	2	0	2	14	26	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London King's Cross–Leeds	298	1	1hr 56min (96mph)	1hr 56min (96mph)	1hr 56min (96mph)	1hr 49min (103mph)
London King's Cross–Newcastle	431	0	2hr 36min (104mph)	2hr 36min (104mph)	2hr 36min (104mph)	2hr 26min (111mph)
London King's Cross–Edinburgh	631	1	3hr 58min (99mph)	3hr 58min (99mph)	3hr 58min (99mph)	3hr 40min (108mph)
LINESPEEDS (km of track)						
Up to 35mph			686	686	683	679
40–75mph			3654	3651	3559	3447
80–105mph			2345	2348	1815	1857
110–125mph			1744	1744	1982	2062
Over 125mph			0	0	391	391
TOTAL			8429	8429	8430	8436
GAUGE (km of route)						
W6A			3889	3889	3889	3889
W7			3834	3834	3834	3834
W8			3592	3592	3592	3613
W9			1567	1567	1595	2371
W10			800	800	827	2371
W11			0	0	0	1246
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1192	1192	1192	1192
20.4–24.1 tonnes			4314	4314	4313	4232
24.2–25.4 tonnes			2923	2923	2923	3012
TOTAL			8429	8429	8430	8436

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Heathrow Express

TRAIN OPERATOR

Heathrow Express is a wholly owned subsidiary of BAA. The Track Access Agreement runs for 25 years and expires 15 August 2018. Heathrow Express (HEX) operates an exclusive service at 15-minute intervals every hour between Paddington Station and Heathrow Airport with stations covering all four airport terminals.

Heathrow Express' target markets are business, which accounts for nearly 50% of its customers, those who are visiting friends and relatives and other leisure travellers. As part of the Paddington Station Master Plan first phase, 27 new airline check-in desks complete with baggage-handling facilities were opened on 23 June 1999.

Heathrow Express is looking to introduce a new half-hourly shuttle service between Hayes and Heathrow as part of its plans for future expansion.

CRR PROGRESS

Over 50% of Heathrow Express' CRRs reflected the importance of Paddington Station to its business. The completion of 27 new airline check-in desks and baggage-handling facilities in June was the first phase of Paddington Station's Master Plan. Attention has now focused on delivery of the Heathrow–Hayes shuttle service for the winter timetable.

25% of Heathrow Express' CRRs were completed last year, including provision of LUL information assistants in Paddington Station and the provision of more baggage trolleys on the concourse.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	7	0	0	1	1	1	1	1	2	0
2000	27	7	8	2	1	1	2	1	5	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Paddington–Heathrow Terminal 1–3	24	0	15min (59mph)	15min (59mph)	15min (59mph)	15min (59mph)
LINESPEEDS (km of track)						
Up to 35mph			36	36	36	36
40–75mph			250	250	250	253
80–105mph			235	235	235	190
110–125mph			555	555	555	352
Over 125mph			0	0	0	261
TOTAL			1076	1076	1076	1092
GAUGE (km of route)						
W6A			429	429	429	429
W7			400	400	400	400
W8			368	368	368	368
W9			0	10	32	275
W10			0	10	32	275
W11			0	0	0	275
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			23	23	23	25
20.4–24.1 tonnes			20	20	20	33
24.2–25.4 tonnes			1033	1033	1033	1035
TOTAL			1076	1076	1076	1092

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Hull Trains

TRAIN OPERATOR

Hull Trains, a new Open Access Operator, is a joint venture between GB Railways and two experienced independent rail executives. From September, the company will introduce a regular direct train service between Hull and London.

Initially six trains a day will provide the East Riding of Yorkshire with the additional through services it has lacked in recent years, serving intermediate destinations such as Brough, Selby, Doncaster and Grantham.

The service will be operated with new Class 170 (Turbostar) trains and will offer First and Standard accommodation, space for wheelchairs and cycles and will provide high-quality on-board catering. The new service will be integrated with other rail services and will offer connections to Beverley, Bridlington, Wakefield, Leeds, Lincoln and Sheffield.

Core future aspirations include 125mph operation from 2001/02, plus an enhanced service to Hull and other locations across Lincolnshire and Yorkshire.

Hull Trains is working in partnership to achieve these innovative new services with external parties, businesses, regulatory authorities, Railtrack and other train operators.

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	217	217	217	216
40–75mph	1197	1194	1194	1192
80–105mph	639	642	642	652
110–125mph	1016	1016	1016	1016
Over 125mph	0	0	0	0
TOTAL	3069	3069	3069	3075
GAUGE (km of route)				
W6A	1301	1301	1301	1301
W7	1301	1301	1301	1301
W8	1301	1301	1301	1301
W9	695	695	723	828
W10	0	0	27	828
W11	0	0	0	175
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	1179	1179	1179	1179
20.4–24.1 tonnes	1651	1651	1651	1657
24.2–25.4 tonnes	239	239	239	239
TOTAL	3069	3069	3069	3075

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Island Line

TRAIN OPERATOR

Island Line, the Isle of Wight's railway, is the smallest of all the 25 British train operating company franchises.

Running just six two-car trains over 13km of track, the Island Line takes 45% of its revenue between June and September when holidaymakers flock to ride on its ex-London Underground rolling stock. Just 35 staff are employed by Island Line.

Island Line is unique in that it is not only responsible for all its infrastructure, but it was also the first franchise operator to have fulfilled all of its franchise obligations.

CRR PROGRESS

The signalling renewals to extend the life of the existing signalling equipment on the Island Line were completed in May 1999. This work also included the replacement of conductor rail throughout the pier which concludes part of a separate CRR. The speed restriction at Rowborough was removed in April 1999 after stabilisation work.

Lighting work at stations is complete and CCTV is substantially installed. A design has been agreed on the comfort zone at Ryde Esplanade.

The installation of train stops at three signals on the Island Line is progressing well for completion in March 2000.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	10	0	2	1	0	0	6	0	1	0
2000	10	5	0	0	0	0	4	0	1	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Ryde Pier Head–Shanklin	13	5	21min (23mph)	21min (23mph)	21min (23mph)	21min (23mph)
LINESPEEDS (km of track)						
Up to 35mph			3	3	3	3
40–75mph			15	15	15	15
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			18	18	18	18
GAUGE (km of route)						
W6A			13	13	13	13
W7			0	0	0	0
W8			0	0	0	0
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			18	18	18	18
20.4–24.1 tonnes			0	0	0	0
24.2–25.4 tonnes			0	0	0	0
TOTAL			18	18	18	18

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London, Tilbury and Southend Rail

TRAIN OPERATOR

LTS Rail is a commuter train operating company running services between Southend and London Fenchurch St. Their proactive business growth approach focuses on a customer-based strategy, with a new brand to be launched this year. Core values are: Convenient, Affordable, Reliable, Effortless and Safe. A 15-year franchise allows LTS Rail to invest with more confidence than many TOCs.

Key objectives are to grow market share, develop the off-peak market and exploit new retail opportunities. LTS Rail's focus is on performance, reliability, journey quality, improved stations, facilities, accessibility and the launch of a new fleet of trains. Rebranding is transforming LTS Rail into c2c, its new identity.

CRR PROGRESS

LTS Rail's CRRs have focused on service robustness and the development of station facilities to underpin the launch of the new brand.

Feasibility studies to investigate journey-time improvements, additional crossovers and bi-directional directional signalling on the route have been completed. A number of projects are likely to go ahead into development phase as a result. Route clearance works have been undertaken to allow the introduction of LTS Rail's new rolling stock.

Station improvement works include a new passenger footbridge from Chafford Hundred Station to Lakeside Shopping Centre, customer information systems and improved security measures such as fencing. Lifts are being converted to passenger use at a number of stations, including Basildon, Chalkwell and Leigh-on-Sea and ramps have been installed at Rainham.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	62	3	2	3	5	2	15	16	16	0
2000	67	18	6	3	4	3	14	8	11	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Fenchurch Street–Barking	12	1	12min (38mph)	12min (38mph)	12min (38mph)	10min (45mph)
London Fenchurch Street–Southend Central	58	6	47min (46mph)	47min (46mph)	47min (46mph)	44min (49mph)
LINESPEEDS (km of track)						
Up to 35mph			37	37	37	37
40–75mph			905	905	905	903
80–105mph			392	392	392	247
110–125mph			0	0	0	147
Over 125mph			0	0	0	0
TOTAL			1334	1334	1334	1334
GAUGE (km of route)						
W6A			759	759	759	759
W7			506	506	506	506
W8			506	506	506	506
W9			19	125	173	232
W10			0	106	154	173
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			95	95	95	95
20.4–24.1 tonnes			1239	1239	1239	1239
24.2–25.4 tonnes			0	0	0	0
TOTAL			1334	1334	1334	1334

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
 Capabilities are shown for all routes in this NMS over which customers operate either in part or in full
 The sum of the figures may not match totals due to rounding



London Underground Limited

TRAIN OPERATOR

London Underground Limited (LUL) is a wholly owned subsidiary of London Transport. Part of LUL's operation is over 18 route km of Railtrack's network (at Richmond and to Harrow & Wealdstone). LUL has statutory rights to run these services (it is not a franchised train operator) with the detailed specification currently bound into two (unregulated) track agreements, expiring in March 2003. Railtrack and LUL also have extensive track, station and infrastructure interfaces across London.

In order to meet increased customer expectations, Railtrack and LUL are working to improve infrastructure quality and reliability for the sections of Railtrack's network over which LUL operates. They are also seeking to improve rail transport and bus/rail interchange opportunities in the London area as industry partners.

CRR PROGRESS

LUL's initial phase of CRRs has been focused on consolidating train service delivery and improving infrastructure quality and reliability.

CRRs relating to running extra trains have been achieved.

Improvements in infrastructure, quality and reliability are being addressed in a structured partnership which is expected to deliver the appropriate improvements. We are further expecting to produce a detailed route strategy for the DC route by August 2000 to consolidate and further improve quality and reliability.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	23	3	0	7	5	4	4	0	0	0
2000	27	4	0	7	5	7	4	0	0	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Queen's Park–Harrow & Wealdstone	12	9	19min (24mph)	19min (24mph)	19min (24mph)	19min (24mph)
LINESPEEDS (km of track)						
Up to 35mph			276	276	273	273
40–75mph			1177	1177	1085	1080
80–105mph			1183	1183	650	676
110–125mph			728	728	966	966
Over 125mph			0	0	391	391
TOTAL			3364	3364	3365	3386
GAUGE (km of route)						
W6A			1313	1313	1313	1313
W7			1233	1233	1233	1233
W8			1208	1208	1208	1229
W9			906	906	906	1105
W10			800	800	800	1071
W11			0	0	0	1071
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			7	7	7	28
20.4–24.1 tonnes			1375	1375	1375	1375
24.2–25.4 tonnes			1982	1982	1982	1982
TOTAL			3364	3364	3365	3386

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
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Merseyrail Electrics Ltd

TRAIN OPERATOR

Merseyrail Electrics Ltd is part of the MTL Group, with a franchise that expires in March 2004. It runs a highly intensive service across Merseyside, serving 65 stations over 75 DC electrified route miles, with the key markets being services to Southport, Chester, Birkenhead and Central Liverpool. The central part of the network is built in tunnels, and includes five underground stations. With service levels and fares set by Merseytravel Passenger Transport Executive, the main focus of attention is a continual drive for improved punctuality and reliability.

CRR PROGRESS

MEL's initial tranche of CRRs focused predominantly on options to improve the reliability and performance of the network. A number of schemes have been implemented, providing more reliability through, for example, the provision of axle-counters and increased numbers of point heaters. The majority of the ongoing CRRs focus on areas where continual improvement is sought by MEL, particularly the quality of provision of power through the conductor rail.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	32	3	3	2	2	0	7	8	7	0
2000	32	11	2	2	2	0	5	6	4	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Liverpool Central–Chester	29	14	38min (29mph)	38min (29mph)	38min (29mph)	31min (35mph)
Liverpool Central–Southport	31	15	42min (27mph)	42min (27mph)	42min (27mph)	42min (27mph)
LINESPEEDS (km of track)						
Up to 35mph			42	42	42	42
40–75mph			280	280	280	280
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			322	322	322	322
GAUGE (km of route)						
W6A			163	163	163	163
W7			56	56	56	56
W8			56	56	56	56
W9			0	0	24	24
W10			0	0	24	24
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			10	10	10	10
20.4–24.1 tonnes			312	312	312	312
24.2–25.4 tonnes			0	0	0	0
TOTAL			322	322	322	322

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Midland Mainline Ltd

TRAIN OPERATOR

Midland Mainline Ltd (MML) is part of the NEG Rail Group. The franchise expires in March 2006. MML's services operate between London St Pancras and the major cities of the East Midlands and South Yorkshire – over 470 route km carrying an average of 18,000 passengers daily. MML operates primarily in the medium- to long- distance business and leisure markets with some medium distance commuter traffic at the southern end of the route.

Improvements in punctuality and reliability alongside reductions in journey times are crucial in order to maintain MML's ability to compete effectively against the M1 road corridor and the private car.

CRR PROGRESS

MML's initial phase of CRRs has been focused on delivering significant changes to infrastructure and station capability to enable growth in MML's services and improvements in facilities used by MML customers. The completion of key infrastructure enhancements including a new platform at Bedford (including lifts accessible by the disabled); reopening of St Pancras platform 6; upgrade of Nottingham platform 6 for passenger use and increased capacity at Wigston Junction, have enabled MML to double their passenger services last summer. At Leicester, goods lifts have been converted for disabled use and at Market Harborough a toilet for the disabled has been provided.

Schemes set for completion in 2000 include substantial increased car parking at Kettering (+200 spaces) and Derby (+200 spaces) and both stations will benefit from new lifts which will be accessible by disabled customers. Chesterfield Station is to be rebuilt with improved facilities for passengers.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	68	11	2	6	5	0	9	22	8	5
2000	88	23	5	7	5	0	8	18	17	5

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London St Pancras–Leicester	160	0	1hr 7min (89mph)	1hr 7min (89mph)	1hr 7min (89mph)	56min (106mph)
London St Pancras–Sheffield (via Erewash Valley)	255	1	1hr 59min (80mph)	1hr 59min (80mph)	1hr 59min (80mph)	1hr 40min (95mph)
LINESPEEDS (km of track)						
Up to 35mph			628	628	628	627
40–75mph			2934	2930	2930	2928
80–105mph			1318	1321	1321	1251
110–125mph			1225	1225	1225	1305
Over 125mph			0	0	0	0
TOTAL			6104	6104	6104	6111
GAUGE (km of route)						
W6A			2871	2871	2871	2871
W7			2795	2795	2795	2795
W8			2519	2519	2519	2519
W9			771	771	799	904
W10			0	0	27	828
W11			0	0	0	175
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1196	1196	1196	1196
20.4–24.1 tonnes			3758	3758	3758	3765
24.2–25.4 tonnes			1150	1150	1150	1150
TOTAL			6104	6104	6104	6111

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Northern Spirit Limited

TRAIN OPERATOR

Northern Spirit Limited is part of the MTL Group, with a franchise which expires in March 2004. Northern Spirit (NS) operates the largest regional area of British railway with a total of 2,050 route km, carrying more than 100,000 passengers daily to 300 stations – Newcastle–Liverpool, Leeds–Glasgow and Hull–Sheffield. NS operates in four PTE areas as well as operating the long-distance Trans-Pennine Express. It also operates rural services such as Settle–Carlisle.

Currently the focus within NS is on improving punctuality and reliability. Northern Spirit is focused on delivering a value-for-money service to customers day in, day out, as well as meeting the long-term growth trend the business has experienced in recent years. By September, 95% of the NS fleet will have been refurbished. The new Class 333 will be introduced before the end of 2000.

CRR PROGRESS

Northern Spirit's initial phase of CRRs has focused on delivering passenger amenity improvements. Building on the benefits achieved through the Station Regeneration Programme, new facilities have been completed at Menston while Garforth and Huddersfield have been substantially refurbished. Improved access has been delivered at Halifax and a similar scheme is under way at Middlesbrough. In conjunction with WYPTE and SYPT, safety and security have been significantly improved at many stations leased by Northern Spirit.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	74	0	1	0	2	3	5	51	12	0
2000	95	20	6	0	1	1	5	45	17	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Manchester Piccadilly–Leeds	68	3	58min (44mph)	58min (44mph)	58min (44mph)	45min (56mph)
Hull–Leeds	66	14	55min (45mph)	55min (45mph)	55min (45mph)	48min (52mph)
Scarborough–York	69	1	46min (55mph)	46min (55mph)	46min (55mph)	41min (59mph)
LINESPEEDS (km of track)						
Up to 35mph			1149	1149	1144	1143
40–75mph			5825	5822	5645	5691
80–105mph			2441	2444	1966	1896
110–125mph			1953	1953	2191	2271
Over 125mph			0	0	391	391
TOTAL			11369	11369	11337	11392
GAUGE (km of route)						
W6A			5262	5262	5243	5243
W7			4812	4812	4812	4812
W8			4340	4340	4341	4410
W9			1655	1655	1704	2008
W10			800	800	848	1920
W11			0	0	0	1246
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1208	1208	1208	1208
20.4–24.1 tonnes			7289	7289	7256	7310
24.2–25.4 tonnes			2872	2872	2873	2873
TOTAL			11369	11369	11337	11391

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ScotRail Railways Ltd

TRAIN OPERATOR

ScotRail Railways Ltd is part of the National Express Group (NEG). 95% of passenger services in Scotland are operated by ScotRail, accounting for over 60 million passenger journeys per year. Over 99% of ScotRail's 2000 daily trains operate entirely within Scotland. A small number of ScotRail services extends into England, principally overnight Caledonian Sleeper services to and from London.

ScotRail has a clear vision that focuses on excellence in service delivery to passengers. Key objectives are to grow rail's share of the passenger transport market in the corridors on which they operate, to improve the management and environment of their stations, in particular passenger information provision, and to continue to improve their already excellent performance record. NEG's principle franchise commitments relate to the introduction of new rolling stock and service enhancement. Delivery of these is well in hand.

CRR PROGRESS

The ScotRail CRRs completed in the past 12 months have delivered clear passenger benefits including doubling the frequency of service between Glasgow Queen Street and Edinburgh (now every 15 minutes) and between Glasgow and Stirling. New trains have entered service, greatly reducing the average age of the ScotRail fleet.

Further enhancements include a 38% increase in parking spaces and a new station building at Croy and a new station (funded by Fife Council) at Dunfermline Queen Margaret.

Work is progressing to reduce journey times between Glasgow/Edinburgh and Aberdeen, Glasgow/Edinburgh to Inverness and Aberdeen to Inverness. By May 2000, a seven-minute reduction in the Edinburgh to Aberdeen journey time will be implemented, with the other work implemented by October 2000.

Depot facility improvements have also been undertaken on behalf of ScotRail, with controlled-emission toilet facilities provided at four depots and tenders for new carriage washing machines currently being sought.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	71	10	2	5	1	14	2	22	15	0
2000	72	43	1	2	1	5	2	9	9	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Glasgow Queen Street–Edinburgh	76	3	48min (59mph)	48min (59mph)	45min (63mph)	38min (72mph)
Edinburgh–Aberdeen	210	8	2hr 26min (53mph)	2hr 15min (58mph)	2hr 15min (58mph)	2hr (65mph)
Glasgow Queen Street–Inverness	290	12	3hr 20min (54mph)	3hr 15min (56mph)	3hr 9min (57mph)	3hr (60mph)
LINESPEEDS (km of track)						
Up to 35mph			715	715	714	674
40–75mph			3767	3767	3681	3549
80–105mph			2241	2241	1708	1805
110–125mph			1741	1741	1979	2059
Over 125mph			0	0	391	391
TOTAL			8464	8464	8473	8478
GAUGE (km of route)						
W6A			4151	4151	4159	4159
W7			4141	4141	4149	4150
W8			3759	3759	3773	3939
W9			1594	1594	1608	2279
W10			800	800	800	2196
W11			0	0	0	1071
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1847	1847	1849	1847
20.4–24.1 tonnes			2656	2656	2662	2568
24.2–25.4 tonnes			3961	3961	3961	4062
TOTAL			8464	8464	8473	8477

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Silverlink

TRAIN OPERATOR

Silverlink Train Services Limited is part of the National Express Group, which holds the franchise until 2004. Silverlink operates as two businesses, County and Metro, serving the following routes:

County	London Euston–Northampton–Birmingham Bletchley–Bedford Watford Junction–St Albans Abbey
Metro	Richmond–Willesden–Stratford–North Woolwich Gospel Oak–Barking Willesden Junction–Clapham Junction London Euston–Watford (DC Line)

Silverlink is working to continue strong growth through better punctuality and reliability, train frequency increases and improving the customer environment. The Silverlink fleet is being refurbished, which complements investment in Silverlink-leased stations.

CRR PROGRESS

Silverlink's CRRs have enabled the best benefits to be produced from recent phases of station regeneration work, in conjunction with external funding available in some cases.

Examples of significant improvements in the customer environment already in place include the provision of a new information point at Northampton and improved station interchange at Willesden. A major programme of safety and security improvements to stations and car parks, centred on new control centres at Bletchley and Willesden, has also resulted. Extension of the car park at Watford Junction Station, and new customer information systems at Watford Junction and Milton Keynes have been agreed and work is about to begin.

Detailed proposals have also been agreed for Harrow & Wealdstone Station to be upgraded, and interchange improved, and a feasibility study is currently under way to identify options for improving the poor environment at Wembley Central Station.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	153	32	0	3	4	1	34	70	9	0
2000	194	88	4	4	6	0	31	57	4	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Euston–Northampton	98	2	58min (63mph)	58min (63mph)	58min (63mph)	45min (81mph)
Richmond–Stratford	28	22	56min (19mph)	56min (19mph)	56min (19mph)	56min (19mph)
LINESPEEDS (km of track)						
Up to 35mph			358	358	355	355
40–75mph			1583	1583	1491	1491
80–105mph			1318	1318	785	785
110–125mph			728	728	966	966
Over 125mph			0	0	391	391
TOTAL			3987	3987	3988	3988
GAUGE (km of route)						
W6A			1571	1571	1571	1571
W7			1223	1223	1223	1223
W8			1183	1183	1183	1204
W9			958	958	958	1157
W10			800	800	800	1081
W11			0	0	0	1071
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			96	96	96	96
20.4–24.1 tonnes			1506	1506	1506	1506
24.2–25.4 tonnes			2386	2386	2386	2386
TOTAL			3987	3987	3988	3988

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South West Trains

TRAIN OPERATOR

South West Trains is the largest single franchise in the UK. London Waterloo is the hub of the network and around 125M passenger journeys are made every year over 584 route miles to 204 stations throughout Greater London and Southern England.

Under Stagecoach ownership, priorities have been to improve performance and customer service. The number of trains running on an already intensive network has been increased by 10% since the franchise began.

Replacement of Mark1 rolling stock has commenced with the first deliveries of 30 Class 458 electric multiple units. South West Trains is also investing £4.5M in the refurbishment of its 'Wessex Electrics' and Class 159 trains. Before the current franchise expires in early 2003, South West Trains is keen to support this investment in rolling stock with further improvements in station facilities and passenger information.

CRR PROGRESS

SWT's CRRs have focused on delivery of a number of short-term outputs, while taking the opportunity to evaluate the longer term future requirements of the route network.

In the past 12 months, a substantial scheme was completed at Feltham Gateway (for Heathrow). Over half the Station Regeneration Programme was finished – covering 96 stations – and work at the remaining stations is on target for completion by March 2001. Four car-park extensions have been completed; others require resolution of planning issues to progress further. A major study of suburban capacity examined the infrastructure changes necessary to meet the growing demand of the lines feeding Waterloo.

Depot regeneration schemes were completed at Bournemouth and Fratton and work is being undertaken during 2000 at Clapham Yard, Wimbledon and Salisbury for the new Class 170 fleet. Route clearance is being completed to facilitate the introduction of new Class 458 rolling stock early in 2000.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	48	3	6	2	5	1	15	7	8	1
2000	56	23	2	2	5	1	9	5	8	1

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Waterloo–Southampton Airport	127	0	1hr 1min (78mph)	1hr 1min (78mph)	1hr 1min (78mph)	1hr 1min (78mph)
London Waterloo–Portsmouth Harbour	119	7	1hr 29min (50mph)	1hr 29min (50mph)	1hr 29min (50mph)	1hr 26min (52mph)
Basingstoke–Exeter Central	200	12	2hr 11min (57mph)	2hr 11min (57mph)	2hr 11min (57mph)	2hr 11min (57mph)
LINESPEEDS (km of track)						
Up to 35mph			320	320	320	320
40–75mph			2411	2411	2411	2258
80–105mph			1826	1826	1826	1507
110–125mph			46	46	46	490
Over 125mph			0	0	0	0
TOTAL			4602	4602	4602	4602
GAUGE (km of route)						
W6A			2404	2404	2404	2404
W7			1307	1307	1307	1307
W8			608	608	608	766
W9			63	63	63	384
W10			0	0	0	341
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			225	225	225	225
20.4–24.1 tonnes			797	797	797	797
24.2–25.4 tonnes			3580	3580	3580	3580
TOTAL			4602	4602	4602	4602

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Thames Trains Limited

TRAIN OPERATOR

Thames Trains Limited is part of the Go-Ahead Group. The franchise expires at the end of March 2004. Thames Trains' services operate over a network covering 584 route km carrying 26.8M passengers a year to 104 stations from Paddington to Oxford, Hereford, Stratford-upon-Avon and Bedwyn and Reading to Gatwick and Basingstoke. Thames Trains also jointly operates a service with First Great Western between Bristol Temple Meads and Oxford.

Thames is working with us to improve performance and raise customer confidence while looking to develop and expand its network in the future.

CRR PROGRESS

The CRR process has formed the basis of a successful partnership between Thames Trains and Railtrack. Both parties view CRRs as the core of the Account Management process, and the concept has matured to the point where our annual investment strategy is built on directly identifiable customer requirements.

Completed CRRs include the reinstatement of the South Greenford 'up' platform. A number of other CRRs have progressed to design and implementation, eg the conversion of the Ufton goods loop for passenger use.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	143	44	54	12	0	0	5	13	15	0
2000	155	49	64	11	0	0	5	11	15	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Paddington–Oxford	102	3	57min (67mph)	57min (67mph)	57min (67mph)	57min (67mph)
London Paddington–Newbury	85	7	1hr 9min (46mph)	1hr 9min (46mph)	1hr 9min (46mph)	1hr 9min (46mph)

LINESPEEDS (km of track)

Up to 35mph	371	371	371	382
40–75mph	2703	2703	2703	2555
80–105mph	2329	2329	2329	2016
110–125mph	601	601	601	842
Over 125mph	0	0	0	261
TOTAL	6003	6003	6003	6056

GAUGE (km of route)

W6A	2931	2931	2931	2931
W7	1947	1947	1947	1947
W8	1276	1276	1276	1434
W9	62	72	223	1040
W10	0	10	161	998
W11	0	0	0	295

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	248	248	248	249
20.4–24.1 tonnes	1142	1142	1142	1166
24.2–25.4 tonnes	4614	4614	4614	4641
TOTAL	6003	6003	6003	6056

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
 Capabilities are shown for all routes in this NMS over which customers operate either in part or in full
 The sum of the figures may not match totals due to rounding



Thameslink Rail

TRAIN OPERATOR

Since 1997, the Thameslink Rail franchise has been operated by Govia Ltd, a wholly owned subsidiary of the Go-Ahead Group plc and Via-GTI of France.

Thameslink's network provides fast, frequent rail services through the heart of central London, serves five city centre stations and provides direct links between Bedford, Brighton, Luton and Gatwick Airport and South London.

Last year, Thameslink provided approximately 33M passenger journeys, equating to around 110,000 passenger journeys each day.

Key objectives for 2000/01 are:

- Re-establishing Thameslink's reputation for high standards of punctuality and reliability
- Planning to ensure that capacity will exist for projected passenger growth, eg intending to provide additional peak services in autumn 2001.

Planning to provide acceptable alternative services when Thameslink 2000 construction work commences in early 2002.

CRR PROGRESS

In the past 12 months, the completed schemes have focused on delivery of passenger benefits. The opening of Luton Airport Parkway Station during November 1999 by Her Majesty The Queen, signified the completion of this 'jewel in the crown' project delivering a state-of-the-art station. Providing four platforms, this station is located on the outskirts of Luton yet within close proximity of the expanding Luton Airport. Key to the success of this station is the provision of park-and-ride facilities.

Thameslink has seen a significant increase in the number of passenger journeys during the peak periods which resulted in severe overcrowding on a number of 'high' peak services. In order to alleviate such overcrowding, CRRs completed include:

- Route clearance for additional rolling stock
- Provision of an additional 'high' peak service.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	24	5	2	1	1	3	5	5	2	0
2000	28	14	2	2	1	2	4	2	1	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Bedford–Farringdon	82	2	46min (68mph)	46min (68mph)	46min (68mph)	46min (68mph)
Bedford–Brighton	166	15	2hr 9min (48mph)	2hr 9min (48mph)	2hr 9min (48mph)	2hr 4min (50mph)
LINESPEEDS (km of track)						
Up to 35mph			244	244	244	244
40–75mph			1379	1379	1379	1379
80–105mph			1124	1124	1124	1044
110–125mph			209	209	209	289
Over 125mph			0	0	0	0
TOTAL			2956	2956	2956	2956
GAUGE (km of route)						
W6A			1236	1236	1236	1236
W7			632	632	632	653
W8			506	506	506	527
W9			296	296	296	317
W10			0	0	0	143
W11			0	0	0	133
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			101	101	101	101
20.4–24.1 tonnes			358	358	358	358
24.2–25.4 tonnes			2497	2497	2497	2497
TOTAL			2956	2956	2956	2956

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown

Capabilities are shown for all routes in this NMS over which customers operate either in part or in full

The sum of the figures may not match totals due to rounding



Virgin CrossCountry

TRAIN OPERATOR

Virgin Trains holds the franchise for CrossCountry train services. Its vision is to be a world-class rail transport business by 2003. It intends to achieve this through its continuing commitment to customer service and the introduction of new trains on an upgraded infrastructure on both of its rail franchises.

It requires that its operation, and the network, be utterly reliable. Higher speeds leading to reduced journey times, together with increased service frequencies and new standards of passenger comfort and service (on-board trains and at stations) will encourage and sustain the volume growth and market share that Virgin Trains requires to meet business objectives.

CRR PROGRESS

Virgin's CRRs have focused on ensuring that the appropriate infrastructure and station developments have been planned to enable the delivery of the CrossCountry Upgrade Projects.

During 1999, the station and infrastructure schemes that have been completed include:

- Birmingham International: new passenger lift at entrance to station
- Leeds Station: refurbished subway and additional car parking
- Lancaster: improved station walkway and additional car parking
- Oxenholme: additional car parking and new passenger lounge on the down platform
- Float Viaduct: facilitate increased linespeed over viaducts
- Manchester Piccadilly: returning platform to operational use
- Proof House Junction: enabling works being progressed.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	34	0	6	1	2	2	2	2	19	0
2000	34	5	6	1	2	2	2	2	14	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Birmingham–Bristol	150	1	1hr 11min (80mph)	1hr 11min (80mph)	60min (93mph)	60min (93mph)
Birmingham–Reading	159	5	1hr 46min (56mph)	1hr 46min (56mph)	1hr 14min (80mph)	1hr 14min (80mph)
Birmingham–Leeds	187	4	2hr 1min (58mph)	2hr 1min (58mph)	1hr 49min (64mph)	1hr 49min (64mph)
LINESPEEDS (km of track)						
Up to 35mph			1763	1763	1758	1756
40–75mph			9606	9472	9297	8841
80–105mph			5793	5925	5446	5299
110–125mph			2554	2554	2792	3193
Over 125mph			0	0	391	652
TOTAL			19715	19715	19684	19741
GAUGE (km of route)						
W6A			9339	9339	9320	9320
W7			7627	7627	7627	7648
W86			6501	6501	6502	6702
W9			1889	1889	2123	3795
W10			800	810	1033	3609
W11			0	0	0	1669
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1474	1474	1474	1476
20.4–24.1 tonnes			8378	8378	8345	8283
24.2–25.4 tonnes			9863	9863	9865	9982
TOTAL			19715	19715	19684	19741

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown

Capabilities are shown for all routes in this NMS over which customers operate either in part or in full

The sum of the figures may not match totals due to rounding



Virgin West Coast

TRAIN OPERATOR

Virgin Trains holds the franchise for West Coast train services. Its vision is to be a world-class rail transport business by 2003. It intends to achieve this through its continuing commitment to customer service and the introduction of new trains on an upgraded infrastructure on both of its rail franchises.

It requires that its operation, and the network, be utterly reliable. Higher speeds leading to reduced journey times, together with increased service frequencies and new standards of passenger comfort and service (on-board trains and at stations) will encourage and sustain the volume growth and market share that Virgin Trains requires to meet business objectives.

CRR PROGRESS

Virgin's CRRs have focused on ensuring that the appropriate infrastructure and station developments have been planned to enable the delivery of the West Coast Upgrade Projects.

During 1999, the station and infrastructure schemes that have been completed include:

- Birmingham International: new passenger lift at entrance to station
- Lancaster: improved station walkway and additional car parking
- Oxenholme: additional car parking and new passenger lounge on the down platform
- Float Viaduct: facilitate increased linespeed over viaducts
- Manchester Piccadilly: returning platform to operational use
- Euston: remodelling
- Proof House Junction: enabling works being progressed.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	125	2	4	1	2	4	5	1	106	0
2000	125	16	4	1	2	3	5	1	93	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Euston–Birmingham New Street	182	3	1hr 35min (71mph)	1hr 35min (71mph)	1hr 10min (97mph)	1hr 10min (97mph)
London Euston–Manchester Piccadilly (via Crewe)	304	3	2hr 35min (73mph)	2hr 35min (73mph)	1hr 50min (104mph)	1hr 50min (104mph)
London Euston–Glasgow Central	645	8	5hr 18min (76mph)	5hr 18min (76mph)	3hr 55min (103mph) ¹	3hr 55min (103mph) ²
LINESPEEDS (km of track)						
Up to 35mph			650	650	645	646
40–75mph			4226	4094	3916	3600
80–105mph			1448	1580	1102	1432
110–125mph			731	731	969	969
Over 125mph			0	0	391	391
TOTAL			7054	7054	7023	7038
GAUGE (km of route)						
W6A			3446	3446	3427	3427
W7			2746	2746	2746	2746
W8			2453	2453	2454	2475
W9			930	930	1003	1329
W10			800	800	872	1317
W11			0	0	0	1246
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			281	281	281	281
20.4–24.1 tonnes			5042	5042	5009	4928
24.2–25.4 tonnes			1731	1731	1732	1828
TOTAL			7054	7054	7023	7038

¹ One Key Service per day may operate to this journey time

² One Key Service per day may operate to this journey time

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Wales & West Passenger Trains Ltd

TRAIN OPERATOR

Wales and West Passenger Trains Ltd is part of the PRISM Rail Group. The franchise expires in March 2004. Wales and West's (W&W) services operate an extensive network covering 2,525 route km carrying 38,100 passengers daily to 293 stations from Penzance to Manchester, Waterloo to Milford Haven and Portsmouth to Liverpool. W&W operates distinct markets, primarily those social routes in South Wales and the West Country and the more commercial services radiating from Cardiff.

W&W is working to increase passenger numbers on services that currently operate below capacity. Improvements in punctuality and reliability are crucial for raising customer confidence and increasing the desire to travel by train. In addition, W&W continues to refurbish trains to increase fleet reliability and improve passenger comfort.

CRR PROGRESS

Railtrack has successfully completed pre-feasibility studies on most of W&W's CRRs and feasibility studies are under way on many others. These studies have enabled Railtrack to programme schemes and continual improvements to meet W&W's CRRs until the end of its current franchise in 2004. Many of the CRRs are focused on linespeed increases and journey time improvements and, as a result of regular consultation prior to renewals, some improvement opportunities have already been identified and implemented.

In 1999, a new platform at Cardiff Central was completed and opened for the start of the Rugby World Cup, meeting another of W&W's CRRs and increasing capacity to accommodate the thousands of fans visiting the Millennium Stadium.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	92	0	21	14	4	4	6	37	6	0
2000	112	19	16	31	4	0	6	30	6	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Cardiff Central–Manchester Piccadilly	272	10	3hr 5min (55mph)	3hr 5min (55mph)	3hr 5min (55mph)	3hr (57mph)
Bristol Temple Meads–Portsmouth Harbour	166	10	2hr 21min (44mph)	2hr 21min (44mph)	2hr 21min (44mph)	2hr 16min (45mph)

LINESPEEDS (km of track)

Up to 35mph	751	751	746	749
40–75mph	4398	4269	4179	3793
80–105mph	3780	3908	3375	3310
110–125mph	1329	1329	1567	1808
Over 125mph	0	0	391	652
TOTAL	10257	10257	10258	10309

GAUGE (km of route)

W6A	4888	4888	4888	4888
W7	3831	3831	3831	3831
W8	2852	2852	2852	3031
W9	929	939	1090	2151
W10	800	810	961	2108
W11	0	0	0	1086

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	250	250	250	252
20.4–24.1 tonnes	3087	3087	3087	3106
24.2–25.4 tonnes	6920	6920	6920	6950
TOTAL	10257	10257	10258	10309

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West Anglia Great Northern Railway

TRAIN OPERATOR

WAGN Railway operates out of King's Cross, Moorgate and Liverpool Street, serving commuter and off-peak markets throughout North London, Cambridgeshire, East Hertfordshire and parts of Norfolk, Bedfordshire and Essex, including the Stansted Skytrain service.

The organisation is refocusing by creating a general management team for each route on which WAGN provides services, including the growing markets of Cambridge, Stansted Airport, Peterborough and Huntingdon.

While key objectives are to improve performance on the West Anglia Route and maintain the excellent record on Great Northern, WAGN also plans major investment to achieve DETR Secure Station Scheme and ACPO Secured Car Park status.

CRR PROGRESS

In 1999/2000, the CRR process has been successful in delivering WAGN's requirements. Two high-profile schemes that have been completed are the Hitchin to Cambridge linespeed improvements and the increase to four trains per hour of the Stansted Skytrain. This work has particularly helped WAGN exploit the potential of its growing markets.

In addition to many infrastructure and property improvements, the following schemes have been completed:

- Additional trains from Moorgate to Welwyn
- Additional trains from Moorgate to Hertford
- Installation of canopies at Bruce Grove Station
- Disabled access ramps at Cheshunt
- Disabled toilet at Chingford
- Waiting room at Gordon Hill.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	93	3	4	6	5	6	10	29	30	0
2000	125	33	8	11	10	3	12	21	27	0

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London King's Cross–Cambridge	93	0	45min (77mph)	45min (77mph)	45min (77mph)	45min (77mph)
London Liverpool Street–Stansted	60	2	41min (55mph)	41min (55mph)	41min (55mph)	41min (55mph)
LINESPEEDS (km of track)						
Up to 35mph			173	173	173	173
40–75mph			993	993	993	993
80–105mph			706	706	706	706
110–125mph			1013	1013	1013	1013
Over 125mph			0	0	0	0
TOTAL			2885	2885	2885	2885
GAUGE (km of route)						
W6A			1221	1221	1221	1221
W7			1176	1176	1176	1176
W8			1176	1176	1176	1176
W9			699	699	701	719
W10			0	0	48	719
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1130	1130	1130	1130
20.4–24.1 tonnes			1523	1523	1523	1523
24.2–25.4 tonnes			232	232	232	232
TOTAL			2885	2885	2885	2885

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Direct Rail Services Limited

TRAIN OPERATOR

Direct Rail Services (a wholly owned subsidiary of BNFL) business is focused principally upon the transport of nuclear material from power stations to the reprocessing facility at Sellafield in Cumbria.

Direct Rail Services is currently exploring opportunities for entering into other rail freight markets and discussions continue with potential customers and Railtrack.

CRR PROGRESS

DRS's initial phase of CRRs has focused Railtrack on delivering improvements in track quality and the granting of firm contractual rights with regard to train timings.

Railtrack and DRS have entered into contractual negotiations to achieve the rights sought – and a submission to the Office of the Rail Regulator is anticipated by early March 2000.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	21	0	1	2	6	4	0	8	0	0
2000	28	8	2	2	6	4	0	6	0	0

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	2293	2293	2234	2254
40–75mph	8481	8352	8238	7850
80–105mph	4588	4717	4239	4012
110–125mph	1996	1996	2234	2905
Over 125mph	0	0	391	391
TOTAL	17358	17358	17336	17412
GAUGE (km of route)				
W6A	8826	8826	8815	8828
W7	7124	7124	7132	7171
W8	5692	5692	5707	5978
W9	2002	2108	2322	3237
W10	800	906	1115	2794
W11	0	0	0	1224
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	1640	1640	1642	1640
20.4–24.1 tonnes	7822	7788	7784	7785
24.2–25.4 tonnes	7896	7896	7910	7987
TOTAL	17358	17325	17336	17412

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English, Welsh and Scottish Railway

TRAIN OPERATOR

Day and night, EWS moves more than 100 million tonnes of freight annually throughout Britain and through the Channel Tunnel into Europe. Besides traditional rail markets such as stone, steel, oil and coal, EWS also operates an overnight letter-mail network and provides a logistics service for maintaining Britain's railway infrastructure. Following significant investment in locomotives, wagons, systems and a centralised control centre, EWS is winning new and recaptured markets such as food and drink, manufactured goods, express parcels, timber and chemicals. EWS trains operate over distances of between five and 1,300km – the latter as part of international services to Italy and Spain. EWS operates major intermodal terminals and serves many of Britain's ports. EWS has played a full part in the growth of freight on rail – a major contributor to reducing congestion and pollution on major road arteries.

CRR PROGRESS

EWS has produced a further 101 CRRs during this year. Of these, 65 are new items and 36 replace previously submitted CRRs. During the year, 37 CRRs have been completed.

The majority of EWS's CRRs relate to the development of a network which will support longer, heavier, bigger and faster freight trains.

In the last 12 months, the route from Wembley–Doncaster via Mossend has been cleared for Class 92 locomotive operation. The route between Wembley and Garston/Coatbridge is now cleared for W10 traffic. In order to ease access between the North London Line and West Coast Main Line the City Goods Line has been electrified. A number of new freight terminals have been opened and work continues on developing other terminals to meet EWS's requirements. A study into the options for a third Anglo-Scottish freight route has been published. Additional details can be found in the Freight section in Volume 1.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	151	1	34	19	1	3	0	60	0	33
2000	252	70	119	6	0	0	0	19	12	26

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	3571	3571	3510	3498
40–75mph	16924	16762	16680	16085
80–105mph	7412	7544	7065	7046
110–125mph	2554	2554	2792	3340
Over 125mph	0	0	391	652
TOTAL	30460	30460	30438	30619
GAUGE (km of route)				
W6A	16311	16311	16300	16313
W7	12998	12998	13006	13045
W8	10433	10433	10448	10979
W9	2140	2256	2546	4764
W10	800	916	1247	4323
W11	0	0	0	1674
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	2709	2709	2711	2732
20.4–24.1 tonnes	14635	14602	14598	14475
24.2–25.4 tonnes	13116	13116	13129	13412
TOTAL	30460	30460	30438	30619

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Freightliner Limited

TRAIN OPERATOR

Freightliner is Britain's leading intermodal and rail freight logistics operator. It has specialised in serving the deep sea ports of Britain through a 'hub-and-spoke' national network, supported by inland terminals strategically placed to serve the major industrial markets.

Following a company-wide service excellence programme, which has included investment in locomotives, wagons, handling equipment and staff training, Freightliner now offers standards of service reliability to 98% levels.

Freightliner has recently developed a number of new business opportunities including a heavy-haul logistics business and a car distribution business.

The volume of business carried by Freightliner has increased by approximately 10% a year since privatisation; and Railtrack and Freightliner hope to enter into a new track access agreement for the period from 2001 which will enable the business to continue to grow.

CRR PROGRESS

Freightliner and Railtrack are renegotiating their track access agreement, to provide Freightliner with growth rights to meet their anticipated market needs. We are also investigating the provision, subject to funding, of a network capable of conveying 9'6" high containers on standard wagons.

The proposed track access agreement is now with the Office of the Rail Regulator awaiting approval and Railtrack is working closely with Freightliner and potential partners to secure funding.

CUSTOMER REASONABLE REQUIREMENTS (CRRs) UPDATE

REQUIREMENTS SUBMITTED AND CLOSED OUT			REQUIREMENTS RELATING TO							
NMS YEAR	CRRs SUBMITTED	CRRs WITHDRAWN/ COMPLETED	ACCOUNT MGMNT PROCESS	NETWORK PERFORMANCE	TRACK QUALITY	TRACK ACCESS	RENEWALS	ENHANCEMENT FEASIBILITY	ENHANCEMENT IMPLEMENTATION	REQUIREMENTS UNDER DISCUSSION
1999	18	1	0	4	3	1	0	9	0	0
2000	15	4	0	2	1	1	1	10	0	0

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	2700	2700	2642	2619
40–75mph	9595	9592	9564	9604
80–105mph	4557	4560	4027	3895
110–125mph	2299	2299	2537	2481
Over 125mph	0	0	391	652
TOTAL	19151	19151	19161	19251
GAUGE (km of route)				
W6A	10045	10045	10053	10066
W7	8512	8512	8520	8537
W8	7314	7314	7328	7631
W9	1825	1941	2184	3636
W10	800	916	1154	3338
W11	0	0	0	1541
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	2246	2246	2248	2248
20.4–24.1 tonnes	8867	8867	8862	8856
24.2–25.4 tonnes	8038	8038	8051	8147
TOTAL	19151	19151	19161	19251

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zone plans





East Anglia	40
Great Western	42
London North Eastern	44
Midlands	46
North West	48
Scotland	50
Southern	52

zone plans

In this Section, we show our plans disaggregated to each of our Zones and to 45 strategic routes. To locate the information on a particular line, first identify the area of Great Britain in which the route lies, using the map opposite, then turn to the summary for the Zone concerned in the following pages.

These Zone maps show the number of the route strategy in which each individual line is shown. Identify the line and the Route Strategy number and turn to the relevant Route Strategy which follow, in numerical order.

Our expenditure plans to sustain the network and for committed enhancement schemes are shown disaggregated to each of our Zones for the full eleven-year plan period. In each Route Strategy they are shown for the first six years of the plan; detailed expenditure plans at route level are not sufficiently refined to show these beyond 2005/06.

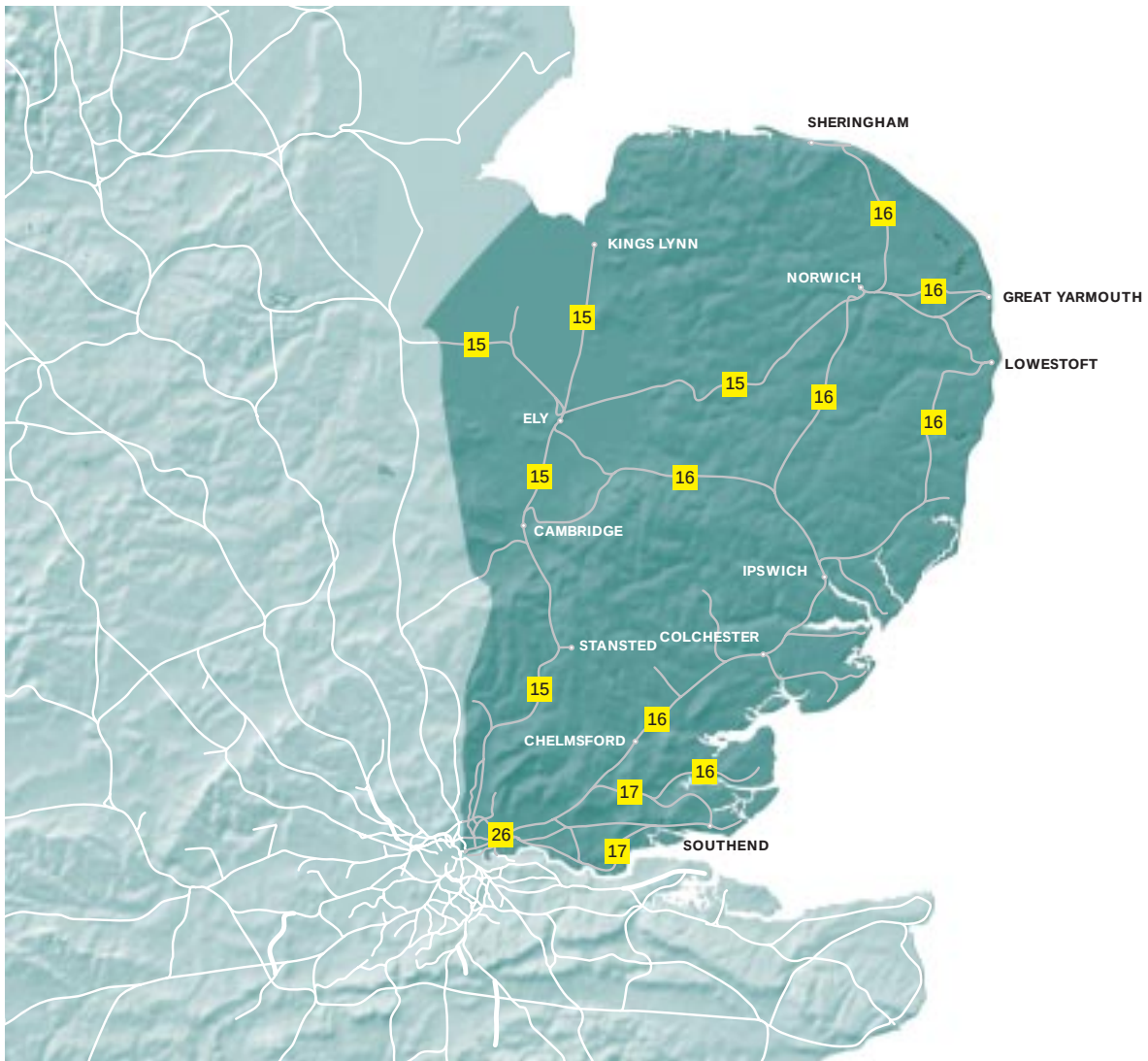
In addition to our Network Management Statement we have published six regional summaries of our plans. These cover:

- London and South East England
- South West England
- The Midlands
- Northern England
- Scotland
- Wales

These can be obtained by telephoning 0845 711 41 41
or from our website www.railtrack.co.uk



- East Anglia Zone routes
- 15 West Anglia Main Line and branches
 - 16 Great Eastern Main Line and branches
 - 17 London, Tilbury and Southend
 - 26 North London Line



Base map ©MAPS IN MINUTES™ 1997

East Anglia Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	68	65	63	62	61	59	58	57	56	54	53	51	708

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	29	24	24	21	19	18	18	17	17	16	15	15	233
Structures	11	11	17	22	17	16	15	14	13	13	13	13	176
Signalling	28	20	24	15	17	20	20	19	19	19	18	18	236
Electrification	2	10	6	13	12	3	2	1	1	4	5	5	63
Plant & Machinery	3	1	1	1	1	1	1	1	1	1	1	1	14
Telecoms	0	5	6	5	3	1	4	5	3	1	5	5	42
Stations	22	14	13	8	9	9	9	9	8	8	8	8	125
Depots	0	2	4	3	3	3	3	4	3	3	3	3	36
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	93	88	94	88	81	72	72	71	65	65	68	67	924

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	0	0	3	2	1	0	0	0	0	0	0	0	6
Structures	0	1	6	1	1	1	5	0	0	0	0	0	14
Signalling	1	4	7	1	0	0	3	0	0	0	0	0	16
Electrification	0	1	2	1	0	0	0	0	0	0	0	0	4
Stations	4	6	4	0	0	0	1	0	0	0	0	0	16
TOTAL	6	12	22	5	2	1	9	0	0	0	0	0	56

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	44	47	28	28
Sleepers renewed (km per year)	38	40	42	42
Ballast renewed (km per year)	34	46	59	59
Signals renewed (km per year)	0	78	n/a	n/a
Structures renewed (no. of structures per year)	0	1	8	8

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

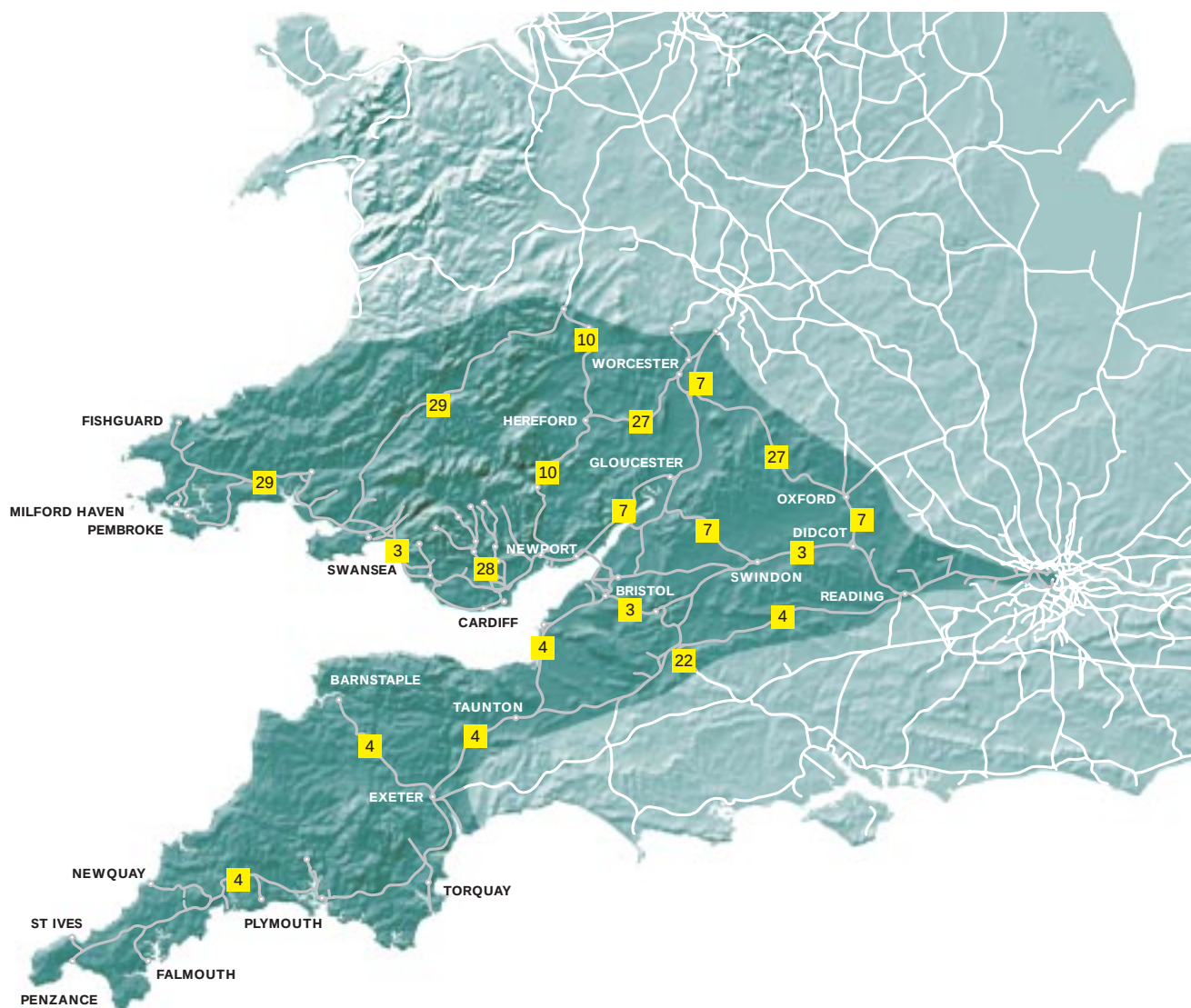
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

Great Western Zone routes

- 3** Great Western Main Line: London to Bristol and Swansea
- 4** Reading and Bristol to Penzance and branches
- 7** Derby to Bristol and Didcot via Birmingham
- 10** Crewe to Newport via Shrewsbury
- 22** Wessex
- 27** Cotswolds
- 28** Cardiff Valleys
- 29** West Wales



Base map ©MAPS IN MINUTES™ 1997

Great Western Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	95	91	93	89	86	84	83	80	79	76	74	72	1002

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	48	35	39	41	43	42	41	39	38	37	35	34	472
Structures	20	21	29	27	25	22	22	20	20	19	19	19	263
Signalling	14	12	51	51	51	52	51	50	49	48	47	46	522
Electrification	0	0	0	0	0	0	0	0	0	0	0	0	1
Plant & Machinery	2	3	3	3	5	3	3	2	2	3	3	2	33
Telecoms	1	3	4	2	1	1	2	5	3	2	2	2	30
Stations	13	5	11	11	10	10	10	10	10	10	10	9	118
Depots	10	3	2	2	2	2	2	2	2	2	2	2	36
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	108	83	140	136	138	132	130	130	124	121	119	115	1475

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	2	7	4	6	0	0	0	0	0	0	0	0	18
Structures	1	8	2	6	0	0	0	0	0	0	0	0	17
Signalling	2	14	15	31	0	0	0	0	0	0	0	0	61
Plant & Machinery	0	2	0	0	0	0	0	0	0	0	0	0	2
Stations	5	8	2	1	0	0	0	0	0	0	0	0	15
Depots	1	10	3	0	0	0	0	0	0	0	0	0	14
TOTAL	11	49	25	43	0	0	0	0	0	0	0	0	128

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	70	52	86	86
Sleepers renewed (km per year)	50	51	60	60
Ballast renewed (km per year)	59	35	88	88
Signals renewed (km per year)	0	0	n/a	n/a
Structures renewed (no. of structures per year)	3	6	14	14

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

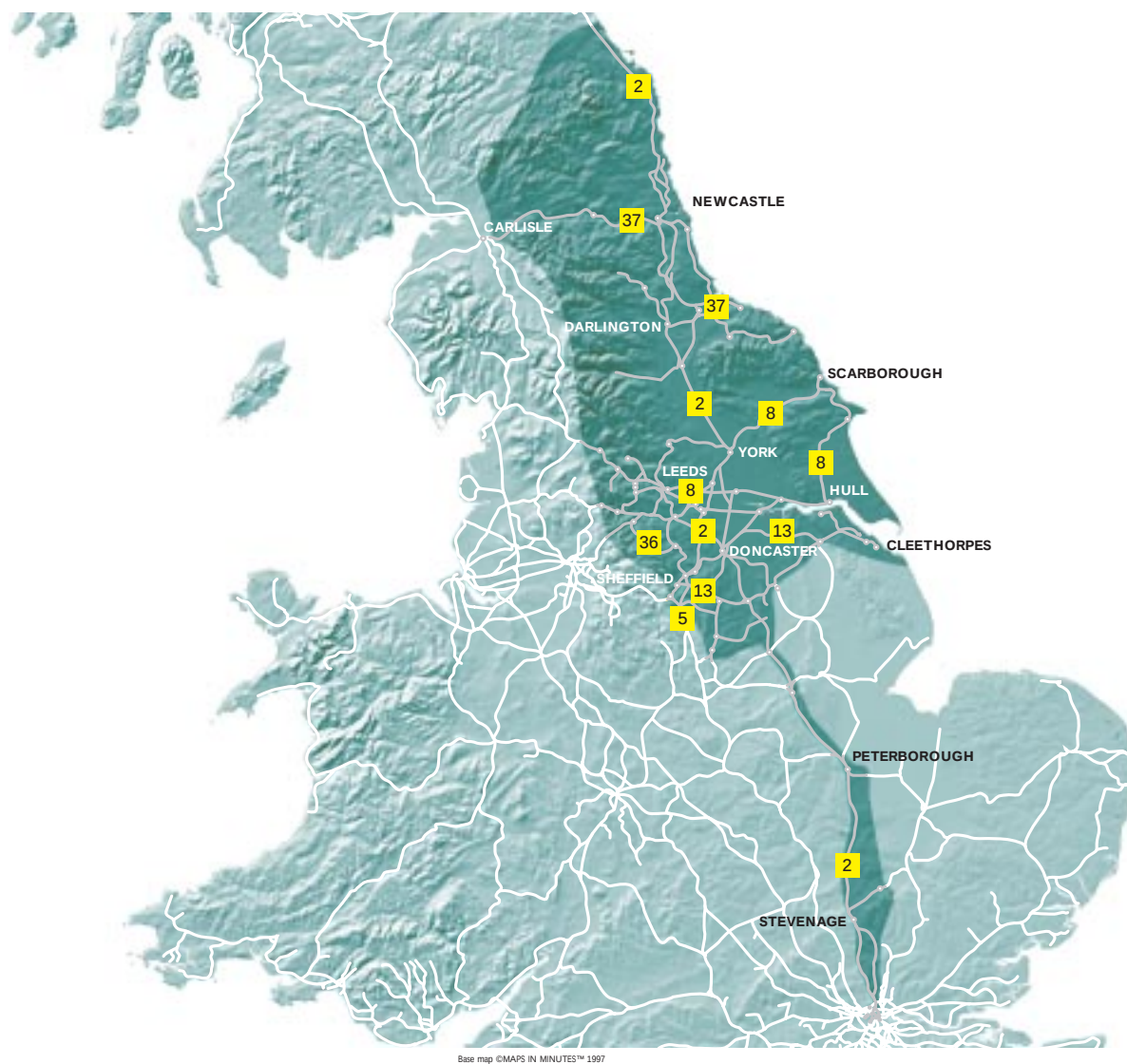
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

London North Eastern Zone routes

- 2 East Coast Main Line: London to Edinburgh
- 5 Midland Main Line: London to Sheffield
- 8 North Trans-Pennine: Liverpool to Leeds, Hull and Scarborough
- 13 Manchester to Sheffield and North Lincolnshire
- 36 Yorkshire
- 37 North East England



London North Eastern Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	96	100	102	101	99	96	95	92	91	88	85	83	1126

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	53	48	45	43	41	39	38	37	36	34	33	31	478
Structures	26	21	26	23	21	19	17	17	16	16	16	15	233
Signalling	19	18	59	58	56	56	57	56	55	54	53	52	594
Electrification	3	1	9	2	1	1	1	2	1	1	1	1	24
Plant & Machinery	6	4	4	4	3	3	2	2	2	2	1	1	35
Telecoms	3	3	0	0	0	1	1	1	1	2	2	1	16
Stations	22	28	12	23	19	12	8	12	10	11	11	11	179
Depots	5	0	2	2	2	3	5	3	3	3	3	2	33
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	137	122	156	155	144	135	130	131	125	124	119	115	1593

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	22	38	31	13	18	10	7	0	0	0	0	0	141
Structures	10	11	5	0	0	0	0	0	0	0	0	0	26
Signalling	12	47	19	0	0	0	0	0	0	0	0	0	81
Electrification	5	19	6	2	5	2	0	0	0	0	0	0	39
Plant & Machinery	1	1	0	0	0	0	0	0	0	0	0	0	1
Telecoms	1	5	0	0	0	0	0	0	0	0	0	0	6
Stations	11	13	10	2	5	0	0	0	0	0	0	0	42
Depots	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	2	0	0	0	0	0	0	0	0	0	0	3
TOTAL	62	137	73	18	28	12	8	1	1	1	1	0	339

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	67	60	43	43
Sleepers renewed (km per year)	45	38	69	69
Ballast renewed (km per year)	46	56	104	104
Signals renewed (km per year)	8	0	n/a	n/a
Structures renewed (no. of structures per year)	13	7	12	12

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

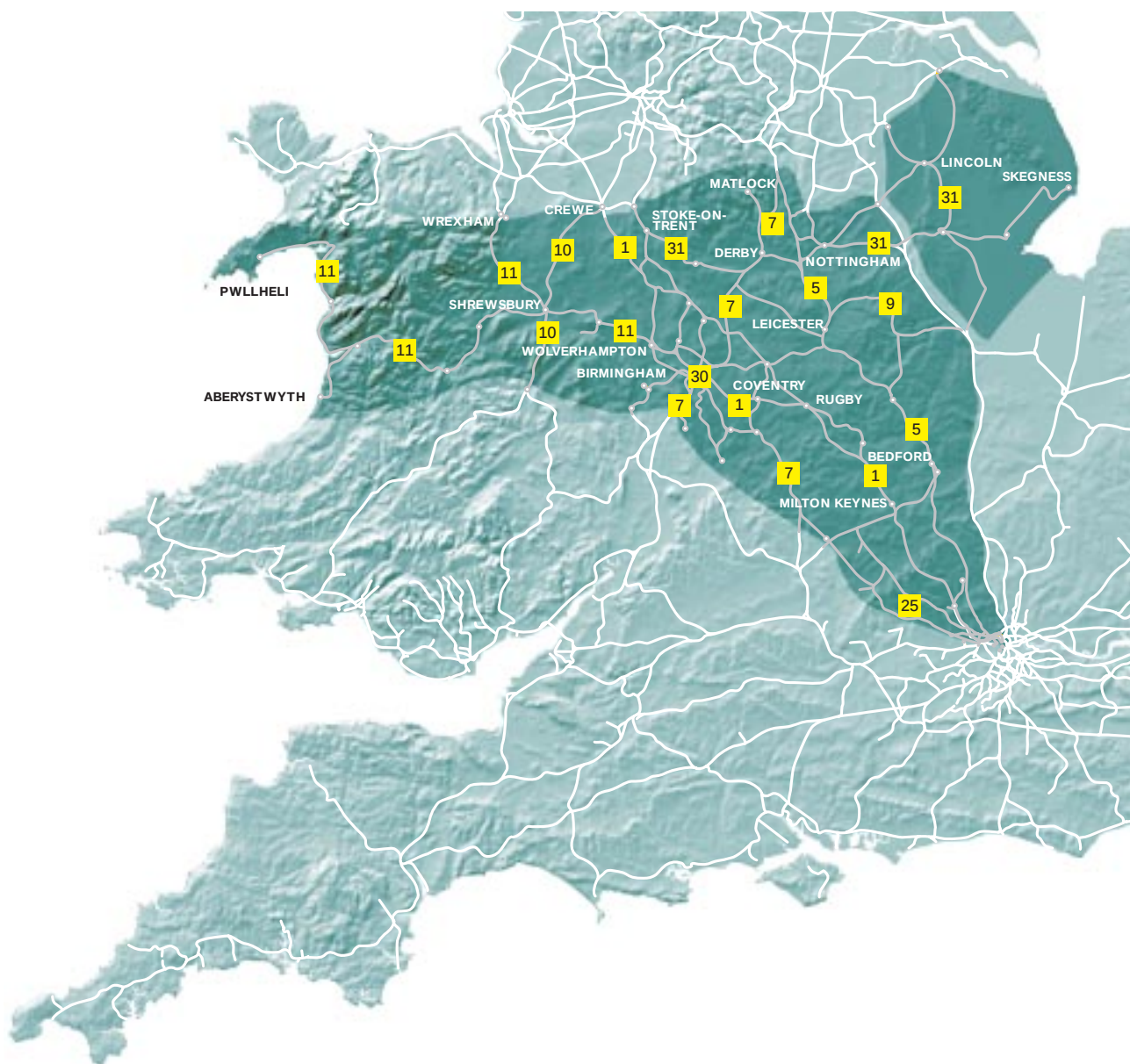
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

Midlands Zone routes

- 1** West Coast Main Line: London to Glasgow and Edinburgh
- 5** Midland Main Line: London to Sheffield
- 7** Derby to Bristol and Didcot via Birmingham
- 9** Birmingham and Coventry to Peterborough
- 10** Crewe to Newport via Shrewsbury
- 11** Wolverhampton to Chester, Aberystwyth and Pwllheli
- 25** Chiltern Lines
- 30** West Midlands local Routes
- 31** East Midlands local Routes



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Midlands Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	124	116	107	106	104	101	99	97	95	93	90	87	1218

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	98	127	109	108	97	74	55	33	32	31	39	53	855
Structures	57	61	47	42	32	32	26	21	21	20	20	20	399
Signalling	94	133	177	181	131	146	365	396	60	59	58	57	1857
Electrification	23	42	38	25	18	16	9	10	9	8	8	10	215
Plant & Machinery	0	1	4	3	2	2	2	2	2	2	2	1	21
Telecoms	14	17	24	14	5	5	10	3	2	1	2	2	99
Stations	43	18	23	22	21	14	14	15	12	12	11	11	216
Depots	0	0	5	5	5	3	3	3	3	3	3	3	36
Other	1	3	1	0	0	0	0	0	0	0	0	0	8
TOTAL	329	402	428	399	312	292	483	483	141	136	144	157	3707

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	15	36	60	102	134	113	44	6	0	0	0	0	510
Structures	10	16	27	50	81	79	36	8	0	0	0	0	307
Signalling	4	15	25	65	94	119	56	14	0	0	0	0	392
Electrification	19	56	27	122	113	88	11	1	0	0	0	0	436
Plant & Machinery	0	0	0	0	1	4	1	0	0	0	0	0	6
Telecoms	2	3	12	17	16	14	11	1	0	0	0	0	77
Stations	17	14	6	6	5	17	12	5	0	0	0	0	83
Depots	1	0	0	0	0	0	0	0	0	0	0	0	1
Other	0	0	0	0	1	1	1	0	0	0	0	0	3
TOTAL	69	140	157	362	445	434	171	36	0	0	0	0	1814

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	135	194	166	70
Sleepers renewed (km per year)	113	182	191	84
Ballast renewed (km per year)	128	182	239	128
Signals renewed (km per year)	24	24	n/a	n/a
Structures renewed (no. of structures per year)	38	16	18	17

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

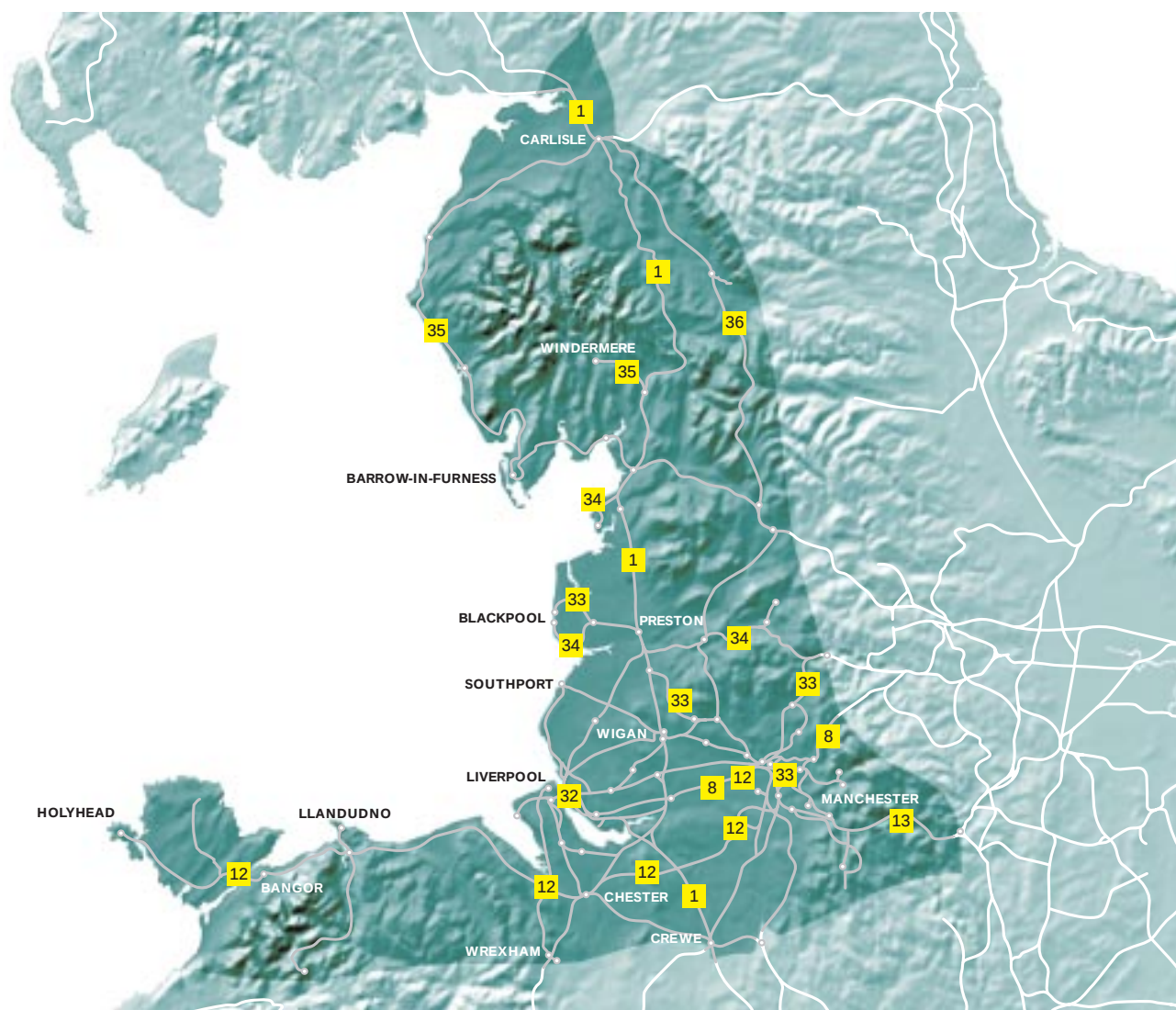
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

North West Zone routes

- 1** West Coast Main Line: London to Glasgow and Edinburgh
- 8** North Trans-Pennine: Liverpool to Leeds, Hull and Scarborough
- 12** Manchester and Crewe to North Wales
- 13** Manchester to Sheffield and North Lincolnshire
- 32** Merseyside
- 33** Manchester to the coast
- 34** Lancashire
- 35** Cumbria
- 36** Yorkshire



North West Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	87	90	68	68	66	64	63	61	60	58	56	55	797

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	52	60	104	84	61	57	25	28	27	25	26	29	578
Structures	21	22	45	35	28	28	26	27	26	26	25	25	335
Signalling	31	63	168	199	192	203	20	131	19	19	18	18	1081
Electrification	8	27	52	34	25	19	3	2	4	3	2	3	183
Plant & Machinery	1	0	2	2	2	2	2	2	3	3	2	2	23
Telecoms	6	10	25	16	11	9	2	4	3	3	3	3	95
Stations	42	30	8	5	5	9	8	9	8	9	9	8	150
Depots	2	3	3	2	2	3	3	4	3	3	3	3	35
Other	1	1	1	0	0	1	0	0	0	0	0	0	3
TOTAL	163	216	408	377	327	331	90	207	93	91	89	91	2483

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	17	35	37	22	6	7	2	2	3	3	3	0	139
Structures	4	13	13	9	10	5	4	0	0	0	0	0	59
Signalling	4	16	17	9	4	6	2	1	0	0	0	0	60
Electrification	7	19	30	15	4	3	0	0	0	0	0	0	78
Plant & Machinery	9	3	0	0	0	0	0	0	0	0	0	0	12
Telecoms	2	3	5	2	1	1	0	0	0	0	0	0	13
Stations	13	11	5	0	0	1	1	7	6	6	6	0	55
Depots	5	0	0	0	0	0	0	0	0	0	0	0	6
Other	1	2	2	0	0	0	0	0	0	0	0	0	5
TOTAL	62	102	108	58	27	23	10	10	9	9	9	0	427

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	104	107	46	23
Sleepers renewed (km per year)	86	113	87	62
Ballast renewed (km per year)	106	128	120	84
Signals renewed (km per year)	0	15	n/a	n/a
Structures renewed (no. of structures per year)	1	7	19	17

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

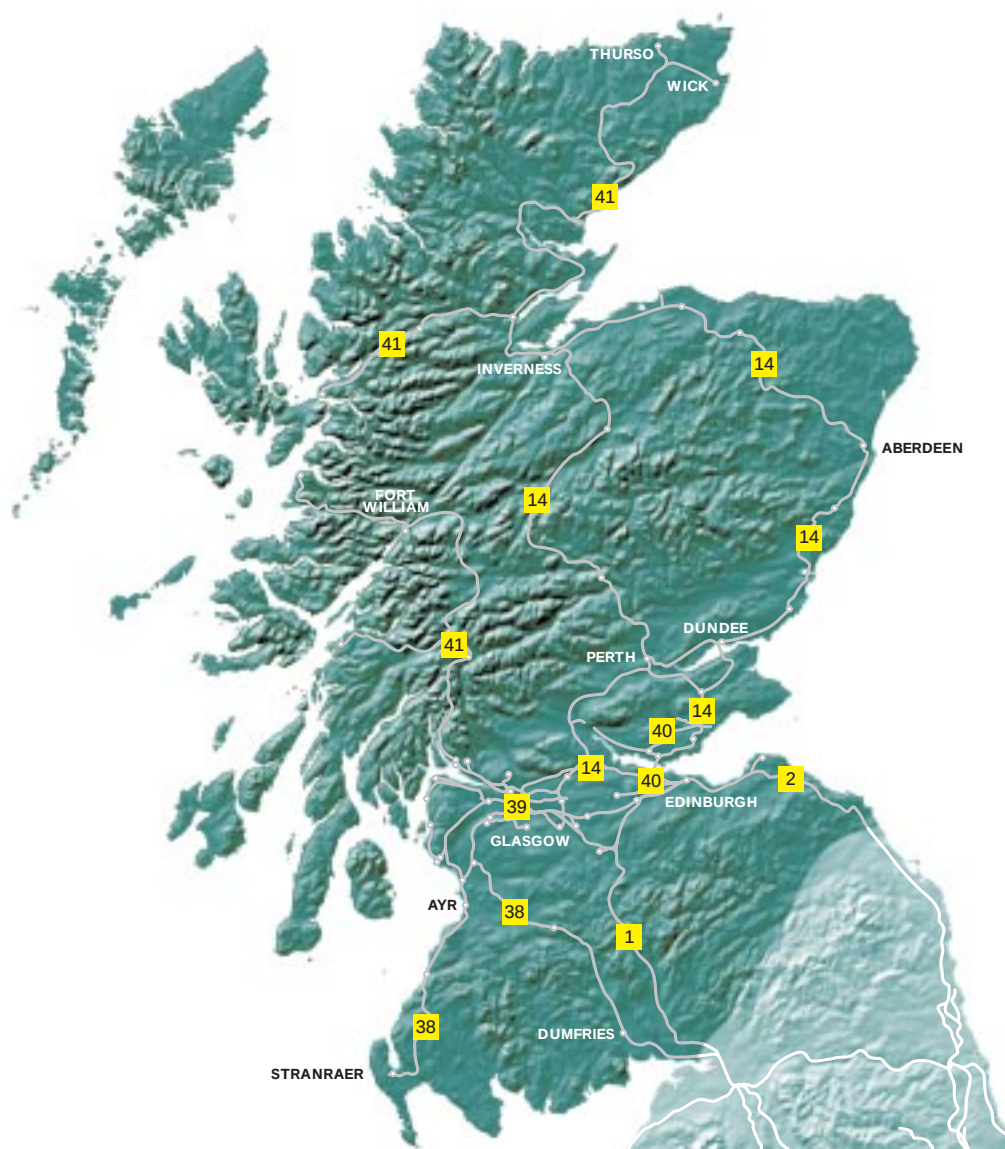
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

Scotland Zone routes

- 1 West Coast Main Line: London to Glasgow and Edinburgh
- 2 East Coast Main Line: London to Edinburgh
- 14 Edinburgh to Glasgow, Glasgow and Edinburgh to Aberdeen and Inverness
- 38 South West Scotland
- 39 Strathclyde
- 40 Edinburgh and Fife
- 41 Highlands



Base map ©MAPS IN MINUTES™ 1997

Scotland Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	67	65	70	71	71	69	67	65	64	62	60	58	791

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	33	29	22	26	29	27	15	13	12	12	19	26	261
Structures	34	26	29	30	32	30	28	28	25	24	24	23	333
Signalling	18	22	46	39	48	52	28	50	27	27	26	26	407
Electrification	2	5	11	8	5	9	7	8	5	5	5	5	76
Plant & Machinery	7	1	2	1	3	4	3	2	1	1	1	1	27
Telecoms	7	11	6	5	3	4	2	1	3	5	5	5	57
Stations	49	24	10	6	17	30	27	18	7	7	7	7	208
Depots	1	1	5	2	3	5	4	5	4	5	5	5	42
Other	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	149	119	130	117	140	160	115	124	84	85	91	97	1412

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	0	5	8	2	1	0	0	0	0	0	0	0	17
Structures	1	5	8	5	4	1	0	0	0	0	0	0	24
Signalling	0	14	12	1	0	0	0	0	0	0	0	0	28
Electrification	0	2	4	2	1	0	0	0	0	0	0	0	10
Telecoms	0	0	0	0	0	0	0	0	0	0	0	0	1
Stations	1	7	3	0	0	0	0	0	0	0	0	0	11
Depots	0	3	1	0	0	0	0	0	0	0	0	0	5
TOTAL	3	37	37	12	6	2	0	0	0	0	0	0	97

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	45	21	22	13
Sleepers renewed (km per year)	43	38	40	23
Ballast renewed (km per year)	23	30	43	25
Signals renewed (km per year)	50	0	n/a	n/a
Structures renewed (no. of structures per year)	2	5	12	12

*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

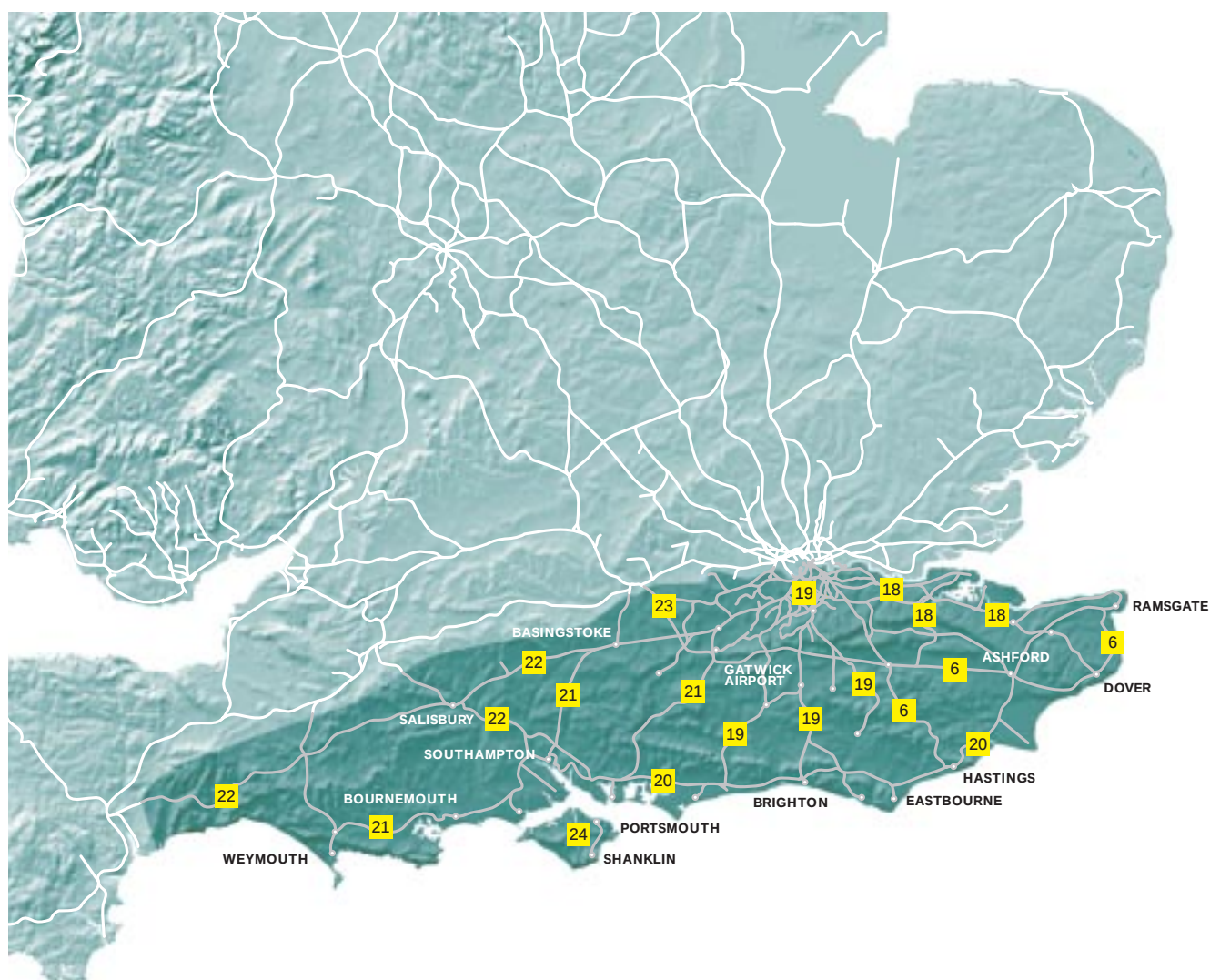
The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

Southern Zone routes

- 6 Channel Tunnel Routes
- 18 Chatham Main Line and North Kent
- 19 Brighton Main Line and South London network
- 20 South Coastal Route: Portsmouth to Ashford
- 21 London to Portsmouth and Weymouth
- 22 Wessex Routes
- 23 Clapham Junction to Reading and branches
- 24 Isle of Wight: Ryde to Shanklin



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Southern Zone expenditure plans

Maintenance expenditure (£M – 1999/2000 prices)

	1999/2000	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	TOTAL
TOTAL	139	133	117	116	113	110	108	105	103	100	97	94	1334

Renewals expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	48	51	54	60	64	61	60	53	52	50	48	46	647
Structures	25	18	27	26	26	25	25	24	24	23	23	22	288
Signalling	46	47	41	41	67	89	93	84	60	45	44	43	701
Electrification	10	8	13	11	14	14	14	14	11	20	21	21	171
Plant & Machinery	1	1	2	1	1	1	1	1	2	1	2	2	18
Telecoms	15	13	8	5	6	6	7	5	7	15	15	15	117
Stations	67	54	35	31	24	34	30	22	17	19	19	18	369
Depots	1	0	5	4	5	4	4	5	4	4	4	4	45
Other	1	1	1	1	1	1	1	1	1	1	1	1	14
TOTAL	212	193	185	182	208	236	236	211	177	179	177	174	2369

Committed enhancement expenditure (£M – 1999/2000 prices)

TYPE OF ASSET													
Track	3	7	19	37	49	35	25	0	0	0	0	0	176
Structures	0	7	27	56	35	5	5	1	0	0	0	0	137
Signalling	2	13	31	25	31	12	8	0	0	0	0	0	122
Electrification	0	1	26	10	8	2	0	0	0	0	0	0	48
Telecoms	3	1	2	1	2	0	0	2	0	0	0	0	10
Stations	10	12	33	63	44	7	6	1	0	0	0	0	177
Depots	1	4	0	0	0	0	0	0	0	0	0	0	5
Other	0	0	1	13	13	0	0	0	0	0	0	0	28
TOTAL	20	47	139	205	182	61	45	4	0	0	0	0	703

The sum of the expenditures may not match totals due to rounding

Renewal rate

RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	49	46	51	51
Sleepers renewed (km per year)	30	35	85	85
Ballast renewed (km per year)	37	52	117	117
Signals renewed (km per year)	0	163	n/a	n/a
Structures renewed (no. of structures per year)	3	4	19	19

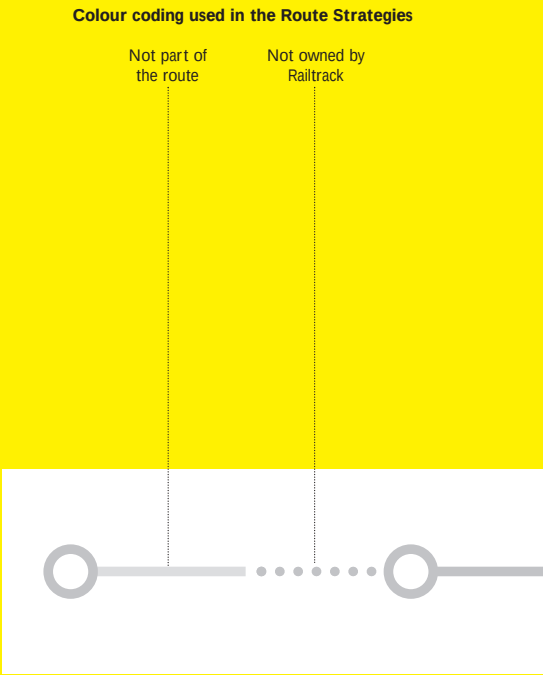
*An annual average forecast only is provided for 2001/02–2005/06 and 2006/07–2010/11

The measure for signalling renewal volumes (km per year) does not provide a good guide to the volume of activity and no forecasts are provided for 2001/02–2010/11

We have developed an alternative which provides a better guide to the volume of work required eg cable lengths, signal heads, points, track circuits, level crossings and interlockings renewed

Expected rates are based on the maintenance and renewal expenditure set out in this NMS

route strategies



Enhancement schemes which we are already committed to deliver.

Major capacity or capability upgrade. These schemes are our core proposals for the development of the network.

IOS schemes. These schemes are the portfolio of proposals from which the sSRA will select those to be included in the baseline output agreed through the Regulator's final determination for the 2001–06 period.

CRRs and other development options. These comprise schemes that are Customer Reasonable Requirements which we are developing jointly with our customers and schemes which we are developing with Local Authorities and other stakeholders.

Example where several different scheme categories apply to a single section of the route.



- 1 West Coast Main Line: London to Glasgow and Edinburgh
- 2 East Coast Main Line: London to Edinburgh
- 3 Great Western Main Line: London to Bristol and Swansea
- 4 Reading and Bristol to Penzance and branches
- 5 Midland Mainline: London to Sheffield
- 6 Channel Tunnel Routes
- 7 Derby to Bristol and Didcot via Birmingham
- 8 North Trans-Pennine: Liverpool to Leeds, Hull and Scarborough
- 9 Birmingham and Coventry to Peterborough
- 10 Crewe to Newport via Shrewsbury
- 11 Wolverhampton to Chester, Aberystwyth and Pwllheli
- 12 Manchester and Crewe to North Wales
- 13 Manchester to Sheffield and North Lincolnshire
- 14 Edinburgh to Glasgow, Glasgow and Edinburgh to Aberdeen and Inverness
- 15 West Anglia Main Line and branches
- 16 Great Eastern Main Line and branches
- 17 London, Tilbury and Southend
- 18 Chatham Main Line and North Kent
- 19 Brighton Main Line and South London network
- 20 South Coastal Route: Portsmouth to Ashford
- 21 London to Portsmouth and Weymouth
- 22 Wessex Routes
- 23 Clapham Junction to Reading and branches

- 24 Isle of Wight: Ryde to Shanklin
- 25 Chiltern Lines
- 26 North London Line
- 27 Cotswolds
- 28 Cardiff Valleys
- 29 West Wales
- 30 West Midlands local Routes
- 31 East Midlands local Routes
- 32 Merseyside
- 33 Manchester to the coast
- 34 Lancashire
- 35 Cumbria
- 36 Yorkshire
- 37 North East England
- 38 South West Scotland
- 39 Strathclyde
- 40 Edinburgh and Fife
- 41 Highlands
- 42 Freight-only routes: Southern England and South Wales
- 43 Freight-only routes: Midlands
- 44 Freight-only routes: Northern England
- 45 Freight-only routes: Scotland



Central Trains; Connex South Central; FNW; GNER; London Underground; Northern Spirit; ScotRail; Silverlink; Virgin (West Coast and CrossCountry); Wales & West; DRS; EWS; Freightliner; Eurostar.

Committed schemes

- A** Euston–Willesden: remodelling
- B** Proof House Junction: remodelling
- C** Colwich–Cheadle Hulme: resignalling
- D** West Midlands: resignalling
- E** Manchester South: remodelling
- F** Glasgow Central: resignalling
- G** Watford Junction and Bletchley: remodelling
- H** Watford Junction: provision of additional platform
- I** Rugby: remodelling
- J** Nuneaton: remodelling and provision of flyover
- K** Lichfield–Armitage: remodelling
- L** Tamworth–Lichfield: provision of four tracks
- M** Euston–Crewe: provision of autotransformer and enhancement of overhead line equipment
- N** West Midlands: resignalling

Options for major improvements to capacity

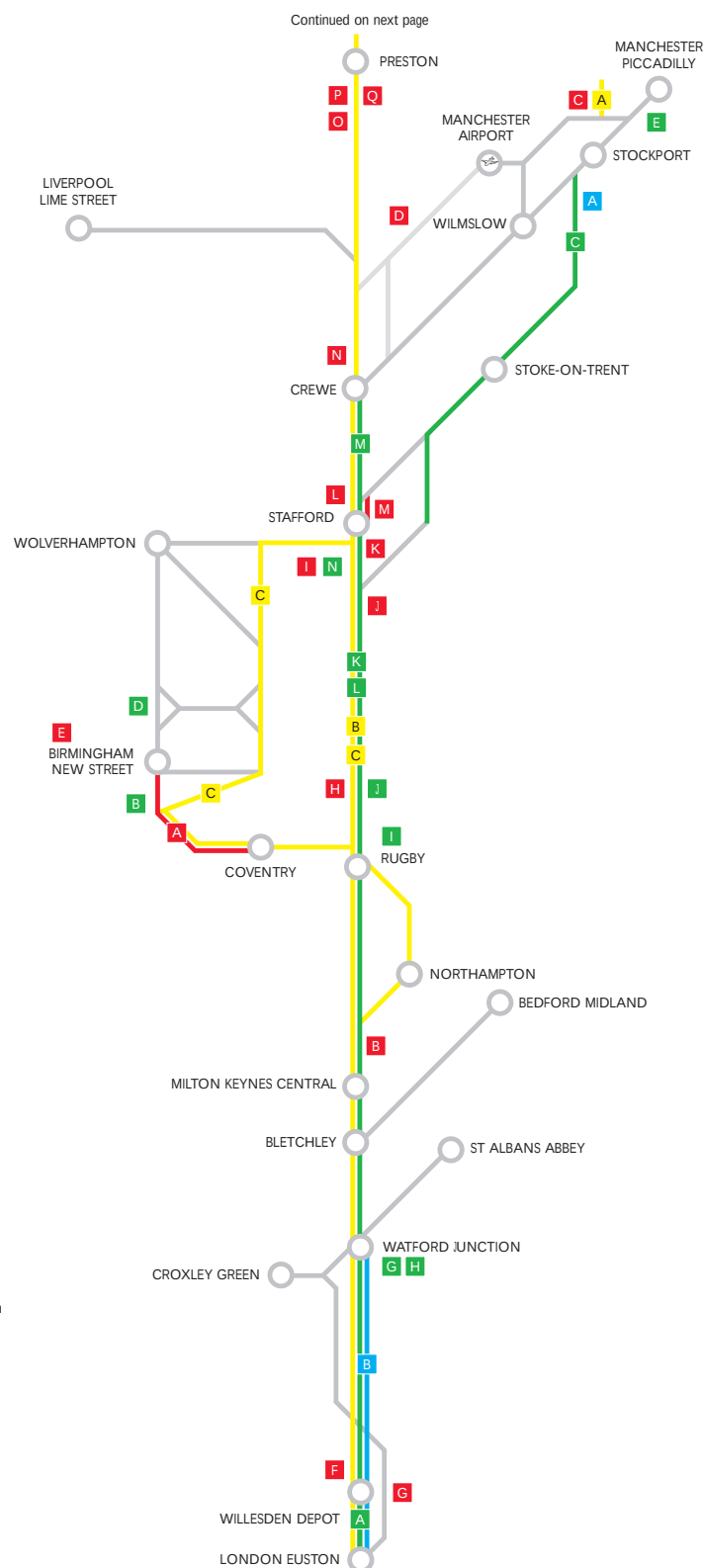
- A** Coventry–Birmingham: capacity upgrades
- B** Hanslope Junction: enhanced capacity
- C** Manchester: enhanced capacity
- D** Manchester Airport: new Western Link
- E** Birmingham New Street: additional capacity
- F** Willesden Junction: new bi-directional lines, or grade-separated junction
- G** Wembley Freight Operating Centre: additional span through the Wembley High Street Bridge
- H** Brinklow Junction–Attleborough Junction: new down slow line
- I** Whitehouse Junction: construction of a grade-separated junction
- J** Colwich Junction: construction of a grade-separated junction
- K** Colwich Junction–Whitehouse Junction: new slow up and down tracks
- L** Norton Bridge: construction of a grade-separated junction
- M** Stafford cut-off: construction of new fast lines from north of Rugeley to north of Norton Bridge
- N** Crewe–Hartford: upgrade the freight diversionary route via Middlewich
- O** Standish Junction–Balshaw Lane Junction: provision of 8km of quadruple track
- P** Welley Line: reinstatement of Bamfurlong Junction–Standish Junction
- Q** Euxton Junction: construction of a grade-separated junction
- R** Lancaster–Carnforth: additional bi-directional line
- S** Freight facilities north of Preston: provision of additional slow lines over Shap and Beattock Summits together with freight loops at various locations

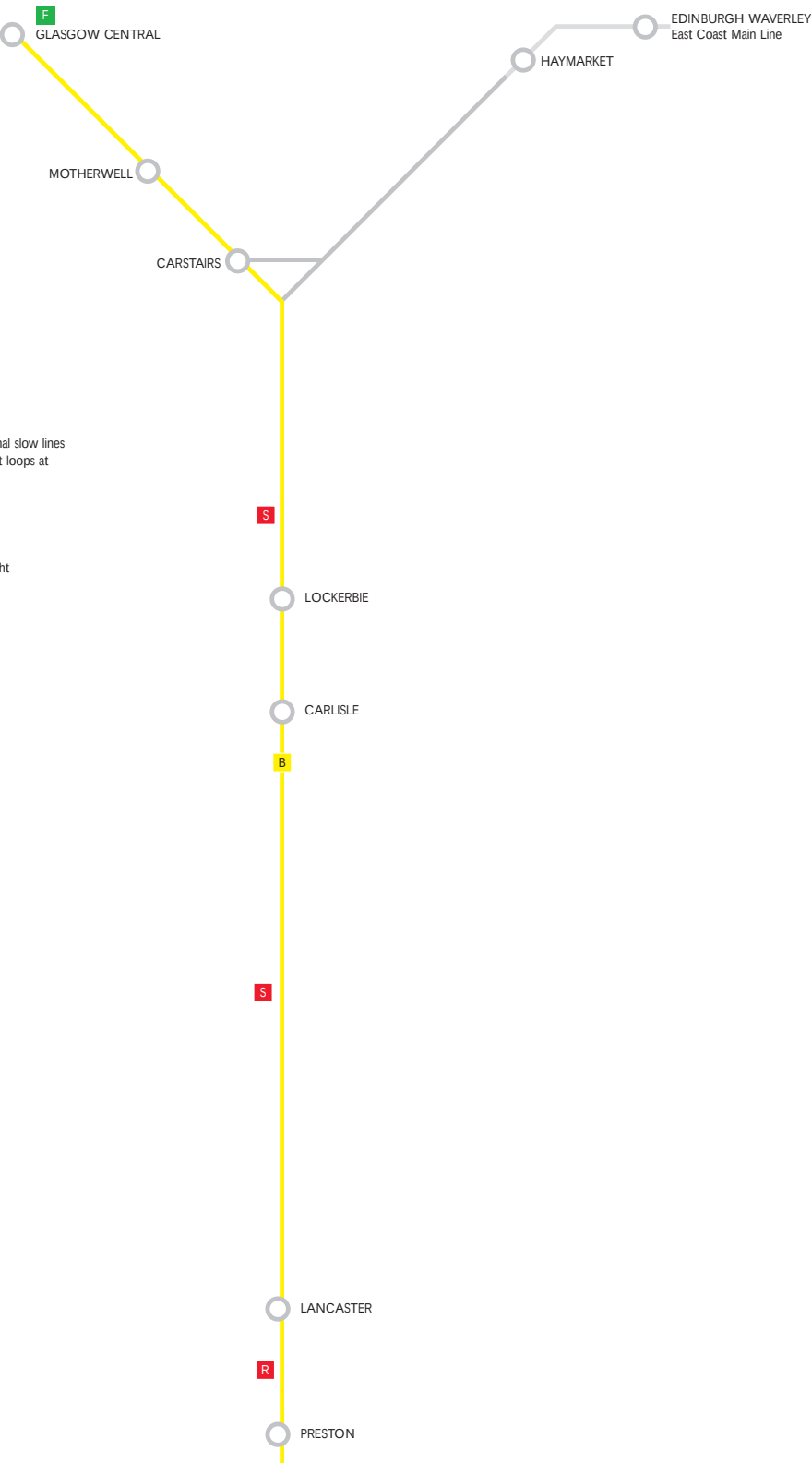
IOS options

- A** Poynton: additional capacity
- B** Euston–Watford Junction: improved journey times

Customer Reasonable Requirements and other development options

- A** Trafford Park–Seaforth: gauge enhancement
- B** Throughout route: gauge, length and axle weight freight enhancements
- C** Nuneaton–Walsall and Proof House Junction: electrification





Committed schemes

F Glasgow Central: resignalling

Options for major improvements to capability

- R** Lancaster–Carnforth: additional bi-directional line
- S** Freight facilities north of Preston: provision of additional slow lines over Shap and Beattock Summits together with freight loops at various locations

Customer Reasonable Requirements and other development options

B Throughout route: gauge, length and axle weight freight enhancements

Continued from previous page

Route characteristics

DESCRIPTION Designated as a priority Trans-European Networks (TENs) project, the West Coast corridor is of strategic importance in a European as well as a Great Britain context. It is the principal rail corridor linking the European mainland (via the Channel Tunnel) and London and South East England with the West Midlands, North West England and Scotland.

The spine of the West Coast Main Line (WCML) runs for approximately 650km from London Euston to Glasgow Central. Diverging from this, and included within the WCML, are the routes to Birmingham New Street, Manchester Piccadilly, Liverpool Lime Street and Edinburgh, together with a number of other branches.

The WCML is a mixed-traffic railway, with high volumes of express, regional and local passenger train movements as well as a variety of freight. In addition to services that utilise the route for the principal component of their overall journey, many services require access to, or across, the WCML for relatively short sections, especially into the major hub locations of Birmingham, Manchester, Preston and Glasgow.

The route is four track London–Rugby (including the Northampton Loop) but beyond there is a mixture of two-, three- and four-track sections. Existing linespeeds vary but are predominantly 100–110mph on the fast lines and 60–90mph on the slow lines. The route is electrified at 25kV overhead with the exception of the local DC lines between Primrose Hill and Watford Junction, and the Bletchley–Bedford Branch that is not electrified at all.

The route is generally signalled using four-aspect colour-light signalling with track-circuit block. However, there are sections of route with two- or three-aspect signalling.

The local DC lines between Primrose Hill and Watford Junction are double track and electrified on the third-rail system, with fourth rail in place between Queen's Park and Harrow & Wealdstone to enable operation of LUL trains.

The Watford to St Albans Abbey Line is single track throughout, electrified with the 25kV overhead system. Linespeed is 50mph.

The Bedford–Bletchley route is a two-track branch line where much of the signalling equipment dates back to the 1880s. An hourly passenger service is provided in each direction and there are freight trains to the landfill site at Forders.

The southern end of the route was last modernised with electrification from London to Birmingham, Crewe, Manchester and Liverpool in the 1960s. Electrification was extended north of Crewe to Glasgow in 1974. In the early 1990s a consensus grew that the route was in need of urgent upgrading. During the initial franchising process, OPRAF asked us to study the options for increased speed and frequency for the then InterCity West Coast operation. This led to the Passenger Upgrade agreement (PUG1) and the franchise was offered on this basis. When Virgin won the franchise, it did so on the basis of a further increase in the number of trains and greater journey-time reductions which formed the basis of the second Passenger Upgrade agreement (PUG2). We have set out in this Route Strategy our plans to deliver these commitments and a review of progress since last year.

KEY CAPACITY CONSTRAINTS The volume of passenger and freight train movements on the route is already high, and in previous Network Management Statements, we have identified the critical constraints on the capacity for additional paths. These are summarised below.

Euston–Rugby This constraint is caused by differential speeds and stopping patterns on the fast and slow lines, which will worsen on the slow lines when the fast lines are developed for 125–140mph trains.

Rugby–Birmingham The route from Rugby through to Wolverhampton via Birmingham New Street is a two-track railway, with only limited facilities (principally at Birmingham International) for faster trains to pass slow trains. The number of train movements on the route between Coventry and Birmingham has been near the route's capacity for a number of years. There are both contracted commitments and further customer aspirations to increase the number of train movements on the route. Once the PUG2 level of service has been accommodated in 2005, the mixture of fast and slow trains over the route precludes any further train movements being accommodated without significant operational performance risk or further major investment.

Birmingham–Wolverhampton The number of train movements on the route between Wolverhampton and Birmingham has been growing and is now near its capacity. The present mixture of fast and slow trains over the route limits future growth in train movements.

Rugby–Carlisle From Rugby to Colwich (75km) the four-track sections are interspersed with a three-track section from Rugby to Attleborough and a two-track section from Tamworth to Armitage which substantially reduces effective capacity. Crossing moves at Nuneaton, Lichfield and Colwich, together with a mixture of stopping patterns by trains further reduce capacity.

The Colwich to Stafford section (9km) is partially a two-track section and is also constrained by slow line conflicts at Milford, Whitehouse and Trent Valley Junction at Stafford.

From Stafford to Crewe (38km) the line is four track but effective capacity is reduced by crossing moves at Norton Bridge Junction, including those to and from the Manchester Line, and also at Basford Hall.

At Crewe Station various crossing moves which consume capacity.

The Crewe–Carlisle section is two track for 85% of its 250km length. Capacity usage is high on the two-track sections between Winsford and Weaver Junction, and is further constrained by the mix of speed and crossing movements between Springs Branch and Fylde Junction through Wigan and Preston.

Crewe–Manchester There are two specific capacity constraints in the Manchester area.

The first relates to the volume and mix of traffic between Deansgate and Cheadle Hulme. This section of railway has a large number of conflicting moves, particularly at Manchester Piccadilly, the key diverging junctions at Ardwick for Trans-Pennine services, at Slade Lane for Manchester Airport, and at Stockport (Edgeley) for Sheffield/Buxton and Altrincham/Chester.

The second constraint is between Wilmslow and Sandbach where the capacity on the two-track railway will be exhausted through the increasing differential in train speeds between Virgin's tilting trains and freight and local services.

Route vision

Our vision is to deliver a high-performance, high-capacity railway between London, the Midlands, North West England and Scotland. The route will make a significant contribution to the achievement of Integrated Transport Policy objectives through the provision of services where rail becomes the first choice for more passenger customers and freight shippers. The infrastructure will be capable of the delivery of world-class high-speed passenger services, together with other passenger and freight trains.

Our strategies for the achievement of the vision are to:

- Operate, maintain and renew the route in the most timely, least disruptive, and efficient manner
- Deliver the major investment programme to achieve our commitments
- Listen to, analyse, and plan for the future needs of the markets and operators that the route serves.

Committed development plans

INFRASTRUCTURE

Our committed development plans relate to the two phases of the Upgrade Agreements, and are described under these headings.

Phase I Phase 1 Upgrade is scheduled for completion by May 2002. This will deliver:

- Infrastructure works and timetabling to provide reduced journey times with a maximum speed of 125mph for tilting trains and one additional service per hour to each of Manchester, Birmingham and Preston/Glasgow. Infrastructure will be compatible with Virgin's tilting trains.
- A level of route performance which meets the reasonable requirements of all route users.
- Punctuality for Virgin Trains' services of 90% within ten minutes.
- The continued ability to meet track access commitments existing at March 1998, and any contracts subsequently entered into for all other operators.

Phase 11 The further contractual commitments to Virgin Trains and the majority of the remaining infrastructure works are scheduled for delivery by May 2005. The complete Phase 11 package together with those additional works identified in December 1999 will deliver:

- Further works and timetabling to provide reduced journey times with a maximum speed of 140mph for Virgin Trains and for other high-speed operators deploying stock with similar output characteristics.
- Further additional services for Virgin Trains to Manchester (total of three trains per hour), Birmingham (total of four trains per hour), and to Chester/Holyhead (total of up to six per day in each direction).
- Punctuality for Virgin Trains' services of 85% within five minutes.
- A further two 140mph open-access paths per hour between London and Crewe.
- A further one 125mph open access path every two hours between London and Crewe.
- An additional 42 slow line paths per day between London and Crewe.
- Automatic Train Protection equipment fitted to the infrastructure throughout the core route (ERTMS level 1/2).
- Infrastructure Control Systems compliant with the European Union's Interoperability requirements (ERTMS) to levels 1 or 2 as appropriate.

Timetable development undertaken in the last year has identified that capacity with the infrastructure previously proposed would not be sufficient at a number of locations. These are at:

- Watford Junction – where the majority of Virgin Trains' services are planned to stop. The deceleration, station dwell and subsequent acceleration times planned for all services combine to make the planned headways unachievable through the station. Analysis has shown the optimal solution to be to construct two new fast-line platforms.
- Tamworth to Lichfield – the two-track section severely constrains the timetabling of mixed-speed traffic through the Trent Valley. The proposal is now to four track this section.
- Nuneaton – pathing constraints for services crossing the WCML from the Birmingham to Leicester Line have confirmed that the flyover should be double track.
- Northampton – an additional crossover is proposed to enable Silverlink and freight pathing requirements to be met.

A revised timetable is being developed and will be completed by April 2000. Modelling will also be completed to confirm the validity of performance assumptions for the revised specification.

The signalling and control strategy provides for renewal to ERTMS Levels 1 & 2 as an overlay onto conventional signalling. Location of trains is advised to a central radio system and movement authorities are provided on a continuous basis. Faster trains, ie those which will operate at, or above 125mph, need to be fitted with the new equipment.

STATIONS

Station regeneration work is continuing at stations on the route in accordance with our commitments to complete the programme by 2001. Significant roof works will commence at Preston and Stoke-on-Trent during 2000, while at Rugby, the dilapidated roof structure will be removed and replaced with low-level canopies. A significant alteration to the retail units will also take place at Preston in conjunction with Virgin Trains. Major improvements to passenger facilities are in progress at Runcorn in partnership with Virgin Trains and Halton Borough Council, and with support from the EU.

MAJOR STATIONS

London Euston A further phase of Station Regeneration Programme work is planned to start on site during 2000/01 together with new retail units and lounges and evaluation of options for a new customer information system.

Birmingham New Street Station Regeneration Programme work to the platforms and dispersal bridge area is scheduled to be complete by mid 2000. This work has dramatically improved the platform environment as well as improving safety and fire precautions. In parallel, a number of other projects are due to be concluded during 2000 including new connecting canopies and the provision of new passenger-operated lifts between platforms and the station concourse.

Manchester Piccadilly Station Regeneration Programme work, due for completion during 2000, has incorporated the complete reglazing of the train shed roof and canopies, new platform lighting, platform surfaces and new overbridge cladding and lifts achieving a dramatic uplift to this area of the station. Following our assessment of the demand for station facilities, substantial redevelopment of the concourse area is now scheduled to start during 2000/01. The first phase including enhanced passenger facilities and the movement of taxi and private car drop off and pick up to the Fairfield Street area of the station will start on site in spring 2000. This first phase will relieve the traffic congestion on the station approach and provide room for the enlargement of the concourse facilities.

Glasgow Central is the largest single Station Regeneration Programme scheme in Scotland. Costing about £35M. It will be complete in June 2000, one year ahead of schedule. The building is listed Category A and the work comprises major structural repairs and complete recladding in patent glazing of the 2.5 hectare roof. It also provides complex access arrangements to comply with safe systems of work for future roof maintenance. Within the station, platform repairs and resurfacing are being carried out and a new watering system provided. The project includes extensive works to substructure and drainage systems, work to electrical systems and new period-style lighting. Extensive repairs to the stone elevations, internal and external, have been carried out, as well as reconstruction of the Hielanman's Umbrella in cast iron to the original detail and total refurbishment of the Gordon Street canopy. The work coincides with Glasgow's Public Realm project and a jointly funded project to refurbish the retail units in the Hielanman's Umbrella and will complete a comprehensive new look for an important area of Glasgow.

Options for development

Major Capacity Upgrades Even though the committed upgrades of the West Coast Main Line provide for significantly increased frequency and speed of train services, we are convinced that for the route to continue to cater for the underlying growth in traffic, a further major upgrade will be required. We are ready to lead the way forward with imaginative solutions, and are developing the packages set out below that, subject to funding, would form the core of such an upgrade.

The customer requirements these possible upgrades seek to deliver are as follows:

- Virgin CrossCountry – a significant increase in the number of Cross-Country trains and the introduction of new tilting DMUs.
- National Express Group intends to fund a grade-separated junction at Hanslope to facilitate the operation of 140mph tilting trains from Euston to Northampton.
- Silverlink wishes to operate two trains per hour between Northampton and Birmingham (permanent requirement built on existing short-term access rights).
- Connex wishes to introduce an additional train per hour between Gatwick and Rugby, and extend services to Birmingham New Street.
- First North Western has franchise plan commitments to secure access for enhanced services along this route.

- Anglia Railways wishes to introduce new services between Northampton/Watford and Colchester/Ipswich.
- Central Trains has aspirations to increase service frequency from Birmingham to Liverpool, Derby and Leicester. It also plans to introduce a new service linking Nottingham and Leicester with Oxford via Coventry and Leamington Spa.
- In response to a customer requirement from GNER, we are currently undertaking a feasibility study for a ten-minute reduction in journey time between Edinburgh and Glasgow via Carstairs.
- Wales and West wishes to see additional capacity provided onto and off the Shrewsbury Line at Crewe.
- Services from Heathrow to Watford, St Albans, Birmingham and Manchester.
- Other operators have also expressed interest in increasing services over parts of the route.
- Freight operators have a number of requirements relating to gauge enhancement, length of trains and electrification. There is also a requirement to remove the existing permanent speed restriction on the Bedford to Bletchley Route.

SECTION	DESCRIPTION	OUTPUTS
Hanslope Junction	Grade-separated junction	Enables northbound fast-line service to access Northampton without disrupting southbound services
Coventry–Birmingham	Provide a four-track railway between Beechwood Tunnel, near Berkswell, and Stechford	This would enable the majority of operator aspirations to be met
Manchester	Provision of new and upgraded infrastructure to link Manchester Victoria and Piccadilly, and to provide, a 4 track railway between Crewe and Manchester including western link to Manchester Airport	Provides extra capacity into and through Manchester Airport and Piccadilly

We are very keen to continue to develop these proposals in conjunction with sSRA, PTEs and other stakeholders.

Other capacity schemes have also been identified to deliver our customer aspirations and are described below, together with a fuller description of options examined for Manchester and the West Midlands.

CORE ROUTE

SECTION	DESCRIPTION	OUTPUTS
Willesden Junction	New bi-directional lines, or grade-separated junction	Facilitates operation of services from Heathrow to West Midlands/Manchester
Wembley Freight Operating Centre	Additional span through the Wembley High Street Bridge	Improves access to the freight yard
Brinklow Junction–Attleborough Junction	New down slow line	Additional capacity through Trent Valley
Whitehouse Junction	Construction of a grade-separated junction	Removes conflict between traffic passing from up slow to up main with traffic on the down main
Colwich Junction	Construction of a grade-separated junction	Removes conflict for trains to Stoke-on-Trent direction
Colwich Junction–Whitehouse Junction	New slow up and down tracks	Additional capacity
Norton Bridge	Construction of a grade-separated junction	Removes conflict for trains to Stoke-on-Trent direction
Stafford cut-off	Construction of new fast lines from north of Rugeley to north of Norton Bridge	Removes conflicts at Colwich, Whitehouse Junction, Stafford and Norton Bridge. Offers journey-time and performance benefits
Crewe–Hartford	Upgrades the freight diversionary route via Middlewich	Additional capacity
Standish Junction–Balshaw Lane Junction	Provision of 8km of quadruple track	Additional capacity
Welley Line	Reinstatement of Bamfurlong Junction–Standish Junction	Bypasses Wigan North Western and removes conflicts
Euxton Junction	Construction of a grade-separated junction	Removes conflicts with movements to and from Manchester direction
Lancaster–Carnforth	Bi-directional line on the down side	Additional capacity
Freight facilities north of Preston	Provision of additional slow lines over Shap and Beattock Summits together with freight loops at various locations	Additional capacity

Manchester Following the publication of last year's NMS, a strategic study has been carried out to determine our vision for capacity enhancements at Manchester, a key node in the rail network. Assessment of future growth and demand and the identification of future train operating company aspirations have clearly identified that the demand for new services into Manchester will primarily be from the south, and via the Trans-Pennine corridor from the east. GMPTE's strategic study has now been completed and is being reviewed. The outcome could influence the provision of local services.

Our study concluded that:

- Existing service patterns have evolved over a number of years and result in a sub-optimal use of infrastructure
- Capacity enhancements on the Crewe–Cheadle Hulme Corridor to meet currently identified service aspirations will be extremely expensive
- Proximity constraints in the Piccadilly–Deansgate Corridor preclude the development of an infrastructure option to deliver additional capacity. It is likely that new paths could only be provided through this corridor by the rerouting of some existing services
- Expansion of the station at Manchester Airport will be required to deliver additional services.

Based upon these constraints, an innovative strategy has been developed which seeks to provide a cost-effective infrastructure development plan, which provides a flexible platform for growth and enables service options to be considered. This is built on three phases:

- Phase I is to provide static loops between Sandbach and Wilmslow, and a new link between Stockport and Styal lines immediately to the north of Wilmslow Station together with provision of two static additional lines between Ashburys and Piccadilly with two new platforms built on the east side of Piccadilly Station.
- Phases II and III are the provision of a western link to Manchester Airport enabling passenger services to access the airport and on to Manchester Piccadilly from the south via Sandbach and Northwich, and from the north and west via Hartford. A number of options for additional capacity in central Manchester, are more fully described in Routes 12 and 33.

We will publish a consultation document shortly as the basis for further debate.

West Midlands We are participating with sSRA, Centro, the Government Office for West Midlands and Birmingham City Council in a strategic capacity review for the West Midlands area. We will use the conclusions of the review as a framework for the development of our strategy for the route and in the preparation of individual enhancement schemes.

The review has demonstrated that long term forecasts of passenger demand into and through central Birmingham can only be met by a substantial increase in capacity through Birmingham New Street. A number of options are being evaluated, ranging from the provision of extra links to enable trains to use an expanded Moor Street Station, to the creation of a new tunnel and additional platforms below the existing station to be used by Cross City local services.

Between Coventry and Birmingham, a number of options have been considered to increase capacity, as follows:

OPTION	DESCRIPTION	OUTPUTS
Base	Base with no additional infrastructure work. Slow trains are overtaken at Birmingham International	Capacity fully utilised with 12 trains per hour
1	Timetable changes together with the provision of freight loops between Rugby and Coventry	Allows pathing of passenger services into Birmingham New Street compatible with some additional CRRs
2	Revised pattern of local stopping services	Allows some CRRs to be met
3	Provide a four-track railway from Birmingham International to Stechford	Local trains do not require long dwell times at Birmingham International but there is insufficient capacity for all CRRs to be met
4	Provide a four-track railway between Beechwood Tunnel, near Berkswell, and Stechford	This would enable the majority of operator aspirations to be met

The sSRA has indicated it is prepared to take forward option 4 as the most appropriate long-term solution on this route. We will now work with them to conclude an agreement and funding package and timescales for implementing the work.

The proposal to provide a new freight line between the Coventry–Birmingham line and Land Rover's Solihull plant (Goldlink) is being developed within the context of the overall strategy for capacity in the West Midlands.

Birmingham to Wolverhampton Between Birmingham and Wolverhampton, the number of train movements is near the route's capacity. However, there are few aspirations for additional services and Centro has stated it does not wish to proceed with aspirations for additional local services which would require very substantial reconstruction and additional land. We are developing as part of the West Coast Route Modernisation the most appropriate linespeed profile and signalling headway to deliver maximum capacity given the expected mix of trains on the route.

Euston–Watford DC Lines and Bedford–Bletchley On the Euston–Watford DC lines, the fundamental changes which could affect the route are capacity and service changes associated with the East London Line extension, and possibly opportunities arising from the PPP for the Bakerloo Line. It is the intention to address these issues within the next 12 months with a capacity and timetable review, to establish the infrastructure options driven by these aspirations.

The Croxley Rail Link is a local authorities promoted scheme to connect LUL's Watford Branch of the Metropolitan Line with Railtrack's Croxley Green Branch. It would enable Metropolitan Line trains to serve Watford High Street and Junction and a new station at Ascot Road. DETR is currently reviewing the proposals.

The Bedford–Bletchley Line could at some future stage form part of the proposed East–West Rail Link between Cambridge and Oxford as proposed by the East–West Rail Link consortium. Options are also being developed for the provision of a new freight terminal on the route and a consequent upgrade of some of the route.

sSRA Incremental Output Statements The sSRA has asked us to assess the implications of a four-minute reduction in journey times between Euston and Watford Junction on the DC lines local service.

Customer Reasonable Requirements On the Bedford–Bletchley Line, Silverlink has a request for the linespeed to be increased.

Local Transport Plans A large number of local authorities have an interest in the route's development. The provisional Local Transport Plans for all of these have been reviewed, and significant policy items are:

Blackpool Borough Council has set out its intention to continue to lobby for the electrification of the Blackpool–Manchester line and the introduction of more high-speed direct rail services to London, Birmingham and other stations on the WCML.

Cheshire County Council supports, in principle, the provision of a rail link from the Chester–Altrincham Line to Manchester Airport. Its plan also seeks to develop Crewe as a strategic intermodal freight terminal.

Cumbria County Council's rail freight study commissioned in 1998 jointly with Railtrack and the Highways Agency makes recommendations about the development of local intermodal facilities and the setting up of a rail freight forum within the county. A further study is taking forward the development of rail freight facilities at Kingmoor. The council is also seeking improvements to stations in addition to the modernisation of the route infrastructure.

Greater Manchester The plan sets out a number of key projects that the local authorities are keen to see implemented, including Manchester to Blackpool electrification, alleviating local and regional bottlenecks, and increasing capacity on the airport rail link. Partnership schemes include further improvements to Piccadilly and Stockport Stations and integration of the two Wigan Stations (Wigan Transport Hub).

Halton Borough Council During the last 12 months, a scheme has been developed to upgrade the station at Runcorn which is an important gateway to the Borough. The Council is investigating the feasibility of a number of new stations in the borough and proposals will be brought forward in their Local Transport Plan.

Hertfordshire County Council is considering upgrade options for the St Albans Abbey Branch. These consist of the implementation of a light-rail system or the doubling of capacity and an increase in linespeed. They are being jointly reviewed but the extension of heavy rail is preferred. The proposed WCRM works at Watford will give the capability of access onto the branch with the potential for through services. The Council is considering a new connection between the LUL Metropolitan Line and Watford Town Centre (the Croxley Rail Link) which would affect the long-term future of this line.

Lancashire County Council's plan promotes the development of new stations for local services on the West Coast Main Line at Coppull (between Preston and Wigan) and at Garstang (between Preston and Lancaster). The latter will be evaluated as part of the RPP scheme for South Cumbria and North Lancashire to Manchester.

Merseyside The plan sets out a vision for enhancements at Liverpool Lime Street Station, a major gateway to the West Coast Route, and also for the continued development of interchanges, and other customer facilities.

Northamptonshire County Council The Council wishes to see substantial improvements to rail services to and from Northampton and other locations on the route. It also proposes a new multimodal interchange south of Northampton.

Warrington Borough Council The Council has commissioned a major Transport Study and is considering the option of facilitating improvements at Warrington Bank Quay Station possibly through the RPP process.

West Midlands The aspirations of Centro are to increase local services between Coventry, Birmingham and Wolverhampton to four trains per hour. The Cross-City service aspiration is to increase services to six trains per hour and an increase in service frequencies on Sundays on all routes. There is also a proposal to build a new station to serve the International Convention Centre.

Dumfries and Galloway County Council is keen to see the completion of disabled access improvements at Lockerbie Station.

City of Edinburgh Council The installation of CCTV at Curriehill (between Haymarket and Carstairs) is viewed as an important priority.

Strathclyde The PTE has aspirations to extend CCTV provision, to introduce a half-hourly service between Larkhall and Milngavie and to promote journey-time reductions and frequency improvements.

STATIONS

The provision of two additional fast-line platforms at Watford Junction provides the opportunity for significant alterations there and discussions are taking place with stakeholders.

At other stations the introduction of the West Coast upgrade is not expected to cause significant station works, other than the improvement of parking facilities. Plans are being developed at most stations through the Customer Reasonable Requirements process although there has been resistance from some local authorities when planning consent has been sought, as they do not see encouraging long-distance commuting as key to their Local Transport Plans. On the DC lines station environment works at Harrow & Wealdstone and Wembley are being considered.

MAJOR STATIONS

London Euston An initial study has been completed into the enhancements needed to provide sufficient passenger flow capacity through the station. Between 2000/01 and 2005/06 substantial redevelopment works are proposed, including an extension to the existing concourse and improvements to the London Underground interchange.

Birmingham New Street Options for development are a new customer information system, extension of the CCTV arrangements and enlargement of the main concourse area to include a new ticket office and travel centre, retail facilities with taxi and private car management.

An initial study has been undertaken in relation to the possible long-term master-planning implications for Birmingham New Street and its relationships with the Palisades Shopping Centre above and the adjacent proposed Bull Ring redevelopment. During 2000/01 the implications of this initial study will be examined in conjunction with the sSRA-sponsored study into rail infrastructure in the area to determine the possible scope and timescales for future improvements to the station.

Manchester Piccadilly At Manchester Piccadilly options for development are a satellite lounge and travelator to Platforms 13 and 14, a new 600-space multistorey car park, a new customer information system, extension of the limited CCTV arrangements, and the recladding and refurbishment of the Tower Block.

Glasgow Central In addition to the current Station Regeneration Programme works, options exist to improve the customer information system, install a comprehensive CCTV security system, and improve public toilets and other customer and retail facilities.

Progress on the 1999 NMS

DELIVERY OF THE PROJECT Over the past 12 months, substantial progress has been made in a number of areas. These achievements have been supported by a redefinition of the project plan, resources and management structure to incorporate the changes of scope described earlier in the Route Strategy.

Physical progress

- The core route to Mossend, together with Weaver Junction to Garston has now been cleared to W10 gauge.
- Class 92 electric locomotives are now cleared to operate between Wembley and Mossend.
- Electrification of the City Goods Line between Willesden and Kensal Green Junction has been completed.
- Major new track equipment has been delivered – Track Relaying Train, High Output Ballast Cleaner and Multipurpose Vehicles.
- Renewals have been carried out using UIC 60 rail.
- Euston and Proof House Junction remodellings are under way.
- Seventeen new footbridges have been erected.
- A new external, landmark passenger lift has been provided at Birmingham International in conjunction with the airport, with several other stations benefiting from provision of customer-operated lifts.
- The major modernisation of the platform areas at Birmingham New Street was completed on schedule in December 1999, allowing all 12 passenger platforms to be returned to use.
- On the St Albans Branch the principle of asset replacement with modern equivalent equipment has seen partial rerailling on the route in continuous welded rail with other performance and reliability improvements.

Alliance arrangements All major works are intended to be let using Alliance Contracting arrangements between Railtrack and design and construction contractors. So far we have entered into the following major alliances:

Euston–Willesden	Balfour Beatty/Westinghouse
Proof House Junction	Carillion/W S Atkins
SCADA	Foxboro
Overhead Line Equipment	GTRM/Balfour Beatty
Distribution	W S Atkins/Balfour Beatty

CAPACITY REVIEWS During the year, we recognised the concerns that had been expressed with the progress on the strategic capacity reviews but these have required the examination of a significant number of complex issues.

Three strategic capacity reviews were produced in October 1999 and the previous Euston to Rugby and Freight Reviews were combined into a single report at that stage. The reviews considered infrastructure upgrades to provide sufficient capacity to meet train operators' stated requirements that are additional to the PUG 2 levels.

Options to resolve major bottlenecks between Coventry and Birmingham, and on the approaches to Manchester were also considered. In response to the Rail Regulator's draft Enforcement Order, a further update of the reviews is in progress, and will be completed by the end of May 2000. The reports will be available shortly afterwards on our website (www.railtrack.co.uk).

FREIGHT STRATEGY The strategic capacity review for freight demand on the WCML has considered options for meeting the requests expressed by customers for an additional 72 paths per day after the commitments given in the PUG 2 undertakings are met. In the 1999 NMS we set out an initial assessment including our proposal to examine the benefits of a third Anglo-Scottish route for freight. Three strategic options have been considered:

- Undertake further substantial upgrade works on the whole of the WCML to accommodate all requirements
- Provide for 30 of the additional paths south of Nuneaton to be accommodated by routing Nuneaton to Felixstowe via Leicester, with further upgrade works on the WCML for the balance
- Provide for 30 of the additional paths south of Nuneaton to be accommodated by routing Nuneaton to Felixstowe via Leicester, with routing of the balance via other routes between the London area and Scotland.

The first two options would entail significant infrastructure investment and require substantial disruptions to the operation of the WCML following the implementation of PUG 2. Detailed work has concentrated on analysing the potential alternative routes between the London area and Scotland, together with the implications for capacity and gauge constraints on those routes. Fifty-five individual route sections, which provide for 750 route combinations, have been examined. A preferred core set of route sections has been identified for more detailed study, which would result in the WCML handling all of the additional demand north of Preston.

SIGNALLING AND CONTROL STRATEGY In the original strategy which was set out in the 1999 NMS, we proposed the introduction of a form of moving block signalling, known as TCS-M, which would be equivalent to the new European Standard for interoperability, ERTMS Level 3. This would have been implemented in a single step change over the route south of Crewe by 2005. During the past year, a full review of the strategy has been carried out. This has taken into account experience with London Underground's Jubilee Line Extension project and other relevant projects from around the world. It concluded that the original strategy is not viable for the following main reasons:

- No system comparable with TCS-M currently exists or could be delivered in time for this type of route. In addition, the timescales for fitting of approximately 1,500 trains with the necessary equipment, the training of drivers and the safety approvals of such a novel system make the project impractical
- TCS-M is itself unable to meet all of our commitments to customers, funders and the Rail Regulator
- The West Coast would be the first rail route to commit to introducing a moving block signalling system compliant with ERTMS Level 3 and the implementation risks are considered too high.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Euston–Willesden	Remodelling	Delivers PUG 1 commitments	2000/01	A
Proof House Junction	Remodelling	Delivers PUG 1 commitments	2000	B
Colwich–Cheadle Hulme via Stoke-on-Trent	Resignalling	Delivers PUG 1 commitments	2000–02	C
West Midlands	Resignalling	Delivers PUG 1 commitments	2000–02	D
Manchester South	Remodelling	Delivers PUG 1 commitments	2000–02	E
Glasgow Central	Resignalling	Delivers PUG 1 commitments	2000–02	F
Bletchley	Remodelling	Delivers PUG 2 commitments	2000–05	G
Watford Junction	Provision of additional platforms	Regulatory undertakings	*	H
Rugby	Remodelling	Delivers PUG 2 commitments	2001–04	I
Nuneaton	Remodelling including provision of two tracks on flyover	Delivers PUG 2 commitments	2002–05	J
Trent Valley (Lichfield–Armitage)	Remodelling	Delivers PUG 2 commitments	2002–05	K
Trent Valley (Tamworth–Lichfield)	Remodelling including four-tracking	Regulatory undertakings	*	L
Euston–Crewe	Provision of autotransformers and enhancement to overhead line equipment	Delivers PUG 2 commitments	2001–05	M
West Midlands	Resignalling	Delivers PUG 2 commitments	2002–05	N

* These additional works are currently being planned and firm dates have not yet been identified

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Coventry–Birmingham	Provide a four-track railway between Beechwood Junction, near Berkswell and Stechford	Capacity enhanced		A
Hanslope Junction	Grade-separated Junction	Enhanced capacity		B
Manchester	Provision of new and upgraded infrastructure to link Manchester Victoria and Piccadilly	Enhanced capacity		C
Manchester Airport	Provide western link to Manchester Airport	New service opportunity		D
Birmingham New Street	Additional platforms	Enhanced capacity		E
Willesden Junction	New bi-directional lines, or grade-separated junction	Facilitates operation of services from Heathrow to West Midlands/Manchester		F
Wembley Freight Operating Centre	Additional span through the Wembley High Street Bridge	Improves access to the freight yard		G
Brinklow Junction–Attleborough Junction	New down slow line	Additional capacity through Trent Valley		H
Whitehouse Junction	Construction of a grade-separated junction	Removes conflict between traffic passing from up slow to up main with traffic on the down main		I
Colwich Junction	Construction of a grade-separated junction	Removes conflict for trains to Stoke-on-Trent direction		J
Colwich Junction–Whitehouse Junction	New slow up and down tracks	Additional capacity		K
Norton Bridge	Construction of a grade-separated junction	Removes conflict for trains to Stoke-on-Trent direction		L
Stafford cut-off	Construction of a new fast line from north of Rugeley to north of Norton Bridge	Removes conflict at Colwich, Whitehouse Junction, Stafford and Norton Bridge. Offers journey time and performance benefits		M
Crewe–Hartford	Upgrade the freight diversionary route via Middlewich	Additional capacity		N
Standish Junction–Balshaw Lane Junction	Provision of 8km of quadruple track	Additional capacity		O
Welley Line	Reinstatement of Bamfurlong Junction–Standish Junction	Bypasses Wigan North Western and removes conflicts		P
Euxton Junction	Construction of a grade-separated junction	Removes conflicts with movements to and from Manchester direction		Q
Lancaster–Carnforth	Bi-directional line	Additional capacity		R
Freight facilities north of Preston	Provision of additional slow lines over Shap and Beattock summits together with freight loops at various locations	Additional capacity		S
IOS(C): Poynton	Detailed scheme being prepared	Ability to turnback trains from Manchester to enable a doubling of peak and off-peak services	2004	A
IOS(J): Euston–Watford Junction (DC Lines)	Detailed scheme being prepared	Improved journey times by 4min	2006	B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY (continued)

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Trafford Park and Seaforth	Clear to W10 gauge	Completes core route clearance to W10		A
Throughout	Clear to W10w gauge	Allows operation of 2.6m wide W10 refrigerated containers		B
Throughout	Clear to W11 gauge	Allows operation of piggyback traffic		B
Throughout	Increased axle load to 30 tonnes maximum	Allows operation of heavier freight trains		B
Willesden–Coatbridge, Seaforth and Trafford Park together with depots at Acton, Wembley, Bescot, Crewe & Mossend	Capability to operate 775m long freight trains including locomotives	Allows operation of longer trains		B
Nuneaton–Walsall and Proof House Junction	Electrification	Allows operation of through electric services to West Midlands via Nuneaton		C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Euston–Glasgow Central	645	8	5hr 18min (76mph)	5hr 18min (76mph)	3hr 55min (103mph) [‡]	3hr 55min (103mph) [‡]
London Euston–Birmingham New Street	182	3	1hr 35min (71mph)	1hr 35min (71mph)	1hr 10min (97mph)	1hr 10min (97mph)
London Euston–Manchester Piccadilly (via Crewe)	304	3	2hr 35min (73mph)	2hr 35min (73mph)	1hr 50min (104mph)	1hr 50min (104mph)
LINESPEEDS (km of track)						
Up to 35mph			233	233	230	230
40–75mph			840	840	748	748
80–105mph			1123	1123	590	590
110–125mph			728	728	966	966
Over 125mph			0	0	391	391
TOTAL			2924	2924	2924	2924
GAUGE (km of route)						
W6A			1080	1080	1080	1080
W7			1071	1071	1071	1071
W8			1050	1050	1050	1071
W9			872	872	872	1071
W10			800	800	800	1071
W11			0	0	0	1071
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			1202	1202	1202	1202
24.2–25.4 tonnes			1722	1722	1722	1722
TOTAL			2924	2924	2924	2924

[‡] One Key Service per day may operate to this journey time* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
MIDLANDS ZONE				
Track	45.9	72.2	371.7	72.0
Structures	40.0	44.2	102.9	12.4
Signalling	77.2	110.6	943.1	398.2
Electrification	22.6	41.3	105.5	44.2
Plant & Machinery	0.0	0.1	5.5	3.4
Telecoms	11.5	16.4	52.8	1.8
Stations	27.6	11.5	33.8	23.6
Other	0.1	0.4	1.4	0.5
TOTAL	224.9	296.7	1616.7	556.1

NORTH WEST ZONE

Track	28.0	36.7	272.7	1.4
Structures	11.2	12.6	90.4	35.5
Signalling	25.9	58.3	731.2	147.6
Electrification	6.9	25.3	123.2	2.1
Plant & Machinery	0.7	0.4	9.1	11.3
Telecoms	3.8	7.2	57.5	1.7
Stations	24.4	10.2	34.8	42.7
Depots	0.5	0.4	13.8	17.1
Other	0.0	0.8	0.8	0.0
TOTAL	101.4	151.9	1333.5	259.4

SCOTLAND ZONE

Track	4.6	5.4	59.4	0.0
Structures	8.6	3.8	35.5	19.2
Signalling	4.9	8.7	78.3	23.0
Electrification	1.1	3.6	19.9	9.2
Plant & Machinery	0.2	0.1	4.7	0.6
Telecoms	1.0	4.3	4.5	0.0
Stations	8.4	2.1	4.0	2.8
Depots	0.0	0.0	0.8	0.4
TOTAL	28.8	28.0	207.0	55.1

The sum of the expenditures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
West Coast Route Modernisation: Phase II	2006/07	0.0	0.0	1500.0	0.0	1500.0	4/5
West Coast Route Modernisation: Phase I	2002/03	96.6	170.7	172.9	0.0	440.2	4/5
Other committed schemes	Various	9.1	5.3	3.4	0.0	17.8	Various
TOTAL		105.7	176.0	1676.3	0.0	1958.0	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Manchester area: capacity	370.0	1
Coventry–Birmingham: capacity	370.0	1
Euston Station	51.0	2
Manchester Piccadilly Station	35.0	4
Other schemes	24.7	Various
Birmingham International Station: multistorey car park	12.3	3
Glasgow Station	6.4	1
Glasgow: concourse masterplan	6.0	1
Euston–Watford Junction (DC Lines): journey-time improvements	5.9	1
Stockport Station	5.0	2
Wolverhampton: multistorey car park	0.5	2
TOTAL	886.8	

The sum of the expenditures may not match totals due to rounding



Anglia Railways; Central Trains; GNER; Midland Main Line; Northern Spirit; North Western Trains; ScotRail; Virgin Trains; WAGN; DRS; EWS; Freightliner.

Committed schemes

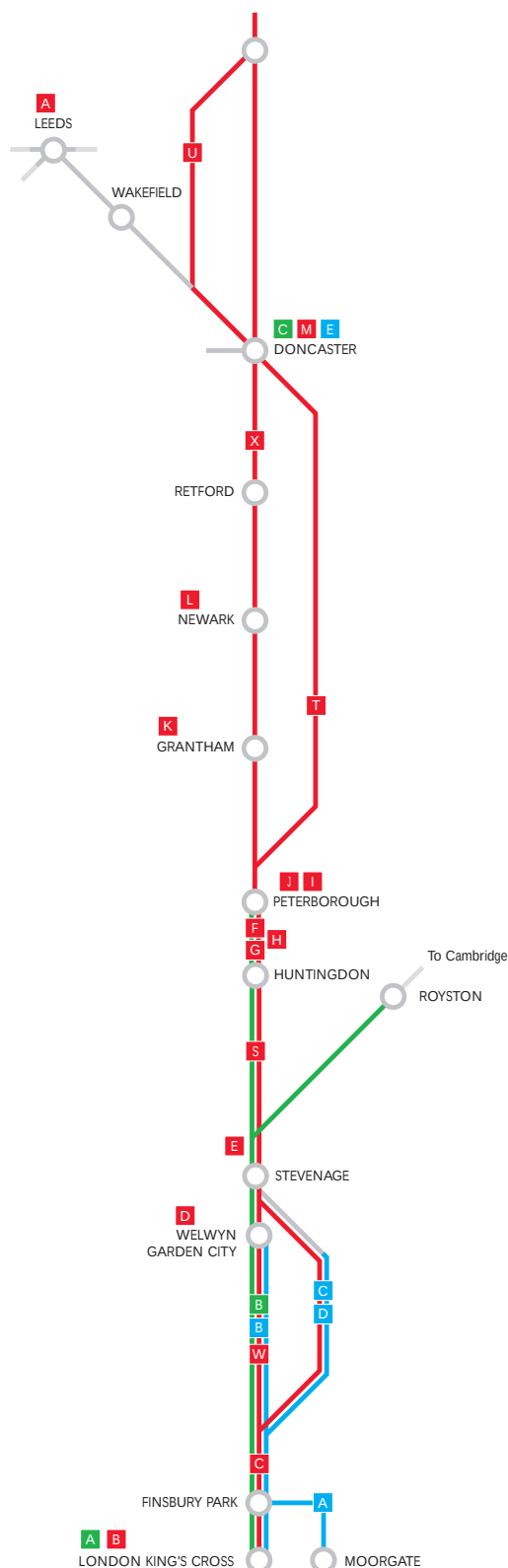
- A** King's Cross: new track layout
- B** Thameslink 2000: King's Cross–Cambridge and Peterborough: extension of platforms
- C** Doncaster: additional capacity

Options for major improvements to capability

- A** Leeds: improved capacity, reliability and journey times
- B** King's Cross: additional platform
- C** Holloway Road–Alexandra Palace: additional capacity
- D** Welwyn: additional capacity
- E** Hitchin: additional capacity and reliability
- F** Huntingdon–Woodwalton Yard: additional capacity
- G** Conington–Yaxley: additional capacity
- H** Yaxley–Fletton: additional capacity
- I** Peterborough: new underpass north of station
- J** Peterborough: additional capacity
- K** Grantham: improved capacity and reliability
- L** Newark: improved capacity and reliability
- M** Doncaster: additional capacity
- N** York: additional capacity
- O** York: improved capacity and reliability
- P** Stannington: additional capacity
- Q** Berwick–Edinburgh: additional capacity
- R** Edinburgh Waverley: improved capacity and reliability
- S** London–Peterborough: bi-directional signalling
- T** Peterborough–Doncaster: upgrading of parallel route via Lincoln
- U** Doncaster–York: Primary Freight Route options
- V** Northallerton–Newcastle: upgrading route
- W** London–Peterborough: power supply upgrade
- X** Peterborough–York: power supply upgrade
- Y** Newcastle–Edinburgh: power supply upgrade

IOS options

- A** Moorgate–Welwyn Garden City: additional services
- B** King's Cross–Welwyn Garden City: additional services
- C** Moorgate–Hertford North: additional services
- D** King's Cross–Hertford North: additional services
- E** Loversall Carr Junction, Doncaster: operational flexibility
- F** Tyne Yard: operational flexibility



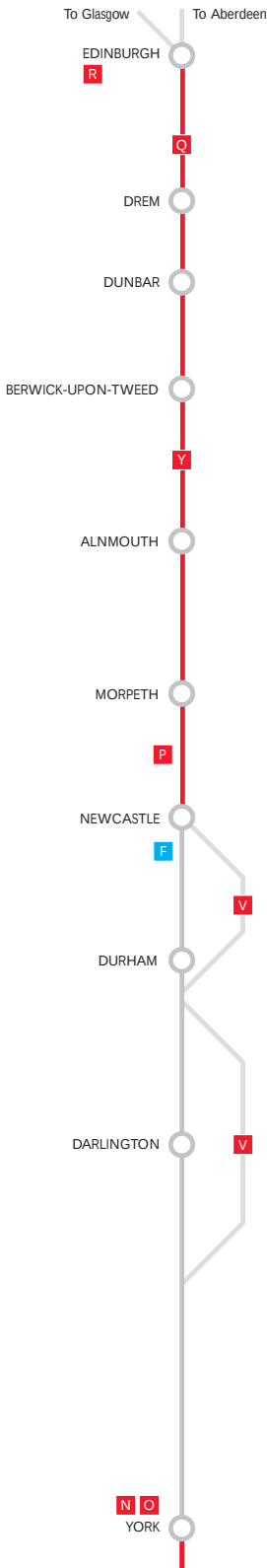


Options for major improvements to capability

- N** York: additional capacity
- O** York: improved capacity and reliability
- P** Stannington: additional capacity
- Q** Berwick–Edinburgh: additional capacity
- R** Edinburgh Waverley: improved capacity and reliability
- V** Northallerton–Newcastle: upgrading route
- Y** Newcastle–Edinburgh: power supply upgrade

IOS options

- F** Tyne Yard: operational flexibility



Route characteristics

DESCRIPTION The East Coast Main Line (ECML) is the high-speed link carrying Britain's fastest train service between London, Yorkshire, the North East and Edinburgh, and linking into Scotland's prime routes to Glasgow, Aberdeen and Inverness. It also handles cross-country, commuter and local passenger services, and carries considerable freight and mail traffic. On an average day, there are 1,900 passenger trains carrying 200,000 passengers, and 250 freight services with a loading of around 200,000 tonnes. The route is therefore vital to the economic health of many regions of Great Britain.

The route is primarily a two-track railway with four tracks in certain sections, mainly at the southern end. The fast lines generally permit 125mph running, with the slow lines at 70–80mph. Linespeeds over the northern third of the route between Newcastle and Edinburgh are in the 80–125mph range. The route is electrified throughout.

KEY CAPACITY CONSTRAINTS The principal factors constraining traffic levels on the route are:

- The predominance of two tracks throughout much of the route's length
- The mix of high, medium and low-speed passenger trains, and freight trains, a combination which significantly reduces the total number of paths available, particularly over the two-track sections
- The number of routes which converge with or cross the ECML, the majority of junctions comprising flat crossings
- The capacity of the overhead power supply system
- The numbers of platforms at key stations (eg King's Cross, Finsbury Park, Edinburgh Waverley).

Utilisation is now at or close to capacity over many sections of the route. Without action to resolve these constraints further growth on the route will be stifled. Our plan focuses on the actions needed to serve the route's users into the future.

Route vision

Our vision is for a major upgrade of the route to accommodate the substantial increase in both passenger and freight demand which we anticipate over the next 25 years and at the same time improving the network to enable train operators to deliver the significant improvements in the quality and reliability of their services that their customers and stakeholders demand.

As part of this vision we have developed a core programme of works which will enable the route to carry more passenger trains, faster trains and more freight services. It would create a four-track railway for much of the route by developing a parallel railway to the ECML as a Primary Freight Route. Key flat junctions would be replaced with flyovers. Electrical power supplies would be enhanced as they currently constrain the number of electric trains that can run. Journey times would be reduced by modifying track, signalling, structures and level crossings. Our aim is to provide a three-hour-forty-minute journey time

London–Edinburgh. King's Cross, Leeds and Edinburgh Waverley stations would all be substantially remodelled to improve their passenger facilities and better integrate them with other modes of transport.

In addition to this core idea, we are also developing options to deliver further improvements to the network and facilities along the route. Thameslink brings opportunities for through trains to destinations that require a change of train today (eg Gatwick). We are evaluating the opportunities to provide integrated transport facilities through new 'parkway' stations, new local stations, better multimodal interchanges, gauge improvements, electrification of Primary Freight Routes, improved operational flexibility and maintenance techniques; as well as further speed increases possibly with tilting trains.

In summary, passengers and freight users would enjoy a wider choice of trains, shorter and more punctual journeys and better accessibility.

Committed development plans

INFRASTRUCTURE

Thameslink 2000 The Thameslink scheme is due for completion in 2006/07. It provides opportunities for new journeys from North London, Hertfordshire and the Northern Home Counties (eg Huntingdon and Stevenage) to the City, London Bridge, Croydon, Gatwick and other key destinations in Sussex and Kent. This will be afforded by our planned works to build a new connection to the Thameslink line immediately north of King's Cross Station and the lengthening of platforms at key stations south of Peterborough.

Track Points and crossings renewals continue at Hitchin, Doncaster Marshgate and various locations between Newcastle and Edinburgh. Some include elements of remodelling and enhancement consistent with the proposed ECML upgrade strategy. At Doncaster the opportunity is being taken to relieve congestion towards Sheffield by doubling the junction.

Structures A complete reconstruction of the bridge at Newark will be completed by the end of 2000. We have taken the opportunity to upgrade the bridge for higher linespeeds consistent with our long-term proposal.

Plant and Electrical Renewal of the overhead line at Scremerston will be complete by 2001. Installation of condition monitoring of all key assets to improve reliability and reduce delays will continue, including on-train equipment to monitor overhead line condition and track mounted equipment to monitor wheel/rail interaction.

Stations We are extending car parking at St Neots, Royston and Sandy, carrying out station building refurbishment works at Hatfield, reinstating redundant passenger lifts at Letchworth to provide full disabled access; and improving access and interchange facilities at Stevenage and Hitchin.

Capability We are undertaking survey work at King's Cross Station in anticipation of the introduction of Eurostar trains on the London–York route by GNER in the summer timetable.

Options for development

INFRASTRUCTURE

Major Capacity Upgrade Our market forecasts indicate a significant increase in demand for passenger operators on the ECML. The route is already experiencing an increase in all types of passenger and freight traffic and our market-demand forecasts are consistent with train operator aspirations to further enhance services. We are finding, without exception, that all operators are keen to develop services along the route. Indeed, three operators have lodged competing bids for services that use the 'last path' on the route in summer 2000. We have not been able to meet any of the operators' full aspirations.

Analysis of existing capacity reveals that bottlenecks already occur in a number of areas and the route can sustain only limited service growth using the current infrastructure. Without further major investment in the route, we estimate that all main types of business will see growth restricted from 2001, with the first being the high-speed, long-distance market.

We have developed a programme to upgrade the route which is split into four phases.

Phase 1 (in progress) comprises the rebuilding of Leeds station and the trackwork approaches to the station, and is due for completion at the end of 2001 ('Leeds 1st'). This work will increase the capacity of the station from roughly 28 trains per hour to over 40 trains per hour, and will facilitate more frequent services to London, neighbouring cities to Leeds and to the commuter area around Leeds. This new capacity is being created by increasing the number of approach tracks to the station from four to six – the design will also provide for faster journeys into Leeds and for more punctual journeys. In addition to changes to the trackwork at Leeds, the station is being substantially rebuilt. New platforms are being provided to serve the increased number of trains and the passenger environment will be much improved. In particular, there will be escalator and lift access to the platforms, a new footbridge, new customer information systems and a brighter station environment with more natural light following construction of a brand new roof.

Phase II (2005) is the first tranche of work on the main line and provides capacity for the short-term aspirations of our train operators. It is expected that the frequency of off-peak London-bound express trains will increase to five trains per hour after completion of Phases 1 and II. Furthermore, Phase II will deliver many of our Customer Reasonable Requirements – notably those relating to our freight customers' forecast growth. Phase II also includes works to build a Primary Freight Route and to cater for new tilting trains operating at speeds of up to 125mph. Our target is to reduce journey times between Edinburgh and London by around 20 minutes.

Phase III (2006/07) and Phase IV (2009/10) cater for further demand growth and consequent aspirations of our customers for the next 10–20 years. By the end of Phase IV, the frequency of express trains between Doncaster and London will be seven trains per hour off-peak (twice today's level).

The dates quoted for Phases II, III and IV of the programme are indicative at this stage. Their achievement will be particularly sensitive to the successful conclusion of commercial agreements with our customers and other stakeholders, and upon the granting of the necessary Transport and Works powers which are required for many of the programme's key elements.

In addition to the core upgrade works comprising Phases 1 to IV, we are in the process of examining options to achieve further step changes in the capability of the route in respect of capacity, journey times, performance and network availability. This work is being done in conjunction with the sSRA, PTEs, local authorities and train operators to determine the commercial, environmental and societal worth of each element.

In order to better understand these aspirations, we have held four route conferences with customers since October 1998. At the last conference, chaired by the sSRA in January, the following aspirations for new services on and across the ECML were set out by operators and PTEs.

Progress on the 1999 NMS

'LEEDS 1ST' The Leeds 1st scheme is substantially under way. Already a new electrical power connection has been installed to provide a more reliable and flexible power supply to both the station and the neighbouring Neville Hill depot. A new bridge has been installed at Globe Road to accommodate the new six-track layout on the western approaches. On the station, a new plasma screen customer information system has been implemented on the main concourse. A new temporary station has been specially built at Leeds (Whitehall) in order to minimise the disruption to passengers using trains that will at certain times not be able to use the main station.

SIGNALLING The upgrade of signalling-control equipment between York and Berwick-upon-Tweed has continued in the last year and will be complete by June 2000. The engineering assessment of signalling equipment between London and Berwick is complete.

Renewal of some of the signalling equipment (particularly interlockings) between London and Peterborough has now commenced, and renewal of signalling in the Edinburgh area is in development.

TRACK Points and crossings have been renewed at New Barnet, Hatfield, Retford, Gamston, Darlington and Chathill leading to improved performance and the opportunity of higher linespeeds consistent with the upgrade. At Retford the loop has been lengthened, to improve the line capability and capacity by handling longer freight trains up to 775m length, together with bi-directional signalling and improved linespeed. In the Hatfield works, we have taken the opportunity to move a crossover off a curve – yielding a journey time and performance dividend.

STRUCTURES Work has started to reconstruct the major bridge over the Trent Navigation at Newark. This will allow future operation at up to 140mph and the ability to convey heavier freight vehicles, as well as providing the new alignment needed for later upgrade of the adjacent flat crossing. Work will be completed by the end of this year.

PLANT AND ELECTRICAL Work has started to renew the overhead line at Scremerston in Northumberland where salt corrosion along the coast is affecting our equipment. A new wind monitoring system and a number of other performance-related improvements have been undertaken to help manage better train performance throughout the route.

PERFORMANCE Works have been undertaken to raise the reliability of key junctions on the route. Refurbishment of barriers, pedestals and associated equipment has been undertaken at six level crossings south of Doncaster using improved hydraulic drives to give reliability of operation for road users as well as rail users (eg Tallington on the A16). Substantial clearance of lineside vegetation has been undertaken on the Hertford Loop to improve autumn performance. Installation of equipment for data recording at a number of level crossings and signals has commenced. Significant performance improvements have been delivered by improving the security of the signalling power supply system between King's Cross and Peterborough.

Following the successful installation of an uninterruptible power supply at Welwyn Garden City a further 15 sites are presently being commissioned throughout the route. These deal with the regular electricity supply industry fluctuations and outages that often have disrupted services and cause signal reversions.

STATIONS Station regeneration has been completed at Peterborough, Grantham, Newark, Retford, Wakefield, Darlington, Durham, Berwick and Dunbar, and works are still ongoing at York and Newcastle. The extensive £25M programme of work at Newcastle Station is nearing completion in time for the station's 150th anniversary celebrations in August 2000. Undertaken in partnership with the Railway Heritage Trust, it involves the rebuilding of the South Barrel roof, platform resurfacing, office refurbishment, car-park improvements, new lifts and escalator connection to the Tyne & Wear Metro Station. SRP works to recover the roof over platforms 14–17 have been completed at Edinburgh Waverley.

Customer information systems are being renewed at all GNER leased stations on the route. Work is already under way and will be completed by March 2001. Station safety and security are being improved by upgrading CCTV and car park lighting, to be completed this summer. New customer lounges have been built at King's Cross, Doncaster, Darlington, Berwick, Newcastle, Dunbar and Edinburgh Waverley. Improved travel centre facilities have been provided at King's Cross.

At Edinburgh Waverley we have continued to improve the passenger environment with enhancements to the main concourse area and passenger facilities.

CUSTOMER ASPIRATIONS – APPROXIMATE NUMBER OF TRAINS PER HOUR (OFF-PEAK)

	CURRENT	PHASE 1	PHASE II	PHASE III	PHASE IV
Long distance	3	4	5	6	7
Cross-country	1	2	2	2	2
Freight	1–2	2	2–3	2–3	2–3
London commuter	12–13	13	13	10	12
Thameslink 2000	-	-	-	8	8
Midlands services	7	9–10	12	13	13
North East & Borders*	30	40	48	51	53
Open access	-	2	2	2	2

* includes Metropolitan areas

In addition to the aspirations set out above our customers and stakeholders have identified the following opportunities, all of which we are working up for appraisal:

London commuter services	The possibility of increasing the capacity for stopping services out of London King's Cross is being explored. In particular, additional services during off-peak hours and on weekends to Welwyn and Hertford East are being considered with the sSRA as part of the Incremental Output Statement process. In addition, we are working on proposals to run a Finsbury Park to Bishopsgate and New Cross service via the East London Line.
Leamside passenger services	We are working with regional and local authorities and Nexus to develop plans for the possible introduction of half-hourly passenger services on the Leamside Line with new services between Middlesbrough and Newcastle. Several new station sites have been proposed including Durham Belmont, Washington and Ferryhill – the first two provide good park-and-ride sites to serve Sunderland.
North East passenger development	We are working with regional and local authorities in developing plans which will form an input to the Regional Transport Plan. These plans include the Leamside services (above), the introduction of services on the ECML from Newcastle to Blyth and Ashington and longer-term plans for new stopping services between Morpeth, Newcastle and Darlington. We are working with Newcastle Airport on a new heavy rail link connecting the airport to Newcastle city centre and points beyond. Plans for a Teesside Metro are being considered alongside plans for the improvement of the Northallerton–Stockton–Ferryhill Primary Freight Route.
Lincoln services	We are examining the potential for through services between Lincoln and London.
Freight train gauge and length improvements	We are consulting with freight operators to identify realistic needs and liaising with the sSRA to evaluate the societal benefits which this element of the upgrade could offer. We are keen to develop the route to W10w or W11 capacity – the former will allow rail to compete more effectively in the market for deep sea containers together with the capability of operating 775m-long trains.
Electrification of Primary Freight Routes	Electrification of the Primary Freight Routes would allow new electric passenger and freight services to operate on the East Coast corridor while at the same time providing further flexibility to existing services. Such electrification would create the potential for a 24-hour electric Primary Freight Route from England to Scotland.
Freight facilities	Additional operational flexibility is being considered to allow easier freight movements between the ECML and Tyne Dock and Tyne Yard. New infrastructure will be required to facilitate more direct movements into and out of these facilities.
140mph operation	We are also looking at the long-term possibility of raising linespeeds to 140mph thereby reducing journey times on long-distance flows further.
Station redevelopment	We are investigating ways in which all key stations can be redeveloped to provide an even better travelling environment, with improved access, car parking, transport interchanges and station facilities. Development of proposals at Finsbury Park reflect the possible extension of East London Line services via Dalston and Canonbury. In order to provide the capacity needed to satisfy forecast growth major remodelling of platforms and track layout will be required as part of redevelopment at Edinburgh Waverley. A Commissioners' Hearing into the redevelopment proposals will be held this year.
New parkway stations	There are a number of key regions where access to rail services might be improved through building new 'parkway' stations. The introduction of such stations could help alleviate local road congestion in the centres of busy urban areas.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
King's Cross	New track layout to the north of the station to connect the ECML to the existing cross-London Thameslink Route as part of the Thameslink 2000 project	Enables operation of Thameslink services through to ECML	2004/05	A
King's Cross–Cambridge and Peterborough	Extension of platforms as part of the Thameslink 2000 project	Accommodates longer (12-car) trains	2006/07	B
Doncaster	Remodelling of layout at Doncaster South Yorkshire Junction	Improved capacity and reliability	2000/01	C

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Leeds	The 'Leeds 1st' project comprises major remodelling of the station track layout as well as several important junctions and chords in the area. It also includes major enhancements of the station facilities	Improved capacity, reliability and journey times. These improvements will accommodate additional train services to London, Birmingham, the Leeds commuter area and other locations	2001/02	A
King's Cross	Additional platform	Additional capacity for longer trains	2005	B
Holloway Road–Alexandra Palace	Additional platforms at Finsbury Park together with upgrading of the goods lines	Additional capacity	2005	C
Welwyn	Four tracking with new viaduct and tunnels	Removal of critical two-track capacity constraint, providing a 75% capacity increase	2010	D
Hitchin	New flyover and chord	Improved capacity and reliability through removal of conflict between main line and King's Cross–Cambridge services	2010	E
Huntingdon–Peterborough	Four tracking between Huntingdon and Woodwalton Junction	Increased capacity	2005	F
Huntingdon–Peterborough	Four tracking between Connington and Yaxley	Increased capacity	2010	G
Huntingdon–Peterborough	Four tracking between Yaxley and Fletton	Increased capacity	2007	H
Peterborough	Underpass north of station	Improved capacity and reliability through removal of conflict between main line and cross-country/freight services	2005	I
Peterborough	New track layout and additional platforms	Increased capacity	2005	J
Grantham	New junction and chord line at Allington	Improved capacity and reliability through removal of conflict between main line and crossing traffic	2005	K
Newark	New flyover in place of flat crossing	Improved capacity and reliability through removal of conflict between main line and crossing traffic	2007	L
Doncaster	Remodelling of Doncaster North, including provision of flyover	Improved capacity and reliability through removal of conflict between main line and crossing traffic	2007	M
York	Remodelling of the layout including an additional track between Holgate and the station	Improved capacity and reliability	2007	N
York	Signalling modifications	Improved capacity and reliability	2005	O
Newcastle–Berwick	New loop at Stannington	Additional capacity	2005	P
Berwick–Edinburgh	New loops at Innerwick and Prora. Bi-directional signalling	Additional capacity	2005	Q
Edinburgh Waverley	Provision of a new platform with upgrade of track layouts and associated signalling	Improved capacity and reliability	2005	R
London–Peterborough	Bi-directional signalling at southern end of Hertford Loop (plus restoration of additional tracks between Huntingdon and Peterborough)	Additional capacity for freight operators	2005	S
Peterborough–Doncaster	Upgrading of parallel route via Lincoln (plus underpass at Peterborough and remodelling of the layout at Doncaster)	Additional capacity for freight operators	2005	T
Doncaster–York	Options for Primary Freight Route between Doncaster and York are currently under investigation	Additional capacity for freight operators	2005	U
Northallerton–Newcastle	Upgrading the Northallerton–Eaglescliffe–Stockton–Ferryhill route, reinstatement of the Leamside (Ferryhill–Gateshead) Line and Norwood Curve at Bensham	Additional capacity for freight operators	2005	V
London–Peterborough	Power-supply upgrades	Improved capacity, reliability and journey times	2005	W
Peterborough–York	Power-supply upgrades	Improved capacity, reliability and journey times	2006/07	X
Newcastle–Edinburgh	Power-supply upgrades	Improved capacity, reliability and journey times	2006/07	Y
IOS(C): Moorgate–Welwyn Garden City	Railtrack proposes to offer sSRA an alternative output	Extra one train per hour, Mon–Fri off-peak	2006	A
IOS(C): King's Cross–Welwyn Garden City	Railtrack proposes to offer sSRA an alternative output	Extra one train per hour, Sat–Sun	2006	B
IOS(C): Moorgate–Hertford North	Railtrack proposes to offer sSRA an alternative output	Extra one train per hour, Mon–Fri off-peak	2006	C
IOS(C): King's Cross–Hertford North	Railtrack proposes to offer sSRA an alternative output	Extra one train per hour, Sat–Sun	2006	D
IOS(O): Loversall Carr Junction, Doncaster	Railtrack proposes to offer sSRA an alternative output	Provide new signal to allow route from down main line to up east slow line	2006	E
IOS(O): Tyne Yard	Railtrack proposes to offer sSRA an alternative output	Reinstatement of Bensham Junction to Low Fell Sidings Junction to provide access to southern end of yard	2006	F

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London King's Cross–Edinburgh	631	1	3hr 58min (99mph)	3hr 58min (99mph)	3hr 58min (99mph)	3hr 40min (108mph)
London King's Cross–Newcastle	431	0	2hr 36min (104mph)	2hr 36min (104mph)	2hr 36min (104mph)	2hr 26min (111mph)
London King's Cross–Leeds	298	1	1hr 56min (96mph)	1hr 56min (96mph)	1hr 56min (96mph)	1hr 49min (103mph)
LINESPEEDS (km of track)						
Up to 35mph			134	134	134	134
40–75mph			548	548	548	548
80–105mph			482	482	482	482
110–125mph			1013	1013	1013	1013
Over 125mph			0	0	0	0
TOTAL			2177	2177	2177	2177
GAUGE (km of route)						
W6A			841	841	841	841
W7			841	841	841	841
W8			841	841	841	841
W9			653	653	653	653
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			1113	1113	1113	1113
20.4–24.1 tonnes			832	832	832	832
24.2–25.4 tonnes			232	232	232	232
TOTAL			2177	2177	2177	2177

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
LONDON NORTH EASTERN ZONE				
Track	31.8	21.4	87.2	77.6
Structures	11.7	8.3	28.2	21.4
Signalling	9.4	8.2	117.4	38.9
Electrification	2.8	0.8	15.0	4.8
Plant & Machinery	5.3	3.3	1.9	0.0
Telecoms	1.7	1.8	2.2	5.2
Stations	10.2	11.9	32.9	24.8
Depots	4.8	0.0	4.1	4.2
Other	0.0	0.1	0.0	0.0
TOTAL	77.7	55.8	288.8	176.9

SCOTLAND ZONE

Track	2.2	1.7	6.7	7.9
Structures	3.9	3.8	6.3	7.9
Signalling	0.2	0.4	2.3	0.0
Electrification	0.1	0.3	0.3	1.1
Plant & Machinery	0.3	0.1	0.5	0.1
Telecoms	0.1	0.6	0.1	1.9
Stations	3.5	5.1	66.3	11.6
Depots	0.0	0.0	1.4	1.7
TOTAL	10.3	12.0	84.0	32.3

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Thameslink 2000	2006/07	0.7	0.8	60.8	0.2	62.5	4/5
Other committed schemes	Various	6.1	10.9	7.8	0.0	24.8	Various
ECML route upgrade: Doncaster South Yorkshire Junction	2000/01	0.8	1.9	0.0	0.0	2.7	5
TOTAL		7.6	13.6	68.6	0.2	90.0	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
ECML: Phase II	930.1	3
ECML: Phase IV	510.1	2
ECML: Phase III	340.0	2
King's Cross Station	210.0	2/3
ECML: Phase I	110.0	5
Other schemes	61.3	Various
Peterborough Station	50.0	1
York Station	10.0	1
Freight: gauge enhancements	15.0	1
Edinburgh–North Berwick: journey-time improvements	0.4	2
TOTAL	2236.9	

The sum of the expenditures may not match totals due to rounding



First Great Western; Heathrow Express; Thames Trains; Virgin CrossCountry; Wales & West; Chiltern Trains; EWS; Freightliner; DRS; Central Trains

Committed schemes

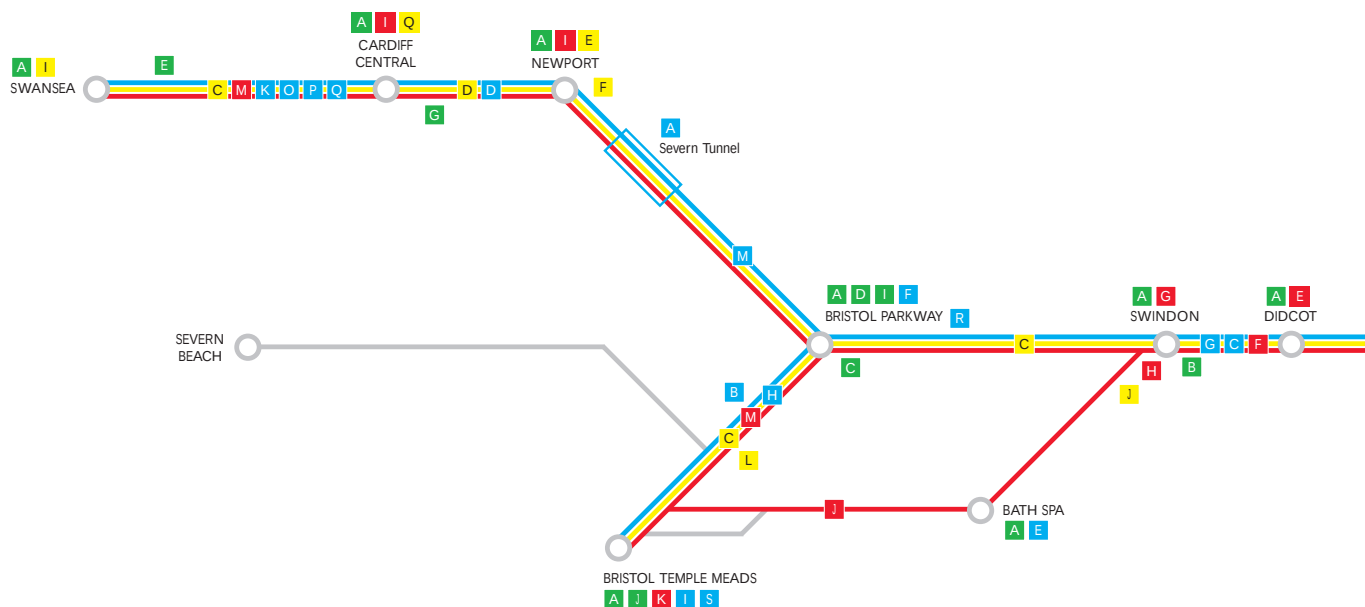
- A** All FGW stations: fitment of customer information systems and CCTV
- B** South Marston: freight terminal
- C** Chipping Sodbury: reduced flood vulnerability
- D** Bristol Parkway: Royal Mail terminal
- E** Tremains: convert goods loop to passenger use
- F** Maidenhead–Windsor: flood relief
- G** Cardiff: Wentlooge freight terminal
- H** Paddington: long-term vehicle access
- I** Bristol Parkway: station reconstruction
- J** Bristol Temple Meads: platform 13 and 15 reinstatement

Options for major improvements to capability

- A** Paddington: further platform capacity
- B** Acton–Airport Junction: six tracks
- C** Airport Junction–Reading: grade separation
- D** Reading: station remodelling
- E** Didcot East Junction: remodelling
- F** Didcot–Swindon: four tracks
- G** Swindon: station remodelling
- H** Wootton Bassett Junction: grade separation
- I** Newport and Cardiff: remodel
- J** Bathampton–Bristol: additional signals
- K** Bristol Temple Meads: rationalise signal overlaps
- L** Willesden–Wentlooge and Avonmouth: W10w gauge clearance
- M** Paddington–Swansea and Bristol: journey-time improvements
- N** Colnbrook: Euroterminal

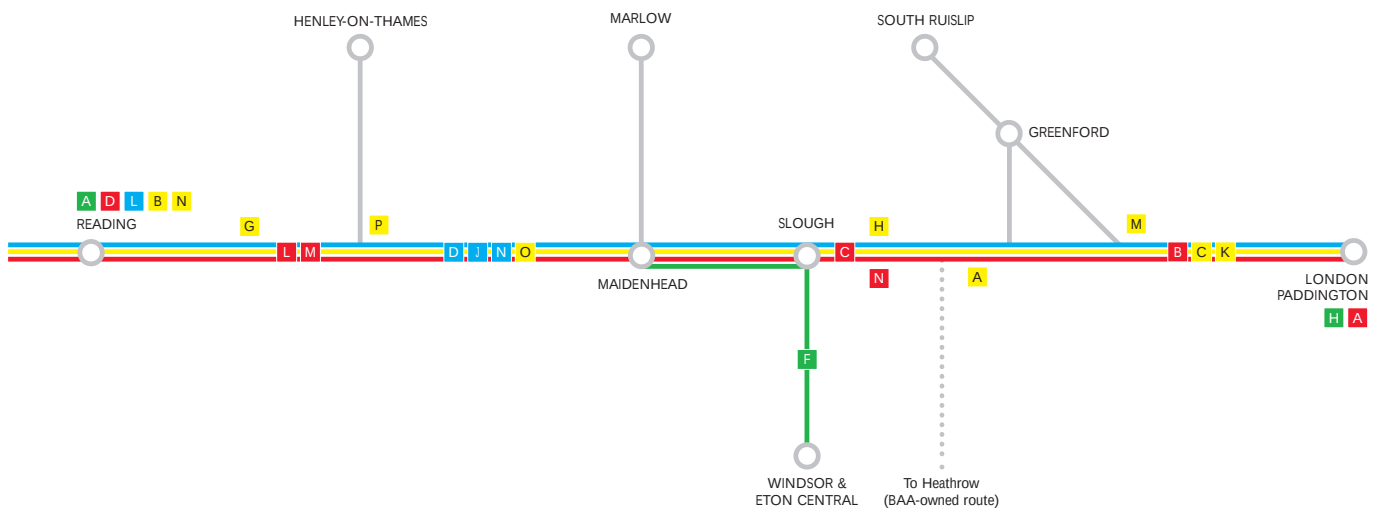
IOS options

- A** Severn Tunnel: 4min headway and 90mph bi-directional operation
- B** Filton Junction: redouble
- C** Bristol Temple Meads–Oxford: additional capacity
- D** Paddington–Cardiff: additional capacity
- E** Bath Spa: platform reoccupation time
- F** Bristol Parkway: additional platform
- G** Swindon–Uffington: provide opportunity for fast trains to overtake
- H** Paddington–Bristol: reduce journey time
- I** Bristol Temple Meads: additional platform
- J** Paddington–Bristol Temple Meads and Swansea: provide for the operation of 2+9 HSTs
- K** Swansea–Cardiff: reduce journey time
- L** Reading: reduce platform reoccupation time
- M** Swindon–Severn Tunnel Junction: 40mph entry/exit speed in freight loops
- N** Paddington–Swansea: reduce journey time
- O** Port Talbot–Llanwern: continuous availability
- P** Cardiff–Bridgend: reduced time for diversionary route via Barry
- Q** Cardiff–Swansea: continuous availability of route
- R** Yate: provide turnback
- S** Bristol Temple Meads: reinstate platforms 13 and 15



Customer Reasonable Requirements and other development options

- A** Hanwell: bridge electrification of loop
- B** Reading: LMD fuel capacity
- C** Paddington–Bristol and Swansea: route clearance for new rolling stock
- D** Severn Tunnel Junction–Cardiff: relief linespeed improvements
- E** Newport: car park improvements
- F** Brackla & Llanharan: new station
- G** Thames Valley Park: new station
- H** Iwer: new freight siding
- I** Swansea: station structure redevelopment
- J** Wootton Bassett: new crossover for stone siding
- K** Heathrow–St Pancras: new service
- L** Bristol: light rail transit system
- M** Old Oak Common: renewal of depot
- N** Reading: additional platform capacity
- O** Paddington–Reading: relief linespeed improvements
- P** Twyford: station car park enlargement
- Q** Cardiff Central: station and square completion



Route characteristics

DESCRIPTION The Great Western Main Line (GWML) is the principal rail route from London to the West of England and South Wales. The route between Paddington and Didcot is a four-track railway. West of Didcot, the route is primarily two track, though with four tracks between Severn Tunnel Junction and Cardiff. Linespeed between London and Bristol Parkway and Chippenham is 125mph; elsewhere it is 75–100mph. The relief linespeeds between Paddington and Didcot vary between 60 and 100mph.

Passenger demand remains strong. Latest research shows economic growth in the Thames Valley continuing at double the national average rate, and also strong growth on the axis from the South Coast through Reading, to the Midlands.

KEY CAPACITY CONSTRAINTS The route has a number of key capacity constraints:

At Paddington Station the platform capacity is limited both through their number and length. There is restricted operational flexibility on the approach to the station.

On the Acton–Airport Junction section the main lines are at capacity throughout peak periods. Relief lines are at capacity most of the day through significant differences in the journey times and stopping patterns of trains.

The same issue arises on all lines between Airport Junction and Reading.

The Reading Station layout is based on east–west traffic flows. Growing north–south traffic flows and overall levels of train movements are now creating a significant platform bottleneck. These traffic flows also create bottlenecks at Reading West Junction and Didcot East Junction.

Disparity in train speeds and signal spacing constrain the timetable on the Didcot–Swindon section. Swindon Station layout restricts capacity.

East–west flows mix with north–south on the Westerleigh Junction–Severn Tunnel section and lead to capacity constraints on flat junctions. Layout inflexibility limits capacity at Bristol Parkway.

In the Severn Tunnel the long signal section and linespeed constrain capacity.

Capacity constraints on the Bathampton Junction–Bristol Temple Meads section are exacerbated by platform reoccupation times at Bath Spa. There are also platform capacity and signalling constraints at Temple Meads.

The layout at Filton Junction constrains capacity.

Route vision

Great Western Renaissance Our vision is embodied in ‘Great Western Renaissance’, a programme of development work to provide a world-class, right-time, high-capacity route serving the rapidly growing markets along the M4 Corridor, including Heathrow Airport, and linking to South West England and South Wales. As well as developing the east–west routes, we seek to provide capacity for the predicted growth in north–south flows that use key sections of the route.

Our strategy is to expand capacity and improve reliability at the key bottlenecks of Paddington and Reading. We also envisage providing flyovers at key junctions to improve capacity and reliability through a reduction in crossing movements. We envisage raising linespeed between the Severn Tunnel and

Cardiff to 125mph and at other locations. We aspire to a journey time of 1hr 40min between Paddington and Cardiff.

We propose to develop the Swindon–Stroud–Gloucester–Severn Tunnel Junction route as a key freight artery and a diversionary route for London to South Wales passenger services. We propose improve the capability of the route to accommodate 775m long and W10w gauge freight trains at higher speeds.

We propose upgrade facilities, the passenger environment, car-parking capacity and interchange opportunities at key stations, while preserving their heritage character. We will develop plans for parkway stations to relieve town and city centres.

Committed development plans

INFRASTRUCTURE

- We will open new freight depots at South Marston and Wentlooge in South Wales and a new Royal Mail depot at Bristol Parkway.
- We will reopen platforms 13 and 15 at Bristol Temple Meads.
- We will progress the Maidenhead–Windsor flood-relief scheme.
- We will restore higher linespeed and flexibility in the Paddington approaches in line with any recommendations arising from the Ladbroke Grove accident inquiries.

STATIONS

- We will fit new customer information systems and CCTV at all 20 FGW stations.
- We will rebuild Bristol Parkway Station.

MAJOR STATIONS At Paddington a new road bridge will be built. This is a collaborative project between Railtrack, Westminster City Council and BAA. Long-term vehicle access will be rationalised in accordance with agreed planning consents. During 2000/01 we will start a package of Station Regeneration Programme work to areas of the station not covered by the redevelopment work at the station.

Options for development

MAJOR CAPACITY UPGRADES We are developing options for a major upgrade of the route under the 'Great Western Renaissance' programme. This programme of work would enable all our customers' long-term train service aspirations to be met. There are three main phases:

Phase I

Reading Station Complete remodelling of Reading Station to provide additional platform capacity for growth, and grade-separated junctions to avoid conflict between north–south and east–west traffic flows. In partnership with Reading Council and our customers, a feasibility study has been commissioned to evaluate a major commercial development of Reading station with improved passenger facilities and transport interchange.

Paddington Station Further platform capacity at Paddington to facilitate additional services.

Westerleigh Junction–Severn Tunnel Additional platforms at Bristol Parkway to improve flexibility and capacity.

Phase II

Reading–Didcot Complete remodelling of Didcot East Junction with grade separation to avoid conflict between north–south and east–west traffic flows.

Swindon Station Remodelling of Swindon Station to improve journey time and capacity.

Bathampton Junction–Bristol Temple Meads An option to reduce platform reoccupation time at Bath Spa would increase capacity and improve reliability.

Severn Tunnel–Margam Substantial remodelling at Newport and Cardiff. There is an option to develop the Vale of Glamorgan Line and Tondur routes to minimise impact on capacity of differential train speeds on the main line.

Phase III

Acton–Airport Junction Creating six tracks to meet the forecast train movements resulting from (1) the proposed CrossRail (east–west) route across London and (2) new services to Heathrow from the south onto the Great Western Main Line to central London and the North.

Airport Junction–Reading Grade separation of key crossovers to minimise the effect of speed differentials or stopping pattern between trams.

Didcot–Swindon Create four tracks between Didcot and Swindon to increase capacity.

Swindon–Wootton Bassett Junction Grade separation of Wootton Bassett Junction to increase capacity and remove timetable conflicts.

Severn Tunnel Development of the Swindon–Stroud–Gloucester–Severn Tunnel Junction route particularly for freight and as a diversionary route for passenger services to improve capacity and performance during maintenance of the Severn Tunnel.

Other options

Willesden to Wentlooge and Avonmouth, Southcote Junction to Aynho Junction (for Southampton to Midlands traffic) Enhanced access for larger freight vehicles to W10w gauge.

Customers have an aspiration to increase axle loads from 25.5 tonnes to at least 30 tonnes over specific sections of the route.

Journey times Journey time improvements from infrastructure enhancements are being investigated.

ssRA Incremental Output Statements There are 19 Incremental Output Statements, covering options for improvements to capacity, operational flexibility, freight gauge and linespeed throughout the route. Options for improving capacity at Reading, Swindon, Bath, Bristol Temple Meads, in the Severn Tunnel and Cardiff Central are included. There are options to increase speeds on the approach to freight loops and platforms and provide for 775m long freight train operation.

Customer Reasonable Requirements

- Infrastructure for a new Heathrow–Hayes shuttle service for BAA, in association with the planned development of a proposed transport interchange at Hayes and Harlington Station to improve access to Heathrow.
- Improved capacity between Airport Junction and Acton Wells through infrastructure alterations and timetable changes to permit a Heathrow–St Pancras service.
- Improved capacity at Reading Station to meet the aspirations of Virgin Cross Country, Thames Trains and First Great Western for service improvements.
- Remodelling of Filton Junction to improve capacity both through the junction and the nearby Filton Abbey Wood Station.
- New Class 180 rolling stock route clearance.
- A new depot at Old Oak Common to service new FGW rolling stock.
- Increase in fuel capacity at Reading Depot.
- Enhanced car-parking facilities for FGW and Thames Trains stations.
- A freight terminal at Iwer.
- Minor improvements to capacity through infrastructure alterations and agreed timetable changes.

Local Transport Plans All LTPs include the aspiration to improve road–rail interchanges (eg Didcot Station forecourt) and passenger facilities at stations (eg car park at Twyford).

Several local authorities have expressed an interest in western access for rail services from the GWML to Heathrow.

Local authorities have aspirations for new stations at various locations (eg Corsham and Grove) along the route. Construction would depend on agreement of train operating companies to serve the stations.

The Bristol LRT system is being evaluated by a number of local authorities.

Many local authorities are evaluating requirements for freight terminal facilities and are interested in the capability of the railway to carry more freight.

MAJOR STATIONS At Paddington an application for planning and listed building consent will be made which, if approved, would allow Masterplan Phase II to be implemented. This comprises removing the train shed roof over platforms 9–12, remodelling of the platforms within the 'Span 4' shed and the construction of an elevated deck to provide the long-term solution for vehicular access to the station. This solution is linked to the construction of a new road bridge over the throat of the station.

Future plans include the provision of 1–2 additional full-length platforms.

Progress on the 1999 NMS

RELIABILITY AND OPERABILITY Our immediate priority has been to continue the improvement in reliability and timetable robustness.

We have taken measures to reduce the vulnerability of Chipping Sodbury Tunnel to flooding.

Track relaying, rerailing, drainage and structural repairs in the Severn Tunnel continue at an increased level. The maintenance strategy for the tunnel has been totally revised and implemented.

Equipment reliability and minor signalling enhancements between Paddington and Airport Junction and in the Bristol area have been made and further improvements will continue through 2000/01.

CAPACITY Layout alterations at Reading have been completed to improve capacity and flexibility.

STATION REFURBISHMENT

- Improvements have been made at Paddington, including extensive rebuilding and refurbishment of the concourse area and installation of state-of-the-art customer information systems. Masterplan Phase 1 has been completed and substantial improvements have also been made to the concourse area.
- A new platform has been built at South Greenford.
- A scheme for the complete rebuilding of Bristol Parkway has begun including transport interchange improvements in conjunction with the local authority.
- Cardiff Central has undergone major improvements amounting to £13M with additional facilities commensurate with its pivotal role in the city, adjacent to the Millennium Stadium.

- Installation of improved customer access and customer information systems continues at many stations in partnership with train operators.
- The Station Regeneration Programme is on target for completion on this route by April 2000 when 15 stations will have been completed to add to the 33 completed in 1998/99.
- The London–Penzance Motorail service came into operation from summer 1999 following completion of works at Paddington although it was suspended as a result of shortage of capacity following the short-term loss of layout flexibility at Ladbroke Grove. A limited service was reinstated early in 2000.
- We have supported the bid for parts of the route to be designated as World Heritage Sites.

FREIGHT AND MAIL DEPOTS A new freight terminal at South Marston is under construction and is due for completion in 2000, together with the Royal Mail depot at Bristol Parkway in 2000/01.

We are constructing a major intermodal rail freight terminal at Wentloog as part of a consortium between the WDA, Cardiff County Council, Freightliner and Euroclad, providing enhanced facilities for South Wales. Work is due to be completed by October 2000.

Railtrack and Argent have completed a feasibility study for proposals to construct the London International Freight terminal at Colnbrook (LIFE) near Heathrow. This has enabled a Transport and Works application to be submitted.

MAINTENANCE DEPOTS Regeneration work has been completed at Reading and Bristol St Phillips Marsh depots.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Route	Customer information systems & CCTV all FGW stations	Enhanced facilities	2000	A
South Marston	Freight terminal	New service opportunities	2000	B
Chipping Sodbury	Reduce flood vulnerability	Improved performance	2000	C
Bristol Parkway	Royal Mail terminal	New service opportunities	2000	D
Tremains	Convert freight loop to passenger status	Additional capacity	2000	E
Maidenhead–Windsor	Flood relief	Improved performance	2001	F
Cardiff	Wentloog freight terminal	New freight station	2001	G
Paddington	Long-term vehicle access	Enhanced facilities and improved vehicular access	2004	H
Bristol Parkway	Station reconstruction	Enhanced facilities	2001	I
Bristol	Bristol Temple Meads platforms 13 and 15	Additional capacity	2001	J

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Paddington Station	Further platforms	Additional capacity	2006	A
Acton–Airport Junction	Create six tracks	Additional capacity	2007	B
Airport Junction–Reading	Grade separation of key crossovers	Enhanced capacity	2005	C
Reading Station	Complete remodelling of Reading Station and grade separation of junctions	Enhanced capacity	2006	D
Reading–Didcot	Complete remodelling of Didcot East Junction with grade separation	Enhanced capacity	2004	E
Didcot–Swindon	Create four tracks	Additional capacity	2008	F
Swindon Station	Remodelling of Swindon Station	Enhanced facilities	2008	G
Swindon–Wootton Bassett Junction	Grade separation of Wootton Bassett Junction	Enhanced capacity	2010	H
Severn Tunnel–Margam	Substantial remodelling at Newport and Cardiff	Additional capacity	2010	I
Bathampton Junction–Bristol Temple Meads	Decrease platform reoccupation time at Bath Spa	Enhanced capacity	2004	J
Bristol Temple Meads	Signalling improvements	Enhanced capacity	2002	K
Willesden–Wentloog/Avonmouth, Southcote Junction–Aynho Junction (for Southampton to Midlands traffic)	Enhanced access for larger freight vehicles to W10w (9'6" containers)	Enhanced capability	2005	L
Paddington–Swansea/Bristol	Journey-time improvements from infrastructure enhancements, possibly with tilting trains	Improved journey times	2006	M
London International Freight Exchange, Colnbrook	Construction of Euroterminal	New service opportunities	2005	N
IOS(C): Pilning–Severn Tunnel Junction	Railtrack proposes to offer sSRA an alternative output	Provide four-minute headways for 90mph passenger trains, in each direction on each line	2006	A
IOS(O): Filton Junction	Detailed scheme being prepared	Remodel junction to allow parallel movements between the Bristol Temple Meads and Cardiff directions	2004	B
IOS(C): Bristol Temple Meads–Oxford	Detailed scheme being prepared	Provide for one train per hour at regular intervals	2004	C
IOS(C): Paddington–Cardiff	Detailed scheme being prepared	Two trains per hour, at regular half-hour intervals from Paddington and Cardiff	2006	D
IOS(O): Bath Spa	Detailed scheme being prepared	Provide for three-minute reoccupation of the platforms after the departure of a train	2004	E
IOS(O): Bristol Parkway	Railtrack proposes to offer sSRA an alternative output	Provide one additional through platform face	2003/04	F
IOS(O): Swindon–Uffington	Railtrack proposes to offer sSRA an alternative output	Provide opportunity for fast trains to overtake freight or slower passenger trains	2004	G
IOS(I): Paddington–Bristol Temple Meads via Swindon and Box	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 5min	2006	H
IOS(O): Bristol Temple Meads	Detailed scheme being prepared	Reinstate west-facing bay platform 2 for passenger use when vacated by Royal Mail	2006	I
IOS(C): Paddington–Bristol Temple Meads and Swansea	Lengthen platform at Bath Spa Station	Provide for the operation of 2+9 HSTs	2004	J

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY (continued)

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(I): Swansea–Cardiff Central	Detailed scheme being prepared	Reduced journey time by 3min	2006	K
IOS(O): Reading	Railtrack proposes to offer sSRA an alternative output	Provide for three-minute reoccupation of through platforms after the departure of a train	2005/06	L
IOS(C): Swindon–Severn Tunnel Junction	Detailed scheme being prepared	Provide minimum 40mph access and egress speeds for freight loops	2004	M
IOS(I): Paddington–Swansea via Swindon and Badminton journey times	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 5min		N
IOS(O): Port Talbot–Llanwern	Detailed scheme being prepared	Continuous availability for freight trains either by the South Wales Main Line or alternative routes	2006	O
IOS(O): Cardiff–Bridgend via Vale of Glamorgan Line	Detailed scheme being prepared	Reduced-time penalty for diverted passenger and ECS trains by 5min	2006	P
IOS(O): Cardiff–Swansea	Detailed scheme being prepared	Continuous availability for passenger and ECS trains either by the South Wales Main Line or alternative routes	2006	Q
IOS(O): Yate	Detailed scheme being prepared	Provide turnback siding allowing trains from Bristol to recess and start back	2004	R
IOS(O): Bristol Temple Meads	Detailed scheme being prepared	Reinstate platforms 13 and 15 for passenger use	2004	S
Hanwell Bridge	Electrification of loopline for Heathrow–Hayes shuttle service	Operational flexibility	2001	A
Reading	LMD fuel capacity enhancement	Enhanced facilities	2001	B
Paddington–Swansea/Bristol	FGW new rolling stock: route clearance	Operation of Class 180 trains	2001	C
Severn Tunnel Junction–Cardiff	Relief lines: linespeed improvements	Operational flexibility	2001	D
Newport	Car park redevelopment	Enhanced facilities	2001	E
Brackla/Llanharan	New station	New station	2001	F
Thames Valley Park	New station	New station	2002	G
Iver	Proposed freight siding	New service opportunities	2002	H
Swansea Station	Redevelopment of structure	Enhanced facilities	2002	I
Wootton Bassett	New crossover for access to stone siding	Operational flexibility	2004	J
Heathrow–St Pancras	Infrastructure to accommodate a new service	4 trains per hour Heathrow–St Pancras		K
Bristol–Filton	LRT development with Bristol/South Gloucester consortium	New service opportunities	2005	L
Old Oak Common	Maintenance depot upgrade/renewal	Enhanced facilities	2002	M
Reading	Additional platform capacity	Additional capacity	2001	N
Paddington–Reading	Relief linespeed raising	Operational flexibility	2001	O
Twyford	Station car park enlargement	Enhanced facilities	2001	P
Cardiff	Development of Southside	Enhanced facilities	2003	Q

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Paddington–Reading	58	0	25min (86mph)	25min (86mph)	25min (86mph)	24min (91mph)
Reading–Swindon	67	0	27min (92mph)	27min (92mph)	27min (92mph)	24min (104mph) 26min (96mph)#
Swindon–Bristol Temple Meads	66	2	40min (61mph)	40min (61mph)	40min (61mph)	38min (65mph) 39min (63mph)#
Swindon–Bristol Parkway	56	0	25min (83mph)	25min (83mph)	25min (83mph)	23min (91mph)
Bristol Parkway–Cardiff	53	1	33min (60mph)	33min (60mph)	33min (60mph)	30min (66mph) 31min (64mph)#
Bristol Temple Meads–Cardiff (Class 158)	61	1	43min (53mph)	43min (53mph)	43min (53mph)	41min (55mph)
Cardiff–Swansea	74	3	54min (51mph)	54min (51mph)	54min (51mph)	48min (58mph)
LINESPEEDS (km of track)						
Up to 35mph			36	36	36	36
40–75mph			250	250	250	253
80–105mph			235	235	235	190
110–125mph			555	555	555	352
Over 125mph			0	0	0	261
TOTAL			1076	1076	1076	1092
GAUGE (km of route)						
W6A			429	429	429	429
W7			400	400	400	400
W8			368	368	368	368
W9			0	10	32	275
W10			0	10	32	275
W11			0	0	0	275
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			23	23	23	25
20.4–24.1 tonnes			20	20	20	33
24.2–25.4 tonnes			1033	1033	1033	1035
TOTAL			1076	1076	1076	1092

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown

The sum of the figures may not match totals due to rounding

IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	17.4	12.8	74.6	66.2
Structures	11.4	12.5	37.1	29.8
Signalling	9.1	6.1	103.0	170.6
Electrification	0.2	0.3	0.2	0.1
Plant & Machinery	1.6	2.3	7.6	2.0
Telecoms	1.0	3.0	5.7	6.6
Stations	6.7	2.2	15.6	21.7
Depots	3.5	1.9	8.0	9.2
TOTAL	50.9	41.1	251.8	306.3

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	5.2	6.3	43.9	0.0	55.4	Various
Maidenhead–Windsor: flood relief	2001/02	3.2	6.4	0.0	0.0	9.6	5
Bristol Parkway: Royal Mail	2000/01	4.5	1.7	0.0	0.0	6.2	5
Bristol Parkway Station: enhancements	2001/02	2.4	1.8	0.0	0.0	4.2	4/5
Cardiff Station	2000/01	3.1	0.0	0.0	0.0	3.1	5
Wentloog: freight terminal	2000/01	0.5	2.5	0.1	0.0	3.1	5
South Marston, Swindon: Euroterminal	2000/01	3.0	0.0	0.0	0.0	3.0	5
FGW: customer information systems and security	2000/01	2.8	0.1	0.0	0.0	2.9	4/5
TOTAL		24.7	18.8	44.0	0.0	87.5	

The sum of the expenditures may not match totals due to rounding

optional enhancements

PROGRAMME OF WORK	TOTAL	STATUS
Great Western Upgrade: Phase III	915.0	1
Other schemes	714.5	Various
Great Western Upgrade: Phase I	600.0	1–3
Great Western Upgrade: Phase II	430.0	1
Paddington Station	55.0	2
Great Western Main Line: journey-time improvements	40.0	1
Colnbrook Euroterminal	40.0	3
Old Oak Common: depot upgrade	20.1	2
Freight: gauge enhancements	30.0	1
Thames Valley Park: new station	2.0	1
Newport: car park redevelopment	1.2	1
Hanwell Bridge Loops: electrification	0.6	1
Wootton Bassett: new access to stone siding	0.6	1
Hayes Station: gateway development	0.5	1
Iver: proposed freight siding	0.5	1
Brackla and Llanharan: new stations	0.1	1
Cross-country journey-time and frequency improvements	0.1	2
Paddington–Reading: journey-time improvements	0.1	0
Swansea Station: redevelopment	0.1	1
Twyford Station: car park enlargement	0.1	1
TOTAL	2850.5	

The sum of the expenditures may not match totals due to rounding



First Great Western; Thames Trains; Virgin CrossCountry; Wales & West; South West Trains; EWS; DRS.

Committed schemes

- A** Route stations: to be fitted with customer information systems and CCTV
- B** Yatton: convert loop to passenger use
- C** Hungerford: convert loop for passenger use
- D** Taunton: reinstate island platform

Options for major improvements to capability

- A** Route: linespeed enhancement

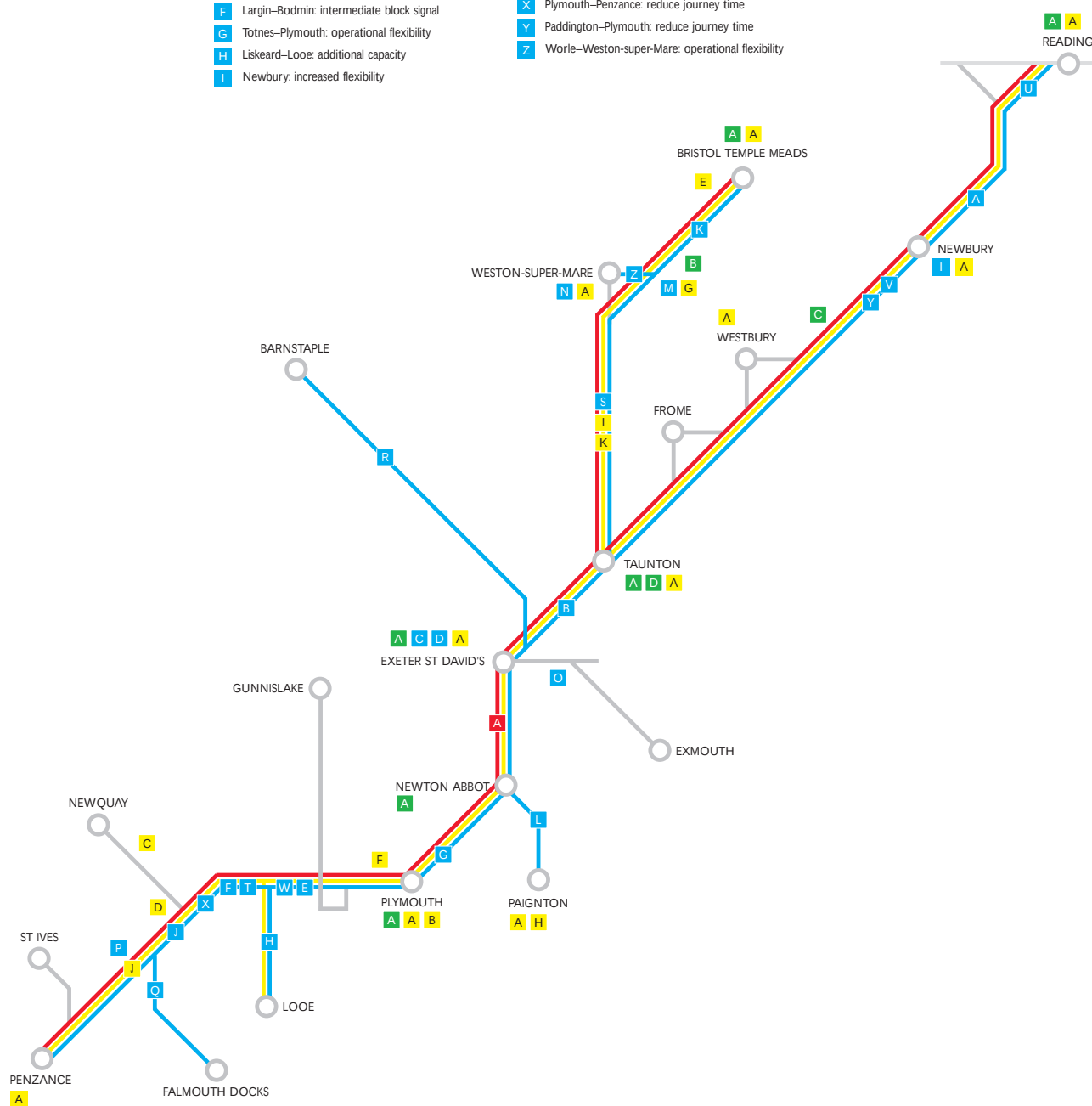
IOS options

- A** Theale–Hungerford: operational flexibility
- B** Paddington–Plymouth: additional capacity
- C** Exeter St David's–Central: signalling alterations
- D** Exeter St David's: increased capacity
- E** Liskeard–St Germans: intermediate block signal
- F** Largin–Bodmin: intermediate block signal
- G** Totnes–Plymouth: operational flexibility
- H** Liskeard–Looe: additional capacity
- I** Newbury: increased flexibility

- J** Probus–Burngullow: intermediate block signal
- K** Bristol Temple Meads–Weston-super-Mare: operational flexibility
- L** Newton Abbot–Paignton: reduce journey time
- M** Worle Junction: double track junction
- N** Weston-super-Mare: restore north-facing bay platform
- O** Exmouth Junction: speed increase
- P** Truro–Roskear: intermediate block signal
- Q** Truro–Falmouth: operational flexibility
- R** Barnstaple–Exeter St David's: additional capacity
- S** Bristol Temple Meads–Plymouth: reduce journey
- T** Largin–St Pinnock: operational flexibility
- U** Reading–Southcote: improved operability
- V** Paddington–Newbury: improve journey time
- W** Plymouth–Penzance: reduce journey time
- X** Plymouth–Penzance: reduce journey time
- Y** Paddington–Plymouth: reduce journey time
- Z** Worle–Weston-super-Mare: operational flexibility

Customer Reasonable Requirements and other development options

- A** Route clearance for FGW new rolling stock
- B** Plymouth Station: improved interchange facilities
- C** Roche: new freight terminal
- D** Burngullow: new connection to Newquay
- E** Flax Bourton: reinstate points and signalling
- F** Tavistock Junction: connection to new freight terminal
- G** Worle: new parkway station
- H** Paignton: station forecourt improvement
- I** Bristol–Plymouth: improved gauge clearance
- J** Plymouth–Penzance: improved gauge clearance
- K** Bristol–Exeter: route capability for 775m trains



Route characteristics

DESCRIPTION This is primarily a two-track railway, but with some short single-track sections in Cornwall. Linespeeds east of Exeter are 80–110mph. West of Exeter speeds are lower, mostly ranging between 40 and 75mph.

The route runs through Cornwall which holds Objective 1 development status.

KEY CAPACITY CONSTRAINTS Some sections of the route are operating near capacity. Freight traffic continues to grow and capacity issues are becoming evident at a number of locations.

At Reading, the combination of increasing north-south and east-west traffic creates a potential bottleneck.

At Worle Junction, the single lead onto a single line creates a pinchpoint affecting main-line capacity.

On the Newton Abbot–Plymouth section steep gradients and long signal sections limit capacity for additional services.

The Plymouth–Penzance section has several single-track sections, especially Saltash Bridge and Burngullow–Probus, restricting timetable flexibility.

The journey time on the Barnstaple branch restricts ability to timetable connections at Exeter.

Route vision

Great Western Renaissance Our vision for the 'Great Western Renaissance' is to provide a world-class, right-time, high-capacity route serving both the rapidly growing markets of South West England and the growth in north–south flows.

We would reduce the peripherality of the southwest through shortened journey times and enhanced freight capability. The vision also includes improvements in security and the quality of environment at stations.

Committed development plans

INFRASTRUCTURE We are reinstating the middle platform at Taunton to improve operational flexibility and performance for the summer 2000 timetable.

We will also improve performance through continuing initiatives such as embankment stabilisation, sea-defence works at Dawlish and a portfolio of smaller schemes. Strategically placed passing loops are being converted to both passenger and freight use to increase operational flexibility.

STATIONS Customer information systems and CCTV will be fitted at all FGW stations.

In partnership with local authorities, we are taking the opportunity to incorporate additional and improved facilities at many locations, including Bristol Temple Meads, Exeter St David's and Newton Abbot. A new station building is under construction at St Austell.

Options for development

SSRA Incremental Output Statements These include speed-raising throughout the route subject to TENS funding, and also possible bi-directional working and extra track between Reading and Southcote Junction to increase capacity on the route. We will also evaluate the work required to enable 775m long freight trains to operate on this route.

Customer Reasonable Requirements Our customers have aspirations for further freight train growth, including intermodal traffic, which will require loading gauge improvements. The present route can accommodate the forecast growth in train movements. We are evaluating clearance for W10w containers from Bristol to Plymouth and for W8 gauge from Plymouth to Penzance.

A park-and-ride station at Worle Parkway is under consideration with FGW and the Highways Agency.

Local Transport Plans Plymouth, Devon and Cornwall, include aspirations for faster journey times and enhanced freight gauge. All LTPs include the aspiration to improve road–rail interchanges and passenger facilities at stations.

Local authorities have aspirations for new stations at various locations along the route. Construction will depend on external funding packages and agreement of train operating companies to serve the stations. We have noted the local authority aspirations and in particular the fact that they have reserved land at Cullompton, Wellington and Norton Fitzwarren for possible station developments in the future.

Cornwall County Council is working closely with us on preparing the EU Objective 1 bid.

Throughout the South West Region, we are looking to develop suitable locations for intermodal freight facilities. Preferred locations have been identified, in conjunction with the South West Regional Planning Conference, at Plymouth, Exeter and Roche in Cornwall.

Progress is being made with the West Somerset Railway connection at Norton Fitzwarren and the development of a freight terminal at Fairwater Yard in association with Somerset County and Taunton Deane Councils. We will consider options for Silk Mill level crossing as part of these proposals.

We are exploring frequency improvements for the Weston-super-Mare–Bristol local services in partnership with local authorities and train operators. We are working with Devon County Council and train operators on improvements to the Exmouth Branch services.

We are working with Cornwall County Council and the Highways Agency on their aspiration to divert the Newquay Branch to connect with the main line at St Austell. We are investigating options for developing Paignton Station Square in conjunction with Torbay Council and Dart Valley Light Railway plc.

Progress on the 1999 NMS

STATIONS

Journey times Closer examination of the headline journey times quoted in the 1999 NMS has shown them not to be feasible. Nevertheless work is continuing to define what is practicable on each element of the route.

The Menheniot park-and-ride project is included in the Plymouth and South East Cornwall 'Journey to Work' developments with funding from third parties. Further feasibility studies in partnership with the South West authorities are evaluating new stations and train service provision. The Theale and Kingskerswell park-and-ride proposal mentioned in the 1999 NMS awaits a decision by the local authority.

The Station Regeneration Programme is now almost complete, with work carried out at a further 11 stations to add to the 50 completed in 1998/99. We have continued the process of providing enhanced customer information and security systems at many locations on the route in conjunction with our train operator partners and local authorities.

MOTORAIL The London–Penzance Motorail service came into operation from summer 1999 following completion of works at Paddington although it was suspended as a result of shortage of capacity following the short-term loss of layout flexibility at Ladbroke Grove. A limited service was reinstated early in 2000.

FREIGHT AND MAIL DEPOTS New terminals were opened in the last year including Crediton, St Erth, Taunton and Moorswater.

We are continuing to work with our partners on the preferred sites for future intermodal freight terminals identified in the TENS study at Exeter Airport, Tavistock Yard (Plymouth) and in mid-Cornwall.

LIGHT MAINTENANCE DEPOTS Plymouth (Laira) and Penzance (Long Rock) Depots have been refurbished and drainage improvements implemented at both locations to safeguard the local environment.

PERFORMANCE IMPROVEMENT We are continuing a major overhaul of the Royal Albert Bridge. We have replaced track circuits with the more reliable axle-counter system at Penzance, Starcross, Totnes and Aish, and we are evaluating more locations.

Yatton up and down loops and those at Ufton and Hungerford have been converted to allow both passenger and freight use, so improving operational flexibility.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Route	Customer information systems & CCTV	Improved facilities	2000	A
Yatton	Convert freight loop to passenger status	Operational flexibility	2000	B
Hungerford	Convert freight loop to passenger status	Operational flexibility	2000	C
Taunton	Reinstate island platform	Additional capacity	2000	D

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Route	Various	Linespeed improvements	2006	A
IOS(O): Theale–Hungerford	Detailed scheme being prepared	Provide for fast passenger trains to overtake both passenger and freight trains in the B&H freight loops	2004	A
IOS(C): Paddington–Plymouth via Newbury and Taunton	Railtrack proposes to offer sSRA an alternative output	Two trains per hour between Paddington and Plymouth	2006	B
IOS(O): Exeter St David's	Detailed scheme being prepared	Enable trains to leave Exeter Central westbound without being constrained by movements at Exeter St David's North	2006	C
IOS(O): Exeter St David's	Detailed scheme being prepared	Provide for trains to be able to run from the Down Main Line into Platform 6 at design speed of trackwork	2004	D
IOS(O): Liskeard–St Germans	Detailed scheme being prepared	Provide intermediate block signals to halve the section	2004	E
IOS(O): Largin–Bodmin Parkway	Detailed scheme being prepared	Provide intermediate signals to enable trains in both directions to be closely flighted over the Largin single-line section	2004	F
IOS(O): Totnes–Plymouth	Detailed scheme being prepared	Provide minimum 6min headways for Class 158 and HSTs trains	2004	G
IOS(C): Liskeard–Looe	Detailed scheme being prepared	Enable hourly schedules with regular interval connections at Liskeard into an hourly main-line pattern	2004	H
IOS(O): Newbury	Detailed scheme being prepared	Provide for passenger trains to terminate in the Down platform and start back towards Reading	2004	I
IOS(O): Probus–Burngullow	Detailed scheme being prepared	Provide intermediate signal in each direction on the single line	2004	J
IOS(C): Bristol Temple Meads–Weston-super-Mare	Detailed scheme being prepared	Provide for a three-trains-per-hour peak service and two trains per hour off peak. Services to be evenly spaced, calling at all stations except Parsons Street	2006	K
IOS(J): Newton Abbot–Paignton	Detailed scheme being prepared	Reduced journey time by 1min	2006	L
IOS(O): Worle Junction–Weston-super-Mare	Detailed scheme being prepared	Restore double track with parallel moves at Worle Junction	2006	M
IOS(O): Weston-super-Mare	Detailed scheme being prepared	Restore north-facing bay	2006	N
IOS(O): Exmouth Junction	Detailed scheme being prepared	Increase speed on the junction to and from Exmouth and remove approach control in the Exmouth-bound direction	2006	O
IOS(O): Truro–Roskear	Detailed scheme being prepared	Down: provide one intermediate block signal Down and two intermediate blocks up to reduce the section times	2004	P
IOS(O): Truro–Falmouth	Detailed scheme being prepared	Provide signalled move from the Up Main platform at Truro to the branch to enable a passenger train from Penzance to run through to Falmouth	2004	Q
IOS(C): Barnstaple–Exeter St David's	Railtrack proposes to offer sSRA an alternative output	Enable clockface hourly schedules with regular interval connections at Exeter St David's	2004	R
IOS(J): Bristol Temple Meads–Plymouth via Taunton	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 10min	2006	S
IOS(O): Largin–St Pinnock	Railtrack proposes to offer sSRA an alternative output	Railtrack to ensure that any works allow for subsequent redoubling	2006	T
IOS(O): Reading–Southcote Junction	Detailed scheme being prepared	Provide bi-directional working	2006	U
IOS(J): Paddington–Newbury	Detailed scheme being prepared	Reduced journey time by 2min	2004	V
IOS(J): Plymouth–Penzance	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 8min HST	2006	W
IOS(J): Plymouth–Penzance	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 8min CI158 stock	2006	X
IOS(J): Paddington–Plymouth via Newbury and Taunton	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 4min	2006	Y
IOS(O): Worle–Weston-super-Mare	Detailed scheme being prepared	Increased linespeed	2006	Z

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY (continued)

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Route	FGW new rolling stock route clearance	New service opportunities	2000/01	A
Plymouth Station	Forecourt improvements and interchange facility	Improved facilities	2003	B
Roche	New freight terminal connection	New freight opportunities	2003	C
Burngullow	New connection to branch line	New service opportunities	2002	D
Flax Bourton	Refurbish out-of-use points and signalling	Operational flexibility	2002	E
Tavistock Junction	New connection	New service opportunities	2003	F
Worle	New parkway station	New station	TBA	G
Paignton Station	Improved forecourt	Improved facilities	2005	H
Bristol–Plymouth	Route capability for W10w gauge trains	Enhanced capability	2005	I
Plymouth–Penzance	Route capability for W8 gauge trains	Additional capacity	2001	J
Bristol–Exeter	Route capability for 775m long trains	Enhanced capability	2005	K
Route	Car-park strategy	Improved facilities	2001/02	

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Bristol–Exeter	122	2	1hr 1min (74mph)	1hr 1min (74mph)	1hr 1min (74mph)	57min (80mph) 59min (77mph)#
Reading–Exeter	245	4	1hr 55min (79mph)	1hr 55min (79mph)	1hr 55min (79mph)	1 hr 48min (85mph) 1hr 53min (81mph)#
Exeter–Plymouth	84	2	1hr 3min (50mph)	1hr 3min (50mph)	1hr 3min (50mph)	55min (57mph) 1hr 1min (52mph)#
Plymouth–Penzance	130	6	1hr 56min (42mph)	1hr 56min (42mph)	1hr 56min (42mph)	1hr 40min (49mph) 1hr 50min (44mph)#

LINESPEEDS (km of track)

Up to 35mph	74	74	74	74
40–75mph	403	403	403	277
80–105mph	689	689	689	370
110–125mph	46	46	46	490
Over 125mph	0	0	0	0
TOTAL	1211	1211	1211	1211

GAUGE (km of route)

W6A	699	699	699	699
W7	555	555	555	555
W8	174	174	174	332
W9	0	0	0	205
W10	0	0	0	205
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	134	134	134	134
20.4–24.1 tonnes	293	293	293	293
24.2–25.4 tonnes	784	784	784	784
TOTAL	1211	1211	1211	1211

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding
IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	11.2	8.5	54.7	51.1
Structures	4.0	5.1	32.2	25.5
Signalling	2.4	3.5	44.2	27.3
Plant & Machinery	0.3	0.2	3.2	2.4
Telecoms	0.2	0.1	2.2	3.4
Stations	3.3	0.5	10.3	8.3
Depots	6.1	1.3	2.8	2.8
TOTAL	27.5	19.2	149.8	120.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	4.2	0.9	6.2	0.0	11.3	Various
FGW: customer information systems and security	2000/01	1.5	0.0	0.0	0.0	1.5	4/5
TOTAL		5.7	0.9	6.2	0.0	12.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Bristol and Reading–Plymouth: speed raising	40.0	0
Freight: gauge enhancement	40.0	1
Other schemes	37.1	Various
Tavistock Junction: new freight terminal	3.7	1
Exeter: Euroterminal	2.0	1
Menheniot Station: park and ride	1.5	1
Roche: new freight terminal connection	0.4	1
Plymouth Station: forecourt improvements and interchange facility	0.3	1
Thames Trains: car park extensions	0.3	1
Great Western Trains: car park strategy	0.3	1
Paignton Station: improved forecourt	0.3	1
Burngullow: new connection to branch line	0.1	1
Flax Bourton: improve operational flexibility	0.1	1
Taunton Station: island platform reopening	0.1	5
TOTAL	126.2	

The sum of the expenditures may not match totals due to rounding



Central Trains; DRS; EWS; FNN;
Midland Main Line; Northern Spirit; Silverlink;
Thameslink; Virgin CrossCountry.

Committed schemes

- A** Thameslink 2000: additional capacity
- B** All lines: fitment of Train Protection and Warning System
- C** Erewash Valley: additional capacity
- D** Chesterfield: rebuild station
- E** Derby: extend footbridge
- F** Kettering: enhanced station facilities

Options for major improvements to capacity

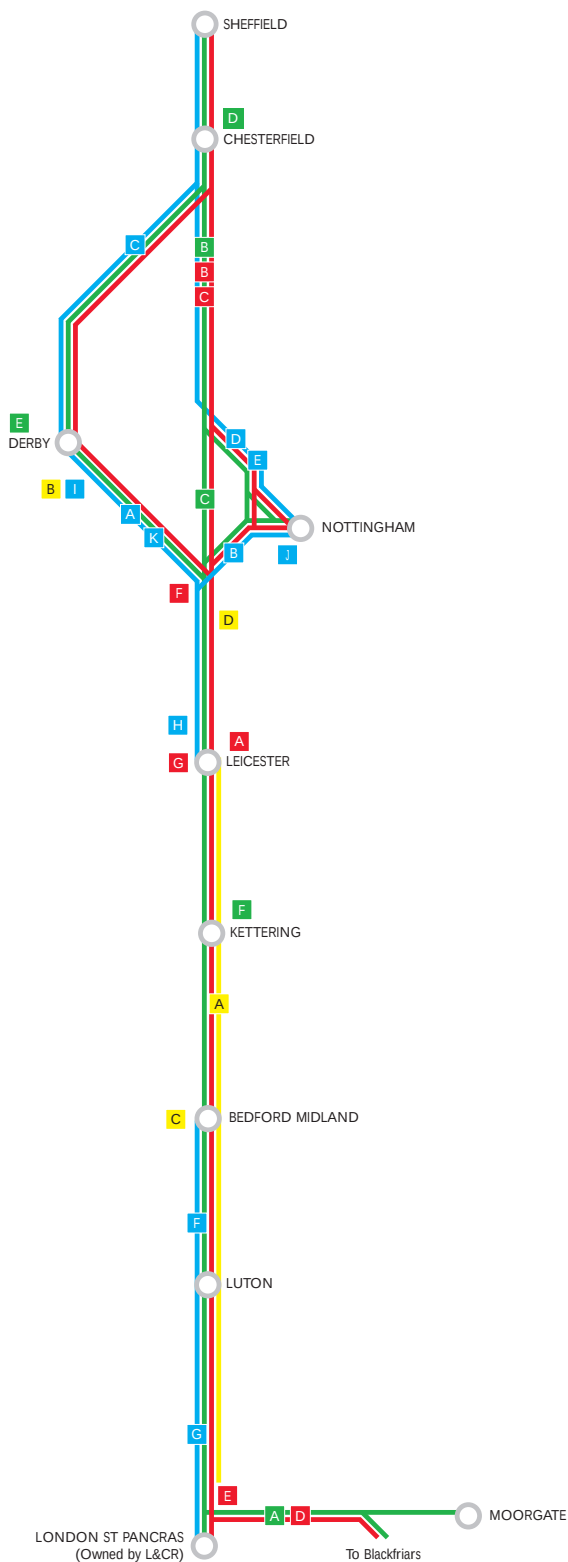
- A** Leicester: increase capacity and linespeed
- B** All lines: additional capacity
- C** All lines: increase speed
- D** Thameslink Rail: increase service frequency to ease overcrowding
- E** Kentish Town: operational flexibility
- F** Trent Junction: increase capacity and improve operational flexibility
- G** Felixstowe–Nuneaton–Birmingham: gauge enhancement and capacity upgrade

IOS options

- A** Leicester–Derby: reduce journey time
- B** Leicester–Nottingham: reduce journey time
- C** Derby–Sheffield: reduce journey time
- D** Nottingham–Sheffield: reduce journey time
- E** Nottingham–Sheffield: additional capacity
- F** St Pancras–Bedford: operational flexibility
- G** West Hampstead–Hendon: operational flexibility
- H** Mountsorrel: operational flexibility
- I** Etches Park Depot: operational flexibility
- J** Beeston–Mansfield Junction: operational flexibility and additional capacity
- K** Manchester Airport–Nottingham: additional capacity

Customer Reasonable Requirements and other development options

- A** Mountsorrel–Radlett and Elstow: increase capability
- B** Etches Park: depot works
- C** Bedford: washer upgrade
- D** East Midlands: new parkway station



Route characteristics

DESCRIPTION This is mainly a four-track railway but with some critical two- and three-track sections. Linespeed on the main lines is generally 100–110mph, while on the slow lines from London to Bedford it is 90mph. Elsewhere linespeeds on the slow lines are 50–60mph. The south end of the route forms part of the Thameslink network. The route operates near to capacity at several locations following the successful introduction of the enhanced summer 1999 timetable.

MAJOR CAPACITY CONSTRAINTS

Kentish Town–Luton The mix of fast and stopping services with varied station stopping patterns leads to a very high utilisation of the available capacity on the four-track railway.

Leicester The expected growth in passenger services and cross-country freight traffic will lead to a requirement for increased capacity between Syston, Leicester and Wigston.

Trent Junction–Nottingham Following the introduction of the summer 1999 timetable, the station currently operates at near capacity at certain times of day and the current Trent Junction layout also restricts growth.

Sheffield area This is covered in Route 13.

Route vision

Our vision for the Midland Main Line is of a high-performance route providing a faster, more reliable, more comfortable alternative to motorway travel, both on intermediate journeys and over the length of the route.

The route vision encompasses the following key components:

- A reduction in journey time between London St Pancras and Sheffield and the East Midlands. This increases the railway's competitive edge against the motorway.
- Increasing the capacity of the route incrementally to achieve the service increases required by both passenger and freight customers.
- Assisting Thameslink Rail to meet the challenge of accommodating some of the strongest passenger growth on the network. We are addressing this issue with the introduction of the Thameslink 2000 timetable commencing in 2006. However, in the interim period we are working with the train operator to ease overcrowding on its services between Bedford, Luton, St Albans and London.
- A robust timetable throughout the route which encompasses faster more frequent services, while ensuring operational performance is not compromised.

- A new international terminal at St Pancras will greatly increase the importance of the station as a transport interchange, with easy transfer between Midland Main Line, Thameslink 2000, Eurostar and Underground services.
- The Thameslink 2000 project will develop and expand the successful Thameslink network, providing direct links with greater capacity across London. We are working together to ensure that the service integrates seamlessly with the aspirations of other passenger and freight operators between Bedford and London (for further details see Route 19).
- This route has the potential to accommodate further growth in freight traffic, although additional infrastructure will be needed through the currently identified capacity constraints. The route has been identified as a part of the proposed Third Anglo-Scottish Freight Corridor. In addition, we propose to provide capacity to divert Felixstowe–Midlands and beyond services via Peterborough and Leicester instead of via London.

Committed development plans

Thameslink 2000 Thameslink 2000 will significantly improve north–south connections through the heart of the capital. It will offer:

More and longer trains The number of trains passing through central London will increase from up to eight trains per hour to 24 in each direction at peak times. Extended platforms will accommodate longer trains, easing congestion and increasing seating capacity into London.

More through trains More trains will continue through central London, easing journeys across London, providing relief to existing London Underground services and reducing journey times.

Improved interchange Passenger interchange between Thameslink 2000 and Underground services will be improved at King's Cross, Blackfriars and Farringdon Stations.

A new station The new low-level station at St Pancras Midland Road will replace King's Cross Thameslink Station and will provide easy access to London Underground, international and main-line rail services.

TPWS The south end of this route has been one of the trial sites for testing the new equipment, and will be one of the first routes to be fully equipped. We are now embarking upon a national installation programme for completion in 2003.

Freight We will reinstate the down goods line between Toton and Stanton Gate and remodel Stanton Gate Junction to provide better operational flexibility.

Stations In partnership with Midland Main Line and the local authority, we are rebuilding the station renewal is under way at Chesterfield. Twenty-five per cent of the cost has been funded by an ERDF grant.

Derby is a key station on the route and holds strategic importance for a number of our customers. Again, working closely with Midland Main Line, which is the station leaseholder, and the local authority, agreement has been reached to build a 'Gateway' footbridge from the station to the new Pride Park development, providing much easier access to the new leisure and business developments and the football ground. In conjunction with Midland Main Line, we will also provide approximately 200 additional car-park spaces at the station in the next year.

Further refurbishment works are planned for completion in the next year at Bedford, Cricklewood, Elstree, Flitwick, Harlington, Hendon, Kentish Town, Radlett and West Hampstead (Thameslink). A major refurbishment scheme is now underway at Kettering station, comprising restoration works to the roof and main entrance canopy. Original timber buildings are being restored and the entire station will be externally decorated. A new footbridge and lifts will be provided making the station fully accessible for disabled customers. A new 200-space car park will also be provided with secure fencing, lighting and CCTV. A partnership comprising Railtrack, Midland Main Line, the local county and borough councils and the Railway Heritage Trust has funded the scheme.

We have commenced a major refurbishment of Sheffield Station including improved access for disabled customers (see Route 13).

Working in partnership with Thameslink Rail we will be providing substantially more car parking spaces in the next year at Flitwick, Harlington and Harpenden.

The provision of improved customer information systems at several locations is under discussion with the route's major operators.

Options for development

MAJOR CAPACITY UPGRADES AND LINESPEED ENHANCEMENTS

Passenger and freight traffic on the Midland Main Line is forecast to rise sharply in the next 5–10 years. We will work with industry partners in providing the infrastructure capacity to meet this growth.

In the next year, we will be agreeing with stakeholders the route sections which present the most significant capacity problems and will undertake significant feasibility work to understand the scope and cost of removing these constraints. Initial studies show that the following generic improvements will probably be necessary to achieve our aims:

- Increased infrastructure where only two or three lines exist in capacity-constrained locations.
- Passing loops to accommodate passenger and freight paths robustly.
- Track alterations where geometry restricts linespeeds.
- Upgrade of selected slow lines.
- 'Tilting train' technology.
- Radical review of level crossings.
- Reduced signalling headways.
- More powerful rolling stock.

To achieve the overall vision of journey-time reductions and increased capacity, we are assessing the feasibility of raising the linespeed over the majority of the route to 125mph. Midland Main Line has jointly funded a study with us to assess the nature of constraints that affect both capacity and journey times. We are also assessing the benefits of new tilting rolling stock in overcoming the severe geometry constraints, thus complementing any infrastructure works necessary to attain the overall journey-time vision.

From recent studies, we have concluded that remodelling the layout at Sheffield is required to meet future demand, together with doubling the single-line sections at Dore and additional running lines between Dore and Sheffield. Options and timescales to achieve increased capacity in the area are being considered (see Route 13).

We recognise that providing a flexible, reliable layout within the Trent PSB area is pivotal to the overall success of the route vision and are committed to working with our customers to develop a suitable scheme to remodel Trent Junction within the next five years. The increase in traffic volume since summer 1999 has led to congestion problems in the Nottingham Station area at certain times. Prior to any major long-term increase in capacity associated with the Trent Junction remodelling scheme we believe the situation can be eased through changes to the timetable. We are discussing possible solutions with our customers.

All our customers using Leicester Station have growth aspirations over the next five years. Critically, freight traffic in the Leicester area would increase significantly with the diversion of Felixstowe–Midlands–North of England services to the cross-country route. We are carrying out a study to assess the implications. Options for evaluation include increasing the number of tracks between Wigston Junction and Syston Junctions, providing further platform(s) in Leicester Station, and increasing linespeeds on the approach to the station.

The overcrowding on Thameslink Rail peak services is severe and the operator has aspirations to increase Bedford–London peak service frequencies prior to Thameslink 2000 being introduced. We are working closely with all stakeholders to develop a robust timetable which meets Thameslink Rail's aspirations, works alongside other operators' services, and takes into account the extensive infrastructure works taking place at the south end of the route to facilitate the introduction of Channel Tunnel Rail Link services and the new Thameslink 2000 operation. A joint working group will assess implications of the revised timetable in terms of congestion, operational performance and the need for any additional infrastructure to support it. We are working closely with Thameslink Rail to design and provide a more flexible layout for Kentish Town, to provide a turnback facility for Thameslink trains in the event of perturbation during the CTRL works at St Pancras and a more robust design for future operations.

We are developing with BAA the feasibility of running services to London St Pancras from Heathrow.

The Bedford–Bletchley route (see Route 1) is emerging as a key passenger route for Silverlink trains, as part of the East–West Rail Link (see Route 27) and as a strategic Primary Freight Route. We are working closely with industry partners to ensure that the options for development of the route are integrated with the overall strategy for Midland Main Line.

New station for the East Midlands We are working jointly with Midland Main Line on the design of East Midlands Parkway Station. This facility will substantially improve road-based accessibility to the route and align with the overall vision to encourage substantially more commuters away from the M1 motorway.

Freight We will continue to work with freight operators and the sSRA, to identify and develop options for specific gauge, axle weight and capability improvements, including options for operating 775m trains and gauge up to W10w.

Part of this route, from London to Chesterfield, is also being considered as part of the Third Anglo-Scottish Primary Freight Route to evaluate the potential of providing freight capacity as an alternative to the West Coast Main Line.

sSRA Incremental Output Statements On this route, the sSRA proposes improved journey times and regular interval services together with improved connections and operational flexibility. The linespeed improvement study will take account of the journey-time reductions requested by the sSRA and may be able to propose further improvements.

Local Transport Plans All the local authorities connected with this route see rail as an important part of their local plans. All encourage the use of a fair and efficient transport system, balancing social and economic needs. Specific features of local plans include:

Nottinghamshire County Council

- Development of a new Nottingham suburban network, including new stations on existing routes, commencing with Ilkeston, the reopening of freight branches to passenger services and substantial improvements to existing stations and interchanges.
- Capacity improvements at Nottingham Station to improve reliability and allow the introduction of additional services.

Nottingham City Council The interests of the City Council centre around Nottingham Station, with capacity improvements to allow more services to be accommodated and increased reliability high on the list of priorities. The Council is also supporting proposals for the development of the station area, which will include improvements to passenger facilities and interchange opportunities.

Northamptonshire County Council

- Increased frequency and reduced journey times on the Midland Main Line
- Reintroduction of regular passenger services to Corby
- New station at Desborough
- Support for the proposed East–West Rail Link.

Leicestershire County Council

- Completion of the 'Ivanhoe Line' between Leicester and Burton-on-Trent
- New station at Kibworth
- New station at Wigston
- Increased service frequencies on routes radiating from Leicester.

Leicester City Council

The Council is mainly concerned with facilities at Leicester Station, and supports proposals to improve interchange and information systems. The Local Transport Plan for Central Leicestershire will include a new station at Kibworth. The Council also supports Leicestershire in aspirations to complete the Ivanhoe Line project, and increased service frequencies on routes radiating from Leicester.

Derbyshire County Council

- Reopening of the closed Matlock–Buxton/Manchester Main Line
- Rebuilding of Chesterfield Station.

Derby City Council is mainly concerned with facilities at Derby Station, and supports proposals to improve interchange and information systems.

Bedfordshire County Council

- The proposed East–West Rail Link
- New station at Elstow
- Improvements to Thameslink Rail services, including Thameslink 2000.

Luton Borough Council

Proposals are being developed to link Dunstable with Luton town centre and the Airport by means of a guided busway, which will include purpose-built intermodal interchanges at both Luton and Luton Airport Parkway stations. The Council also supports improvements to rail services to and from Luton, including Thameslink 2000.

Hertfordshire County Council supports:

- Improved interchange and information facilities at stations
- Better integration between modes of travel.

Progress on the 1999 NMS

SUMMER 1999 TIMETABLE Summer 1999 saw a major increase in service frequency on this route. All new services were introduced successfully and the timetable has proved to be largely robust.

Linespeed increases Linespeed increases have been achieved between Flitwick and Bedford (slow lines) and on the Erewash Valley Line at Toton.

Leicester–Wigston A double-lead junction was commissioned in time for the summer timetable. This junction provided the necessary capacity enhancement required to run additional trains in the Leicester area.

STATIONS

Bedford A new northbound platform was opened in May 1999 in time for the summer timetable. The platform provides full disabled access via the new lifts. In addition we have now provided lift access to all platforms.

Nottingham A new platform was made available for passenger trains from May 1999. This allowed an increased Central Trains service to operate to and from Leicester. The station has been refurbished at a cost of £1.8M. The works included renewal of the main dispersal bridge and refurbishment of platform canopies and

staircases, providing the latest standards of customer facilities while retaining historic architectural features. In addition, the Nottingham Partnership Scheme, a consortium comprising Central Trains, Midland Main Line, the Railway Heritage Trust, Nottingham City Council and Railtrack invested to renovate toilets, waiting rooms and platforms facilities as well as the modernisation of the travel centre and booking office.

Derby Platform 5 was upgraded in time for the summer 1999 timetable. This facility is used by Turbostar trains to provide extra capacity in the station.

London St Pancras Platform 6 was reinstated in time for the summer 1999 timetable.

Luton Airport The newly completed Airport Parkway Station was opened by H M The Queen in November 1999.

STATION REGENERATION The following stations have been refurbished: Mill Hill; St Albans City; Leagrave; Derby; Leicester and Wellingborough. The work carried out at Market Harborough received an Ian Allen National Railway Heritage Award. It has ensured that the original plans of the station – which was built in 1884 – have been recreated while modern convenience and comfort is maintained.

DEPOT IMPROVEMENTS These have been completed at Bedford, Derby Etches Park and Nottingham Eastcroft.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Major capacity enhancements: Thameslink 2000	Major capacity works	Improve links to/through London and ease overcrowding	2006/07	A
All lines	Fitment of Train Protection and Warning System (TPWS)	Safety scheme	2000/01	B
Erewash Valley (Toton–Stanton Gate)	Reinstatement of line and provision of crossover	Increase capacity	2000/01	C
Chesterfield	Rebuild station	Modern station facility	2000/01	D
Derby	Footbridge extension	Link from station to Pride Park development	2000/01	E
Kettering	Major upgrade to station	Improves facilities	2001	F

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Leicester	Major capacity enhancement	Increased capacity and higher speeds	2000/01	A
All lines	Major capacity enhancement	Increased service frequency	2000–05	B
All lines	Major linespeed improvement	Reduced journey times	2000–05	C
Thameslink Rail	Service frequency in peak hours	Ease overcrowding	2001/02	D
Thameslink 2000	Non-core works	Kentish Town turnbacks	2005/06	E
Trent Junction	Remodelling	Increased capacity and improved operational flexibility	2001–05	
Felixstowe–Nuneaton–Birmingham	Additional tracks and gauge enhancement	Additional capacity and W10w gauge	2005	G
IOS(J): Leicester–Derby	Detailed scheme being prepared	Reduced journey times by 2min	2004	A
IOS(J): Leicester–Nottingham	Detailed scheme being prepared	Reduced journey times by 3min	2006	B
IOS(J): Derby–Sheffield	Detailed scheme being prepared	Reduced journey times by 3min	2006	C
IOS(J): Nottingham–Sheffield	Detailed scheme being prepared	Reduced journey times by 3min	2006	D
IOS(C): Nottingham–Sheffield	Railtrack proposes to offer sSRA an alternative output	2 trains per hour at regular intervals	2006	E
IOS(O): St Pancras–Bedford	Detailed scheme being prepared	Ability to cross between fast and slow lines	2006	F
IOS(O): West Hampstead–Hendon	Detailed scheme being prepared	Increase speed on freight line to 40mph	2006	G
IOS(O): Mountsorrel	Detailed scheme being prepared	Crossover to enable freight access from North	2006	H
IOS(O): Etches Park Depot	Detailed scheme being prepared	Provide southern exit	2004	I
IOS(O): Beeston–Mansfield Junction	Railtrack proposes to offer sSRA an alternative output	Reinstate passenger working on goods line	2006	J
IOS(C): Manchester Airport–Nottingham	Detailed scheme being prepared	Monday to Saturday earliest arrival at Manchester Airport from Nottingham via Stoke to be at 0500, Sunday 0700. Latest departure to be at or after 2230 Monday to Sunday	2004	K
Mountsorrel–Radlett and Elstow	Increase axle loads	Loads to be above current max permitted	2004/05	A
Etches Park	Various depot works	Improved facilities	2000/01	B
Bedford	Washer upgrade	Improved facilities	2000/01	C
East Midlands	Build Parkway Station	New facility	2001/02	D
Various stations	CIS upgrade	Improved facilities	2000/01	

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Sheffield–London St Pancras (via Derby)	266	3	2hr 10min (76mph)	2hr 10min (76mph)	2hr 10min (76mph)	1hr 50min (90mph)
Sheffield–London St Pancras (via Derby)	266	3	2hr 10min (76mph)	2hr 10min (76mph)	2hr 10min (76mph)	2hr 8min (77mph)#
Sheffield–London St Pancras (via Erewash Valley)	255	1	1hr 59min (80mph)	1hr 59min (80mph)	1hr 59min (80mph)	1hr 40min (95mph)
Sheffield–London St Pancras (via Erewash Valley)	255	1	1hr 59min (80mph)	1hr 59min (80mph)	1hr 59min (80mph)	1hr 56min (82mph)#
Derby–London St Pancras	208	1	1hr 32min (84mph)	1hr 32min (84mph)	1hr 32min (84mph)	1hr 19min (98mph)
Leicester–London St Pancras	160	0	1hr 7min (89mph)	1hr 7min (89mph)	1hr 7min (89mph)	56min (106mph)
Sheffield–Derby	58	0	33min (65mph)	33min (65mph)	33min (65mph)	31min (70mph)
Sheffield–Derby	58	0	33min (65mph)	33min (65mph)	33min (65mph)	30min (72mph)#
Nottingham–London St Pancras	204	2	1hr 38min (78mph)	1hr 38min (78mph)	1hr 38min (78mph)	1hr 25min (90mph)
Nottingham–London St Pancras	204	2	1hr 38min (78mph)	1hr 38min (78mph)	1hr 38min (78mph)	1hr 35min (80mph)#
Bedford–Farringdon	82	2	46min (68mph)	46min (68mph)	46min (68mph)	46min (68mph)
LINESPEEDS (km of track)						
Up to 35mph			51	51	51	51
40–75mph			208	208	208	208
80–105mph			575	575	575	495
110–125mph			209	209	209	289
Over 125mph			0	0	0	0
TOTAL			1043	1043	1043	1043
GAUGE (km of route)						
W6A			393	393	393	393
W7			367	367	367	367
W8			256	256	256	256
W9			76	76	76	76
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			4	4	4	4
20.4–24.1 tonnes			131	131	131	131
24.2–25.4 tonnes			908	908	908	908
TOTAL			1043	1043	1043	1043

IOS proposal

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
LONDON NORTH EASTERN ZONE				
Track	0.5	0.4	0.0	0.0
Structures	1.1	1.1	6.7	6.6
Stations	0.2	0.0	0.4	0.3
TOTAL	1.8	1.5	7.1	6.9
MIDLANDS ZONE				
Track	19.7	19.9	26.6	43.6
Structures	4.0	1.8	16.0	18.9
Signalling	5.7	7.2	9.4	34.6
Electrification	0.2	0.1	0.3	0.0
Plant & Machinery	0.4	0.3	0.0	0.0
Telecoms	0.5	0.7	2.1	0.9
Stations	5.9	4.4	7.9	4.9
Depots	0.0	0.4	20.7	15.0
Other	0.1	0.4	0.2	0.2
TOTAL	36.5	35.2	83.2	118.1

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Thameslink 2000	2006/07	4.2	5.2	222.0	7.4	238.8	4/5
Other committed schemes	Various	17.2	6.1	1.4	0.0	24.7	Various
TOTAL		21.4	11.3	223.4	7.4	263.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Midland Main Line: upgrade	350.0	1
Sheffield area: capacity improvements	100.0	1
Other schemes	42.1	Various
Heathrow–St Pancras: rail link	38.0	1
East Midlands Parkway Station	15.0	2
Beeston–Mansfield Junction: operational flexibility	5.9	1
Cross-country journey-time and frequency improvements	0.8	2
TOTAL	551.8	

The sum of the expenditures may not match totals due to rounding



Connex South Central; Connex South Eastern; Eurostar; Thameslink; Virgin CrossCountry; DRS; EWS.

Committed schemes

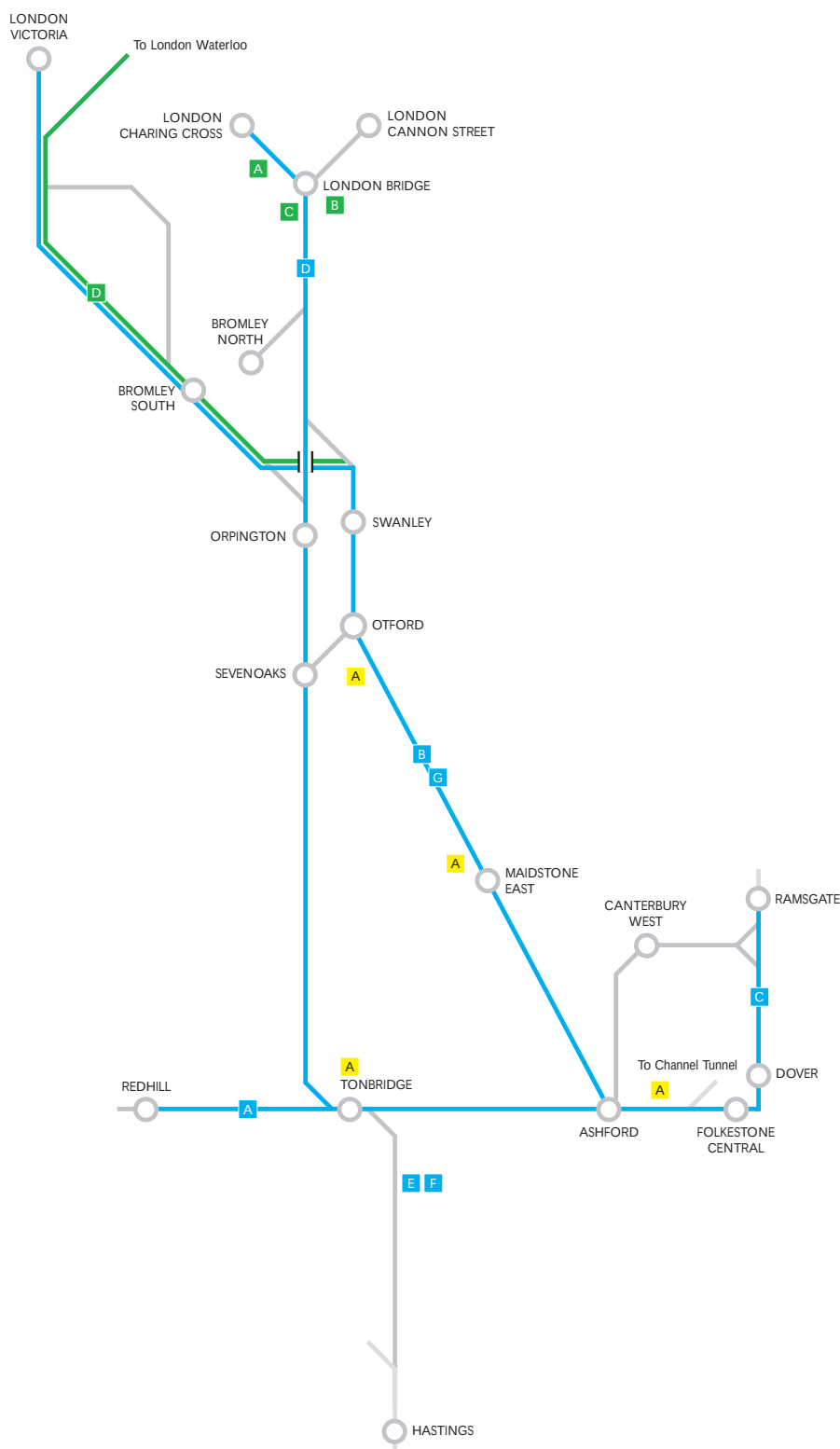
- A** Borough Market Junction–Metropolitan Junction: four-tracks
- B** London Bridge: extensive changes to track layout to increase capacity
- C** Bermondsey: grade separation to junction
- D** Waterloo–Fawkham Junction: CTRL-associated works programme including Shortlands Junction underpass and track, signalling and electrification enhancements

IOS options

- A** Tonbridge–Redhill: infrastructure and timetabling provision
- B** Victoria–Ashford via Maidstone East: reduced journey time
- C** Ashford International–Ramsgate via Dover Priory: reduced journey times
- D** Charing Cross–Dover Priory via Tonbridge: reduced journey times
- E** Tunbridge Wells: 12-vehicle trains to turnback in both platforms
- F** Tunbridge Wells: 12-vehicle trains to turnback south of the station
- G** Victoria–Ashford International: journey-time improvement

Customer Reasonable Requirements and other development options

- A** Kemsing, Barming, Westenhanger and Tonbridge: extend platforms



Route characteristics

DESCRIPTION This route carries both passenger and freight trains between London, the Channel Tunnel and mainland Europe, as well as domestic services to South East London and Kent.

From Victoria to Swanley this route is four track (two tracks via Herne Hill and two via the Catford Loop) with a predominant linespeed of 60mph. From Charing Cross and Cannon Street to Orpington, this is a four-track line with a 60mph linespeed rising to 70mph beyond Hither Green. Beyond Orpington, the route is primarily two track, with linespeed varying between 80 and 100mph.

The route also includes Swanley–Ashford via Maidstone East, a two-track line with speeds between 70 and 80mph. All lines are electrified.

KEY CAPACITY CONSTRAINTS There are a number of capacity constraints between Charing Cross and Orpington, the most severe of which is the two-track section between Borough Market Junction and Metropolitan Junction. In the area between Charing Cross and London Bridge, which includes this short section, there are a number of flat junctions and the numerous possible conflicting moves restrict available capacity.

Route vision

Our vision is to provide additional capacity to reduce the current level of overcrowding, cater for the forecast growth in passenger and freight demand and to stimulate further expansion by creating new cross-London journey opportunities.

Central to this vision is delivery of the Thameslink 2000 project, due for completion in 2006, which will provide a major increase in the number of passengers and trains which can be accommodated through the congested London Bridge area.

We wish to see journey-time reductions between London and Kent and these will be assisted by the construction of the CTRL which will release capacity on the current routes.

We will work with customers and other stakeholders to ensure that infrastructure and train services reflect changing travel patterns generated by the opening of the Jubilee Line Extension (serving Waterloo East and London Bridge) and the Docklands Light Railway at Lewisham.

Committed development plans

Thameslink 2000 The Thameslink 2000 project will provide a step-change in capacity at the busiest part of the route, enabling growth in passenger demand to be accommodated and providing new journey opportunities. The busy section between London Bridge Station and Metropolitan Junction will be increased from two to four tracks, thereby doubling capacity. There will also be extensive changes to the track layout at London Bridge to increase capacity and improve performance by separating Thameslink 2000 services from Charing Cross services.

Channel Tunnel Rail Link (CTRL) Section 1 of the CTRL is scheduled for completion in 2003. The diversion of Eurostar services to CTRL will release capacity for domestic operators over the existing route. At the same time, the route will continue to service continued growth in international freight traffic.

During 1999, we completed feasibility studies which identified a programme of work to increase capacity between Waterloo and Fawkham Junction. Design work is under way to improve the connection between the Catford Loop and the Chatham Fast Lines at Shortlands Junction by building a new underpass beneath the Chatham Slow Lines.

We will also carry out track alterations and provide bi-directional signalling on the Up Chatham Loop between Chislehurst and St Mary Cray junctions.

An additional turn-back facility will be provided at Bromley South. Further works within this programme include track, signalling and electrification enhancements and renewals along the route to improve reliability, accessibility and maintenance of key assets on the route. We are working with Connex, Eurostar and freight operators to ensure that the final scheme provides benefits to all services.

These proposals will be developed in more detail during 2000 with an application for T&WA powers being submitted towards the end of the year. Preliminary works will be undertaken during 2001 and the main works will be completed by mid-2003.

Major stations Reconfiguration of some retail units and the installation of a station CCTV system at Charing Cross will be undertaken this year. Installation of a new customer information system at London Bridge will also take place during 2000.

Other commitments A programme for implementation of the Train Protection Warning System nationally is under way with trials being undertaken on the Tonbridge–Hastings Line.

We will continue with station regeneration work throughout the year, with a further 22 stations to be completed before March 2001.

Options for development

sSRA Incremental Output Statements Provision of infrastructure and timetable capability to enable one stopping and one semi-fast train to operate between Tonbridge and Redhill (one of which will continue to Gatwick Airport).

Provision of infrastructure and timetable capability to enable the journey time between Victoria and Ashford International to be reduced by five minutes, for trains formed of Class 400 trains and calling at Bromley South, Otford, Borough Green, West Malling, Maidstone East and Bearsted.

Provision of infrastructure and timetable capability to enable the journey time between Victoria and Ashford International to be reduced by five minutes, for trains formed of Class 365 vehicles and calling at Bromley South, Otford, Borough Green, West Malling, Maidstone East and Bearsted.

Provision of infrastructure and timetable capability to enable the journey time between Ashford International and Ramsgate to be reduced by four minutes, for trains formed of Class 365 vehicles and calling at all stations via Dover Priory.

Provision of infrastructure and timetable capability to enable the journey time between Charing Cross and Dover Priory to be reduced by five minutes, for trains formed of Class 365 vehicles and calling at Waterloo East, Sevenoaks, Tonbridge, Paddock Wood, Staplehurst, Ashford International, Sandling, Folkestone West and Folkestone Central.

Provision for 12-vehicle trains to change directions in both platforms at Tunbridge Wells when Selective Door Opening is in operation on the leading vehicle.

Provision of a siding to the south of Tunbridge Wells Station to enable 12-vehicle trains to change directions.

Customer Reasonable Requirements We have completed a feasibility study of potential platform extensions at Kemsing, Barming, Westenhanger and Tonbridge. We will continue discussions with Connex to identify whether platform extension or the use of Selective Door Opening is the most appropriate way forward for each of these stations.

In association with Connex, we will examine track layout and signalling changes at a number of locations to improve performance and flexibility.

Our freight customers have identified a number of desired improvements and we will continue cost, feasibility and funding investigations during this year. These include route clearance for Gauge W10w and W11 trains of up to 775 metres in length between Wembley and the Channel Tunnel. Route clearance is being sought for Class 92 locomotives between Redhill and Dollands Moor and for Class 325 vehicle on various routes.

We have submitted a Freight Facilities Grant application in respect of the works to enhance the loading gauge to W10w between London and the Channel Tunnel. We are continuing discussions with the DETR and sSRA, with the aim of progressing the works at the earliest opportunity.

Local authorities We will work with SELTRANS, SWELTRAC and customers to develop proposals for enhanced train frequencies on South London radial and orbital routes.

STATION DEVELOPMENTS At Bromley South, plans are being developed for a rafted leisure scheme with a multiplex and restaurant complex on a raft above a station with enhanced passenger facilities. Working in partnership with Connex, British Telecom and Sevenoaks District Council we have delivered a new 500-space commuter car park in conjunction with an office development promoted by BT. It is anticipated that further improvements to Sevenoaks Station interchange will be implemented in autumn 2000. We are also working with Connex on plans to improve car parking and the station at Tonbridge in conjunction with a commercial development.

MAJOR STATIONS An initial study has been completed which examined ways of improving the concourse and entry/exit capacities at Charing Cross to cater for forecast passenger numbers, the provision of automatic ticket gates, a new Connex ticket office, mezzanine-level catering and concourse-level retail improvements. This will be developed further during 2000/01 and will make provision for the inclusion of a new customer information system.

The partial upgrade of London Bridge Station as part of the Thameslink 2000 project is due to commence in 2002 subject to receipt of the necessary consents following consideration of the whole project at the inquiry to be held in 2000.

The station has also been assessed for a more comprehensive redevelopment incorporating a new light and airy concourse at street level in the arches beneath the station, linked via escalators, lifts and stairs to the platforms above. Each platform would be repositioned and straightened. The new concourse would be linked to the Underground station. Some bus stops and the taxi rank would be repositioned and contain new shops including a supermarket. Offices could be built above. A planning and listed building application for this has been submitted.

We continue to work with Connex to develop proposals for the introduction of ticket gates for platforms 8 to 16.

Progress on the 1999 NMS

Renewal of train describer equipment in Victoria Signalling Centre has been completed. Renewal of signalling equipment in the Hither Green area has started, with completion scheduled for December 2000.

Work has started on stabilisation of the embankment at Lenham, with completion planned for spring 2000. We are continuing with our ten-year strategy of erosion-mitigation work and repairs to the sea wall and adjacent pathways at Folkestone Warren.

Station regeneration work has been completed at Bickley, Borough Green, Chartham, Clapham High Street, Dunton Green, Headcorn, Hildenborough, Kemsing, Knockholt, Minster, Pluckley, Sandwich, Shortlands, Stonegate, Sturry, Wadhurst and Wye.

Route clearance for Class 375 trains has been completed except for Tonbridge–Hastings and Ashford–Dover Priory which will be completed this year. In addition, gauge clearance work to allow the Class 465 operating area to be extended to Ashford via Maidstone East will be completed this year.

The complete refurbishment of the concourse roof at Charing Cross and the first stage of the concourse improvement study have been completed. At London Bridge, the work to improve access to the Underground station and the Jubilee Line Extension have been completed providing significantly improved escalator and lift connections between the stations.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Thameslink 2000: Borough Market Junction to Metropolitan Junction	Provide four tracks	Increased capacity	2006	A
Thameslink 2000: London Bridge	Extensive changes to track layout	Increased capacity	2006	B
Thameslink 2000: Bermondsey	Grade separated junction	Increased capacity	2006	C
CTRL: Section 1 Waterloo–Fawkham Junction	Capacity upgrades from Waterloo to Fawkham Junction	Increased capacity	2003	D

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(C): Tonbridge–Redhill	Railtrack proposes to offer sSRA an alternative output	Capacity for two trains per hour, formed of slow and semi-fast-pattern service groups. One train per hour through Gatwick	2006	A
IOS(J): Victoria–Ashford via Maidstone East	Railtrack proposes to offer sSRA an alternative output	Journey time improved by 5min	2006	B
IOS(J): Ashford International–Ramsgate via Dover Priory	Railtrack proposes to offer sSRA an alternative output	Journey time improved by 4min	2006	C
IOS(J): Charing Cross–Dover Priory via Tonbridge	Railtrack proposes to offer sSRA an alternative output	Journey time improved by 5min	2006	D
IOS(O): Tunbridge Wells	Detailed scheme being prepared	12-vehicle trains to turnback in both platforms	2004	E
IOS(O): Tunbridge Wells	Railtrack proposes to offer sSRA an alternative output	12-vehicle trains to turnback siding south of the station	2006	F
IOS(J): Victoria–Ashford International via Maidstone	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 5min	2006	G
Kensing, Barming, Westenhangar and Tonbridge	Extend platforms	Platforms to accommodate new rolling stock	2002–04	A

Route capability

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Charing Cross–Sevenoaks	35	1	30min (44mph)	30min (44mph)	30min (44mph)	28min (47mph)
London Charing Cross–Tunbridge Wells	55	2	47min (44mph)	47min (44mph)	47min (44mph)	47min (44mph)
London Charing Cross–Ashford International (via Maidstone East)	90	5	1hr 14min (45mph)	1hr 13min (46mph)	1hr 13min (46mph)	1hr 9min (49mph)
London Charing Cross–Ashford (via Tonbridge)	95	4	1hr 8min (52mph)	1hr 8min (52mph)	1hr 8min (52mph)	59min (60mph)
London Charing Cross–Dover Priory (via Tonbridge)	124	8	1hr 41min (46mph)	1hr 40min (46mph)	1hr 40min (46mph)	1hr 36min (48mph)
Ashford International–Ramsgate (via Dover)	66	6	1hr 3min (39mph)	1hr 3min (39mph)	1hr 3min (39mph)	59min (42mph)
Waterloo International–Eurotunnel boundary	109	0	1hr 8min (60mph)	1 hr 8min (60mph)	51min (80mph)via CTRL	51min (80mph)via CTRL
London Victoria–Bromley South	18	0	15min (45mph)	15min (45mph)	15min (45mph)	15min (45mph)
LINESPEEDS (km of track)						
Up to 35mph			96	96	96	96
40–75mph			518	518	518	518
80–105mph			354	354	354	354
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			967	967	967	967
GAUGE (km of route)						
W6A			417	417	417	417
W7			168	168	168	189
W8			168	168	168	189
W9			168	168	168	189
W10			0	0	0	133
W11			0	0	0	133
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			8	8	8	8
20.4–24.1 tonnes			34	34	34	34
24.2–25.4 tonnes			925	925	925	925
TOTAL			967	967	967	967

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	11.3	6.0	90.4	56.2
Structures	9.1	2.1	18.3	17.5
Signalling	3.5	10.7	149.4	7.6
Electrification	3.8	0.8	10.0	9.9
Plant & Machinery	0.1	0.1	1.8	1.5
Telecoms	2.8	1.3	4.0	8.1
Stations	13.1	9.5	33.1	19.2
Depots	0.0	0.0	2.2	2.1
Other	0.0	0.2	1.1	1.0
TOTAL	43.7	30.7	310.3	123.2

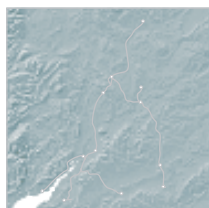
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Thameslink 2000	2006/07	7.6	6.5	281.6	1.9	297.6	4/5
CTRL	2003/04	1.4	17.3	61.5	0.0	80.2	4
Other committed schemes	Various	2.5	0.1	0.3	0.0	2.9	Various
Class 375 route clearance	2000/01	0.0	0.4	0.0	0.0	0.4	4
TPWS: first pilot	2000/01	0.2	0.2	0.0	0.0	0.4	4/5
TOTAL		11.7	24.5	343.4	1.9	381.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
London Bridge: redevelopment	250.0	3/4
Other schemes	57.8	Various
Freight: gauge enhancements	30.0	1
Charing Cross: improved station facilities	26.2	1
London commuter area capacity: South Eastern	10.0	2
TOTAL	374.0	

The sum of the expenditures may not match totals due to rounding



Central Trains; Chiltern Railways; First Great Western; Thames Trains; Virgin CrossCountry; Wales & West; EWS; Freightliner.

Committed schemes

- A** Barton-under-Needwood: new depot

Options for major improvements to capability

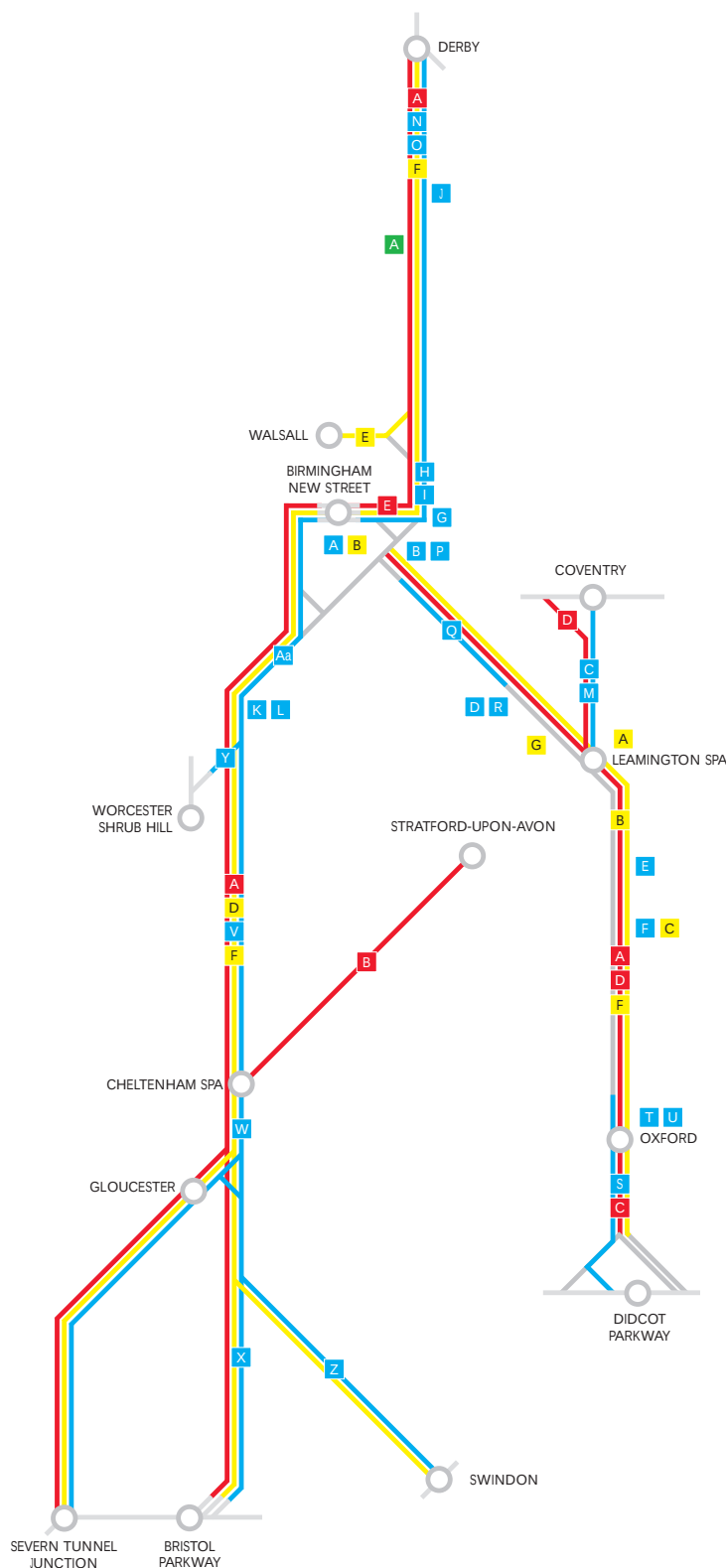
- A** Route: increase capacity
- B** Stratford–Cheltenham: reinstatement of railway
- C** Didcot–Oxford: additional capacity
- D** Banbury–Birmingham–Coventry: additional capacity
- E** Birmingham–Water Orton: four tracking

IOS options

- A** Grand Junction–St Andrew's junction: increase linespeed
- B** Bordesley Junction–Bordesley South Junction: increase linespeed
- C** Coventry–Leamington: increase linespeed
- D** Dorridge Loop: provision for 775m trains
- E** Fenny Compton Loops: provision for 775m trains
- F** Banbury: operational flexibility
- G** Washwood Heath (East): operational flexibility
- H** Water Orton: operational flexibility
- I** Kingsbury Junction: operational flexibility
- J** Branstons Junction: operational flexibility
- K** Bromsgrove: operational flexibility
- L** Blackwell Goods Loop: operational flexibility
- M** Coventry–Leamington Spa: capacity utilisation
- N** Nottingham–Birmingham New Street: additional capacity
- O** Matlock–Derby–Birmingham New Street: additional capacity
- P** Bordesley: operational flexibility
- Q** Tyseley–Dorridge: operational flexibility
- R** Dorridge: operational flexibility
- S** Wolvercote Junction–Didcot: improved capacity
- T** Oxford: operational flexibility
- U** Oxford: operational flexibility
- V** Cardiff Central–Birmingham New Street: hourly interval fast service
- W** Gloucester–Barnwood: operational flexibility
- X** Nottingham–Bristol Temple Meads: additional hourly interval semi-fast service
- Y** Birmingham New Street–Hereford: operational flexibility
- Z** Swindon–Gloucester: additional capacity
- Aa** Birmingham New Street–Hereford: trains via Worcester to run in both directions via Foregate Street

Customer Reasonable Requirements and other development options

- A** Leamington Spa: new car park
- B** Banbury–Birmingham Snow Hill: station information systems
- C** Banbury Station: improved facilities
- D** Route: clearance for new rolling stock
- E** Nuneaton–Walsall: electrification
- F** Throughout route: increase capability for 775m trains
- G** Warwick Parkway: new station



Route characteristics

DESCRIPTION Birmingham is the hub of this prime strategic route which provides a key element of the rail network linking Scotland and the North East of England with the South West and Southern England via the Midlands. Much of the route has direct motorway competition, which provides the potential for passenger growth, with the M5 from the West Midlands to Bristol, the M40 from Birmingham to the Thames Valley and the M42/A42/M1 from the Midlands to the North East.

The route is primarily two track with some sections of four track around Burton-upon-Trent, from Kingsbury to Birmingham and around Tyseley. The Coventry–Leamington Spa corridor consists of a single track with a passing loop at Kenilworth. Linespeed is 90mph Derby–Water Orton and Leamington Spa–Didcot with 100mph Bromsgrove–Bristol Parkway but elsewhere 60–75mph. Linespeed on slow lines is 30–45mph.

KEY CAPACITY CONSTRAINTS Most of our customers have aspirations to enhance and increase their services. If these are introduced, much of the route will reach full capacity within five years due to the conflicting pathing requirements of the mix of high-speed and slower-speed passenger trains and freight traffic. This will require measures to increase capacity and prevent a decline in train performance. Five key capacity constraints have been identified.

In the short term, the present route infrastructure can deliver the predicted volume of passenger and freight train services, except between Leamington Spa–Banbury and Oxford–Didcot. In both cases, with the support of our customers, we are proposing measures to increase capacity to allow for additional train movements.

Derby–Birmingham New Street In the short term it is expected that both passenger and freight growth proposals can be accommodated on the existing infrastructure. Virgin CrossCountry proposes to double the frequency of services and high levels of freight growth are anticipated between Birmingham and Water Orton. However this section of route will become increasingly constrained by junction layouts in the Water Orton–Lander Street Junction area. Freight services

are particularly significant due to the number of depots located in the vicinity and the anticipated increase in freight traffic.

Birmingham New Street–Kings Norton This busy two-track section carries services operated by Virgin CrossCountry, Central Trains and Wales & West. New timetable development work, undertaken as part of our assessment of Virgin CrossCountry's plans to increase its services, indicates that by using the Camp Hill route for freight and most Virgin CrossCountry trains, our customers' aspirations may be accommodated. However, the configuration of the slow and main lines at Kings Norton limits capacity and may require infrastructure changes. The conflicting mix of increased passenger and freight services will impose constraints in the longer term.

Leamington Spa–Coventry No increase in the frequency of Virgin CrossCountry services is currently planned on this single-track section of the route. The proposed upgrade of capacity on the Birmingham–Coventry Route (Route 1) will create the opportunity to operate additional services between Birmingham and Leamington, and beyond via Coventry. The single line between Coventry and Leamington would inhibit this and become a constraint to meeting our customers' aspirations.

Leamington Spa–Didcot Capacity restrictions are imposed by the signal spacing between Leamington Spa and Banbury.

On the Oxford to Didcot section, the station layout at Oxford, signalling headway constraints between Oxford and Didcot and the mix of fast and slow-stopping services create a significant capacity constraint which inhibits the ability of the route to support growth in passenger and freight traffic.

Birmingham–Leamington Spa (via Solihull) Our assessment of both passenger and freight growth proposals shows that this route section will also become a capacity constraint within the next five years.

Route vision

The industry vision is for a key arterial route capable of handling a growing volume of passenger and freight traffic, operating at different speeds, efficiently across the country. This requires flexibility and responsiveness to potential changes in traffic mix and in meeting additional customer demand.

Performance reliability and efficient timetabling are key requirements, as are

aspirations for the introduction of new trains by some operators, and journey-time improvements with revised timetabling and service patterns.

A variety of freight services are provided over this route. Overall, we expect freight traffic to expand, not only in terms of volume, but also in axle weights, train lengths and vehicle profiles.

Committed development plans

DEPOTS We are working with Bombardier to create access to a new maintenance depot at Barton-under-Needwood, between Derby and Birmingham for Virgin CrossCountry trains.

MAJOR STATIONS At Birmingham New Street, Station Regeneration Programme work to the platforms and dispersal bridge area is scheduled to be

complete by mid-2000. This work has dramatically improved the platform environment as well as improving safety and fire precautions. In parallel, a number of other projects are due to be concluded during 2000, including remediation of defects to the passenger transfer/emergency evacuation overbridge, new connecting canopies and the provision of new passenger operated lifts between platforms and the station concourse.

Options for development

MAJOR CAPACITY UPGRADES

Birmingham–Leamington Spa–Didcot (via Solihull) We are participating with sRA, Centro, Government office for West Midlands and Birmingham City Council in a strategic capacity review for the West Midlands area. We will use the conclusions of the review as a framework for the development of our strategy for the route and in the preparation of individual enhancement schemes.

On this route the following key issues emerge from the review.

There is a shortfall in capacity to convey the predicted train movements on the route between Water Orton, central Birmingham and Banbury. We are assessing a number of options to provide the additional capacity. These include additional tracks between Water Orton and Birmingham and between Tyseley and Leamington together with new signalling to increase capacity between

Leamington and Banbury. We are also assessing whether providing new links using abandoned route alignments would provide a more cost-effective alternative for some services. These include: Leamington–Kenilworth–Berkswell to link with the additional capacity proposed on the Coventry–Birmingham route, and Honeybourne–Stratford to provide a new route Oxford–Stratford–Birmingham to supplement capacity on the existing route via Banbury.

There is also a projected shortfall in capacity between Kings Norton and Longbridge which we believe can be addressed through remodelling the track layout to provide more effective separation between the cross-city services and long-distance passenger and freight trains. Reopening of the direct Stourbridge–Walsall line (Route 43) and the Cheltenham–Honeybourne–Stratford-upon-Avon line (above) could also relieve this corridor.

The review also highlights a capacity shortfall in central Birmingham. The details of this are included in Route 1.

Virgin CrossCountry services Virgin CrossCountry is proposing to replace its existing fleet of trains with new tilting and non-tilting trains. The aim is to have all the trains in service by summer 2003, operating to a new timetable taking advantage of quicker journey times aided by a programme of infrastructure improvements. Initial feasibility work has been concluded and detailed site investigation and scoping of the works has commenced.

Saltley area With our industry partners, we are developing a strategy for the Saltley PSB area, to include aspirations arising from Customer Reasonable Requirements, IOS proposals, capacity enhancements, and signalling renewal proposals. The strategy will include assessment of proposals for:

- Electrification from Nuneaton–Walsall and Proof House Junction (together with signalling immunisation work)
- Gauge enhancements
- Capacity to meet operators' aspirations
- Remodelling for new freight facilities.

Swindon–Gloucester–Severn Tunnel We propose to develop the Swindon–Stroud–Gloucester–Severn Tunnel Junction route as a key freight artery between the London area and South Wales and as a diversionary route for passenger services to allow maintenance of the Severn Tunnel with minimal disruption.

FREIGHT Railtrack will continue to work with industry partners, particularly the freight operators and the sSRA, to identify and develop options for specific gauge, axle weight and capability improvements, including options for operating 775m trains and gauge up to W11w.

sSRA INCREMENTAL OUTPUT STATEMENTS On this route there are a significant number of IOS proposals where an initial assessment has identified synergy with major capacity upgrade options, particularly on the route section Birmingham–Aynho–Didcot.

LOCAL TRANSPORT PLANS All the local authorities associated with this route see rail as an important part of their local plans. All encourage the use of efficient transport systems, balancing social and economic needs. Specific features of local plans include:

Derbyshire County Council supports interchange and information facility improvements at rail stations and the completion of the Ivanhoe Line between Leicester and Burton-upon-Trent.

Leicestershire County Council supports completion of the Ivanhoe Line between Leicester and Burton-upon-Trent.

Buckinghamshire County Council supports the reintroduction of passenger services on the Oxford and Aylesbury–Bletchley lines.

West Midlands Both heavy and light rail services are seen as playing an increasingly important role in meeting the transport needs of the West Midlands. The Partnership of West Midlands Authorities supports the principle of using rail to move people and goods more efficiently, and is involved in developing:

- Improved rail freight facilities, notably at Longbridge
- Introduction of new local rail services between Birmingham and Tamworth
- Further expansion of the light rail network either along new lines or, where appropriate, by means of further track sharing with the heavy rail network
- A new station at Kenilworth.

Northamptonshire County Council Proposals under consideration include increased train services to and from King's Sutton.

Warwickshire County Council supports:

- Introduction of new local rail services between Birmingham and Tamworth, including a new station at Kingsbury.
- More frequent services between Stratford-upon-Avon and Leamington Spa.
- Infrastructure improvements for a regular local service between Leamington Spa and Coventry.
- Development of rail services to cater for the considerable tourist and leisure market around Stratford, including additional direct services to and from London via Leamington Spa.
- Construction of Warwick Parkway Station.
- A new station at Kenilworth.
- Improvements to passenger and information facilities at Leamington Spa, Warwick, Hatton and Lapworth Stations.

Worcestershire County Council Specific proposals include:

- Improved interchange facilities at stations
- Investigations into the case for a possible new station at Worcester Parkway
- Reopening of the route between Cheltenham and Stratford.

Oxfordshire County Council promotes proposals including new stations at Kidlington, Kennington, and at Grove/Wantage.

Gloucestershire County Council promotes proposals including:

- Improved capacity on the Swindon–Kemble Line
- Improved interchange and accessibility at stations
- Bus–rail interchange at Stroud
- Improvements to the Gloucester–Cheltenham service.

STATIONS In conjunction with two local authorities, the opportunity to build a new station at Kenilworth is being considered. Options are being considered at Oxford to rebuild the downside station buildings with additional customer and retail facilities, funded by a partnership with Thames Trains and Virgin Trains.

We are working with Chiltern Railways to enable the construction of the new Warwick Parkway Station. We are investigating the viability of increasing car parking capacity and improving car parking facilities at a number of stations on the route, as well as access for the disabled, for example Leamington Spa.

We are working with industry partners on proposals for guided bus services for Oxfordshire, including the possibility of a new parkway station at Hinksey on this route.

MAJOR STATIONS At Birmingham New Street, options for development are a new customer information system, extension of the limited CCTV arrangements and enlargement of the main concourse area to include a new ticket office, travel centre, and retail facilities.

An initial study has been undertaken into relationships with the Pallisades shopping centre and the adjacent Bull Ring redevelopment. During 2000/01, the implications of this will be examined in conjunction with the strategic capacity review to determine the possible scope and timescales for future improvements to the station.

Progress on the 1999 NMS

TYSELEY DEPOT We have completed the removal of an outdated under-floor wheel lathe and replaced it with a new computer-controlled lathe, together with an extension to the shed to house it.

STATION REGENERATION Works have been completed at stations:

Wilnecote, Five Ways, Barnt Green, Selly Oak, Northfield, Olton, Dorridge, Small Heath, Hatton, Bournville, Banbury and Leamington Spa.

At Birmingham New Street, Station Regeneration Programme work to the platforms and dispersal bridge area is nearing completion.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Barton-under-Needwood	New depot	New depot facilities	2001/02	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Route	Track and other infrastructure enhancements	Capacity increase	2004	A
Stratford–Honeybourne–Cheltenham	Reinstatement of railway	Major capacity upgrade	2009/10	B
Didcot–Oxford	Resignalling and additional running line; grade separated junctions at Didcot East	Additional 5–10 trains per hour avoidance of conflicting movements	2007	C
Banbury–Birmingham–Coventry	Resignalling and four tracking	Additional 5 trains per hour	2004	D
Birmingham–Water Orton	Four tracking	Additional 8 trains per hour	2004	E
IOS(O): Grand Junction–St Andrew's Junction	Detailed scheme being prepared	Raise current 5mph to 30mph	2004	A
IOS(O): Bordesley Junction–Bordesley South Junction	Detailed scheme being prepared	Raise current 20mph to 30mph	2006	B
IOS(O): Coventry–Leamington	Detailed scheme being prepared	Raise linespeed to 75mph	2006	C
IOS(O): Dorridge Up Loop	Detailed scheme being prepared	Provide for 775m-long trains to be looped	2004	D
IOS(O): Fenny Compton Loops	Detailed scheme being prepared	Provide for 775m-long trains to be looped	2004	E
IOS(O): Banbury	Railtrack proposes to offer sSRA an alternative output	Provide direct access for passenger trains from the South at any platform	2006	F
IOS(O): Washwood Heath (East)	Detailed scheme being prepared	Provide a new 40mph connection from the down goods and down main on to Washwood Heath and from the sidings to the up main	2004	G
IOS(O): Water Orton	Detailed scheme being prepared	Provide for 40mph trains to/from Nuneaton	2004	H
IOS(O): Kingsbury Junction	Detailed scheme being prepared	Provide for 50mph for trains between the Derby and Birmingham directions	2004	I
IOS(O): Branton Junction	Detailed scheme being prepared	Provide for signaller control of the function of the existing ground frame	2004	J
IOS(O): Bromsgrove	Detailed scheme being prepared	Convert up goods loop to accommodate passenger trains	2004	K
IOS(O): Blackwell goods loop	Railtrack proposes to offer sSRA an alternative output	Provide for 775m long freight trains to recess, with access/egress speeds of at least 40mph	2006	L
IOS(C): Coventry–Leamington Spa	Railtrack proposes to offer sSRA an alternative output	Utilise single line to maximum available capacity	2006	M
IOS(C): Nottingham–Derby–Birmingham New Street	Railtrack proposes to offer sSRA an alternative output	Two trains per hour at regular intervals	2006	N
IOS(C): Matlock–Derby–Birmingham New Street	Detailed scheme being prepared	One train per hour at regular intervals	2006	O
IOS(O): Bordesley	Detailed scheme being prepared	Provide new 70mph parallel junction for fast trains from Snow Hill to and from the Solihull Line	2004	P
IOS(O): Tyseley–Dorridge	Railtrack proposes to offer sSRA an alternative output	Provide fast/slow overtaking opportunity	2006	Q
IOS(O): Dorridge	Railtrack proposes to offer sSRA an alternative output	Provide for trains from the south to arrive in the platform without hindrance from the operation of Bentley Heath crossing	2006	R
IOS(O): Wolvercote Junction–Didcot	Railtrack proposes to offer sSRA an alternative output	Provide closer headways	2006	S
IOS(O): Oxford	Detailed scheme being prepared	Restore by fixed signals, capacity lost by the withdrawal of permissive working	2006	T
IOS(O): Oxford	Detailed scheme being prepared	Provide for trains from the South to be able to run to the Down platform, terminate and restart towards Didcot	2006	U
IOS(C): Cardiff Central–Birmingham New Street	Railtrack proposes to offer sSRA an alternative output	Hourly-interval fast service	2006	V
IOS(O): Gloucester–Barnwood	Detailed scheme being prepared	Provide 40mph approach and departures to/from the platforms at Gloucester	2006	W
IOS(C): Nottingham–Birmingham New Street–Bristol Temple Meads	Railtrack proposes to offer sSRA an alternative output	Additional hourly-interval semi-fast service	2006	X
IOS(O): Birmingham New Street–Bromsgrove–Worcester–Hereford	Detailed scheme being prepared	Provide for trains of 4 x 23m vehicles on Birmingham-bound platform at Bromsgrove	2006	Y
IOS(C): Swindon–Gloucester	Detailed scheme being prepared	Provide for two trains per hour in each direction, one or two of which may run through, to or from Paddington	2006	Z
IOS(O): Birmingham New Street–Bromsgrove–Worcester–Hereford	Railtrack proposes to offer sSRA an alternative output	Provide for Birmingham to Cheltenham via Worcester trains to run in both directions via Worcester Foregate Street (reverse)	2006	Aa

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY (continued)

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Leamington Spa Station	New car park	Improved facilities	2000/01	A
Banbury to Birmingham Snow Hill	Provision of passenger information systems	Improved station facilities	2001/02	B
Banbury Station	Lift works	Improved facilities	2000/01	C
Route	New rolling stock	Route clearance	2000/01	D
Nuneaton–Water Orton–Sutton Park Line–Walsall	Electrification	Ability to operate 25kV trains	2004/05	E
Route	Capability increase	Ability to operate 775m trains	2004/05	F
Warwick Parkway	New station	New services	2000/01	G

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Birmingham–Bristol	150	1	1hr 11min (80mph)	1hr 11min (80mph)	1hr 11min (80mph)	60min (93mph)
Birmingham–Reading	159	5	1hr 46min (56mph)	1hr 46min (56mph)	1hr 46min (56mph)	1hr 14min (80mph)
Birmingham–Leeds	187	4	2hr 1min (58mph)	2hr 1min (58mph)	2hr 1min (58mph)	1hr 49min (64mph)
Swindon–Severn Tunnel Junction	114	1	1hr 1min (70mph)	1hr 1min (70mph)	1hr 1min (70mph)	1hr 1min (70mph)
LINESPEEDS (km of track)						
Up to 35mph			16	16	16	16
40–75mph			215	215	215	213
80–105mph			542	542	542	569
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			773	773	773	799
GAUGE (km of route)						
W6A			442	442	442	442
W7			442	442	442	442
W8			442	442	442	442
W9			0	0	129	405
W10			0	0	129	405
W11			0	0	0	15
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			31	31	31	31
24.2–25.4 tonnes			742	742	742	768
TOTAL			773	773	773	799

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
GREAT WESTERN ZONE				
Track	7.7	5.5	36.3	31.0
Structures	0.6	1.1	11.6	10.7
Signalling	0.4	1.4	67.8	6.2
Plant & Machinery	0.0	0.0	2.1	1.4
Telecoms	0.0	0.1	0.8	0.7
Stations	0.7	0.4	6.0	4.7
TOTAL	9.4	8.5	124.6	54.6

MIDLANDS ZONE

Track	8.7	9.4	11.8	19.4
Structures	1.9	1.6	12.8	15.1
Signalling	1.0	2.9	6.5	20.4
Telecoms	0.3	0.0	0.7	0.9
Stations	1.8	0.5	9.2	5.7
Other	0.1	0.4	0.2	0.2
TOTAL	13.8	14.8	41.2	61.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	1.1	0.3	7.1	0.0	8.5	Various
TOTAL		1.1	0.3	7.1	0.0	8.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Cheltenham–Honeybourne–Stratford	300.0	0
Banbury–Birmingham–Coventry: capacity	200.0	0
Other schemes	132.9	Various
Oxford: capacity improvements	110.0	0
Cross-country journey-time and frequency improvements	68.6	2/3
Didcot–Oxford: gauge clearance	50.0	1
Nuneaton–Walsall: electrification	50.0	0
Birmingham–Water Orton: capacity	50.0	0
TOTAL	961.5	

The sum of the expenditures may not match totals due to rounding



Central Trains; FNM; GNER;
Midland Main Line; Northern Spirit;
Virgin CrossCountry; EWS;
Freightliner.

Committed schemes

- A Halifax–Huddersfield: reopening of route for passenger services
- B Leeds Station: upgrade

Options for major improvements to capability

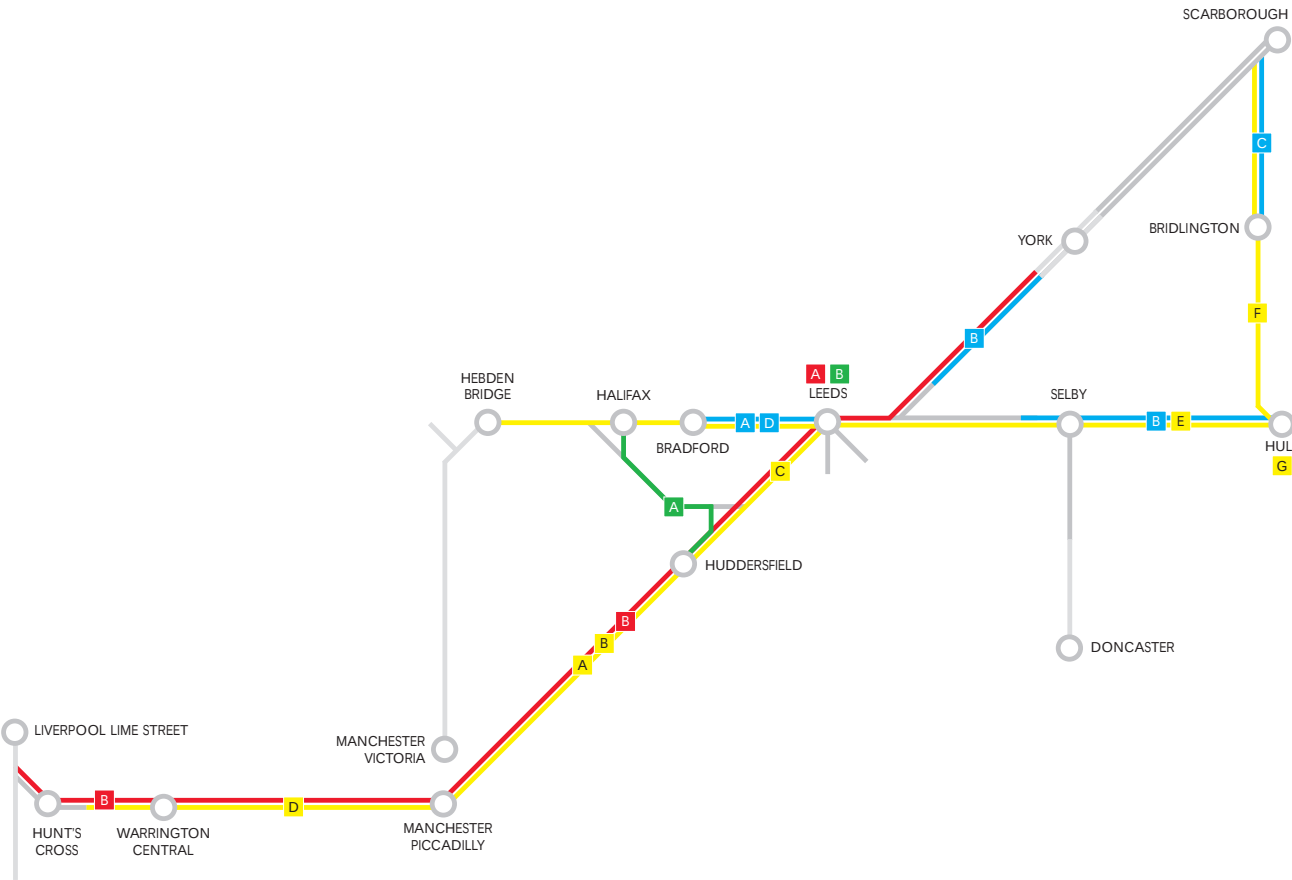
- A Leeds: additional capacity and increased reliability
- B North Trans-Pennine: capacity upgrade

IOS options

- A Leeds–Bradford: increase capability
- B Hull–York: additional capacity
- C Bridlington–Scarborough: journey-time improvements
- D Leeds–Bradford: journey-time improvements

Customer Reasonable Requirements and other development options

- A Leeds–Manchester: journey-time improvement
- B Leeds–Manchester: additional capacity
- C Trans-Pennine: improved capability
- D Widnes–Dewsbury: improved capability
- E Yorkshire and Trans-Pennine: improved capability
- F Wolds Coast: improved capability
- G Hull Docks: additional capacity



Route characteristics

DESCRIPTION The North Trans-Pennine (NTP) route forms the primary corridor across the Pennines linking the main conurbation of Liverpool, Manchester and Leeds, to Hull, York and Scarborough and the North East. The route also includes the Wolds Coast line from Hull to Scarborough and the Calder Valley line via Bradford to Hebden Bridge.

The Trans-Pennine rail routes are generally two track with a linespeed of up to 90mph east of Leeds and 85mph to the west.

KEY CAPACITY CONSTRAINTS The mix of fast expresses and slower freight and passenger trains reduces realisable capacity, as does the number of trains operating through busy junctions.

Manchester The route is constrained by bottlenecks in Manchester between Deansgate and Piccadilly. Predicted growth in services to Manchester will lead to capacity constraints on many of its approaches. Solutions such as additional infrastructure and rerouting of some services have been studied, the details of which can be found in Routes 33 and 12.

Leeds The congestion is caused by available paths through the four-track layout and a 15mph speed restriction at the station's west end (which operate at full

capacity most of the day) and the two-track, 10mph limit at the east end. This is further aggravated by the signalling system and mix of traffic, which is entirely different from that operating in the 1960s when the current track layout was installed.

Stalybridge–Thornhill Junction This section of route is used by a wide variety of traffic with varying speeds and journey times. Limited opportunity exists for faster trains to overtake slower services due to lack of passing places.

Neville Hill–Church Fenton, Ardwick–Guide Bridge and Manchester–Hunt's Cross These two-track sections carry intensive levels of high-speed express and slower stopping trains. Capacity is constrained by a lack of overtaking opportunities for the express services and conflicting moves at junctions.

Liverpool The neighbouring capacity constraints at Liverpool Lime Street and Edgehill (Route 1) affect this route.

Route vision

Our vision is to provide a high-capacity, fast, frequent interurban route between the east and west coasts to exploit market potential and offer passengers and freight users an increasingly attractive choice. Our strategy centres on accommodating growth, attracting car drivers and road freight and providing a safe high-quality product for all users in line with integrated transport policy and the objectives expressed in Local Transport Plans. The increasingly congested motorway network and the strong growth in both historic and future projections of passenger and freight indicate a demand for increased capacity, particularly on the core sections between Liverpool and Manchester, and Manchester and Leeds. This upgrade would provide additional capacity for all service types and allow rail's share of the market to grow. A route upgrade would provide the extra capacity required for an increase in freight traffic and local PTE-sponsored passenger services.

Our continuing studies on the role of Manchester as a passenger and freight rail hub have identified the option of creating a new service axis linking Cardiff and North Wales through Manchester Airport and Manchester and on to Leeds and the North East. These services would significantly increase the interchange opportunities at Manchester helping to develop many new journey opportunities.

In addition to the above, we will be seeking to improve access to the network through parkway stations. A number of potential sites are already identified at Allerton, Guide Bridge, Elland, and Micklefield. Work is underway with the PTEs, Highways Agency and users to evaluate the likely level of use and sources of funding.

To develop our ideas for the Manchester to Liverpool corridor we are involved in the MerseyBelt Linkages study which is reviewing the requirement and opportunities for service improvements. As proposals emerge from this initiative, they will be incorporated into the vision for the route.

Committed development plans

INFRASTRUCTURE

Route development In May 2000 the new PTE-sponsored rail service between Halifax and Huddersfield will commence operation. We have completed significant work to return passenger traffic to disused sections of line including a new station at Brighouse, to benefit a community which is currently not served by rail.

Route clearance work is under way on the Liverpool–Warrington–Manchester Route, as part of a scheme to enable new Class 170 trains to run on the Liverpool–Manchester–Sheffield–East Anglia axis (see Route 13).

MAJOR STATIONS

Leeds The Leeds 1st project will improve the accessibility of the platforms for all passengers, including the disabled and those with luggage or small children. Four new platforms and the existing ones will be linked by a new overbridge, lifts and escalators. The platforms will be resurfaced, lighting renewed and new customer information systems and a concourse information facility will be installed. The main station area will be transformed by a new, higher and brighter, overall roof. These station works will be complete by 2001/02.

Options for development

Major Capacity Upgrades The Leeds 1st project is underway and is our first step in developing the North Trans-Pennine Route. This work will release the constraint to the west of Leeds Station and allow additional services to operate on the three key flows into the station from Wakefield and the south including London services (Route 2), Huddersfield and Manchester (this route) and the Leeds North West Route (Route 36). The new facilities to the east end of Leeds Station will improve the passage of trains in and out of the station to and from Hull, York and the North East and also to and from the major train maintenance depot at Neville Hill.

Overall, the works to the track and additional platforms at Leeds provided by the scheme will allow up to 50% more trains per hour to serve Leeds from the west. This compares with the current maximum of 28 trains in each direction.

Work has begun on a new £10M control centre that forms a key part of the Leeds 1st project. This control centre will draw together signalling facilities currently based at Leeds, Church Fenton and Stourton (near Leeds) to the modern Integrated Electronic Control Centre (IECC) at York. Centralising the control will dramatically improve real-time information on train services and the management of delays when problems or incidents impact on services or infrastructure.

Across the North Trans-Pennine Route we intend to improve passenger journey times. We aspire to a journey time of 45 minutes on the Leeds–Manchester section, with similar reductions on other parts of the route. We also aspire to four trains an hour at an even frequency between Leeds and Manchester.

This initial upgrade proposal would deliver both journey-time improvements over the core section and capacity enhancements in the two-track sections. The work involves the provision of additional running lines and passing facilities as well as route strengthening to allow higher-speed running. A key element of our proposals is to reopen one of the two disused bores at Standedge Tunnel. This initial package would improve capacity and allow regular clockface departures for the express services to become a reality on this route. We intend to further develop our proposals for the Liverpool to Manchester section with the results of the MerseyBelt Linkages study.

On the Tyne/Tees/Immingham–Manchester/Liverpool/Seaforth axis there is potential for a significant increase in freight volumes, particularly in intermodal goods and chemicals. We are currently undertaking a detailed study of the markets and costs of a Trans-Pennine high gauge (W10w or W11) route. We are working with industry partners, local authorities, the Highways Agency and ports to identify the true market potential for high-gauge freight so we can fully understand the funding requirements. A feasibility study into gauge clearance for high-gauge Primary Freight Routes is nearing completion and from it a programme of work will be developed. In addition, the proposal includes the double tracking of the Whitehall curve, a line which enables freight trains to be routed around the Leeds Station area. This, together with key elements of the reconfiguration of the trackworks at the west end of Leeds, would substantially increase the potential throughout of freight traffic. We are also evaluating the work necessary to permit operation of 775m long freight trains on this route. Sections of this route are being evaluated for inclusion in the Third Anglo-Scottish Primary Freight Route which seeks to provide capacity beyond that delivered by the WCML (Route 1) and ECML (Route 2) proposals.

SSRA Incremental Output Statements As well as a number of journey-time reductions, IOSs for this route relate to capacity improvement to allow an increase in service frequency between Hull and York as well as permitting a small increase in freight-wagon weight between Leeds and Bradford and to permit the operation of 775m long freight trains.

The solution for the increased York–Hull service is dependent on the ECML upgrade (see Route 2) rather than on this route itself which should be able to accommodate the proposed enhanced service.

Customer Reasonable Requirements Our freight customers have raised with us a number of aspirations in relation to gauge enhancements, increased axle loads and train lengths.

For our passenger customers we are conducting a feasibility study for a new station at Low Moor.

In partnership with Merseytravel, we are assessing the feasibility of remodelling the junction at Hunt's Cross to improve reliability and capacity.

Local Transport Plans We continue to work with local authorities and PTEs to develop further the opportunities for this route in relation to the aspirations contained within their Local Transport Plans. For the West Yorkshire PTE, the draft LTP identified 31 potential new station sites. We are now involved with feasibility studies on five of these, and other potential passenger service enhancements in and around Leeds, Bradford, Calderdale, Kirklees and Wakefield.

Where there is limited scope for rail network enhancement, we are working with the local authorities to promote better links to facilitate transport interchange(s) with the community and the existing railway eg in North Yorkshire, East Riding and Kingston-upon-Hull.

We are working in partnership with Merseytravel to deliver park and ride and bus interchange facilities in their area. For the City of York Council we are supporting their bid for stations at Haxby and Strensall.

MAJOR STATIONS

Leeds Options for development include a new first-class lounge, improved ticketing and travel centre facilities and an additional 600-space multistorey car park to be built on existing station car-park land adjacent to the River Aire, as well as a comprehensive CCTV installation to ensure customer security.

We are also investigating further possible redevelopment, including south concourse remodelling, integration of a Northern Spirit-sponsored scheme to install automatic ticket gates, a new southern entrance to the station via integration with the Granary Wharf development and provision of enhanced bus interchange facilities.

STATIONS

Hull Station Bus–Rail Interchange Railtrack is working with Hull City Council and Northern Spirit on a scheme to make full use of the station building and its environs to develop a modern passenger interchange facility that is also in keeping with the historic nature of the building. This will complement the development of this area of the city centre in accordance with local plans.

Progress on the 1999 NMS

CAPACITY DEVELOPMENT The Leeds 1st scheme is substantially underway and on target for completion in 2001. A new electrical power connection has been installed to provide a more reliable and flexible power supply to both the station and the neighbouring Neville Hill depot. A new bridge has been installed at Globe Road to facilitate the critical six-track layout on the western approaches. A publicity campaign, led by Railtrack, has communicated the nature of the works so regular passengers can plan ahead to avoid them. A new temporary station has been specially built at Leeds (Whitehall) in order to minimise the disruption to passengers using trains that will at certain times not be able to use the main station.

Work has been completed at Greenfield (east of Slatybridge) to increase capacity via the renewal and enhancement of signalling equipment. This has enabled operation of an additional Manchester–Leeds service, subject to capacity constraints at Manchester and Leeds.

STATIONS Leeds City Station won an Ian Allen Railway Heritage award for the restoration work carried out on the north concourse, where further retail units have opened. The first phase of the concourse information system has been completed. As part of Leeds 1st, rebuilding of much of the station fabric has

begun with the construction of new platforms 16/17 and west-end footbridge. Construction of new platforms between current platforms W and 1 and the new train shed will commence in August.

We have completed, with Northern Spirit and WYPTE, improvements to the station facilities at Huddersfield, Dewsbury and Halifax. The work at Halifax provided a complete enhancement of the station facilities and the provision of a new lift for access to the platforms.

PERFORMANCE At Hull, Railtrack is continuing to implement a programme to upgrade the lineside fencing. This will help to reduce incidents of trespass and vandalism in the area and improve train performance.

TRACK AND STRUCTURES Significant structural works have been completed this year with a complete replacement of Red Doles Bridge near Huddersfield at a cost of £750,000 and brickwork repairs in Standedge Tunnel costing £350,000. We have also completed the Hesse foreshore works (an embankment adjacent to the Humber Estuary where the railway runs very close to the water). Although much has been completed, work continues on a series of track renewals on the Wolds Coast between Hull and Beverley.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Halifax–Huddersfield	Reopening of route for passenger services	Additional capacity	2000	A
Leeds	Station upgrade	Improved facilities	2002	B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Leeds	Completion of Leeds 1st	Improvements which will provide approximately 50% additional track capacity (four to six tracks at the west end), and improve train punctuality.	2002	A
North Trans-Pennine Route	Remodelling of junctions, realignment of track and signalling upgrade	Major capacity upgrade	2004	B
IOS(C): Leeds–Bradford Interchange	Railtrack proposes to offer sSRA an alternative output	Increase route availability to RA10	2006	A
IOS(C): Hull–York	Railtrack proposes to offer sSRA an alternative output	Half-hourly service	2006	B
IOS(J): Bridlington–Scarborough	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 2min	2006	C
IOS(J): Leeds to Bradford Interchange	Detailed scheme being prepared	Reduce journey time by 2min	2006	D
Leeds–Manchester	Journey-time improvements	45min headline journey time		A
Leeds–Manchester	Capacity improvements	4 trains per hour regular clockface		B
Throughout the Trans-Pennine Route	Capability improvements	Gauge enhancement for 9'6" high, 2.6m wide container on all key routes	2005	C
Widnes–Dewsbury	Capability improvements	Increase axle loads to 30 tonnes		D
Hull–Immingham–Doncaster–Trans-Pennine	Capability improvements	Increase in maximum train lengths to 775m		E
Wolds Coast	Capability improvements	Clearance of all routes below RA7 for running of Class 66 locomotives		F
Hull Docks	Develop strategy for Hull Docks Branch	Capacity improvements	2004	G

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Bridlington–Scarborough	26	4	39min (25mph)	39min (25mph)	39min (25mph)	37min (26mph)
Leeds–Bradford Interchange	13	1	18min (27mph)	18min (27mph)	18min (27mph)	16min (30mph)
Bradford Interchange–Manchester Victoria	47	8	1hr 4min (27mph)	1hr 4min (27mph)	1hr 4min (27mph)	59min (30mph)
Manchester–Leeds	68	3	58min (44mph)	58min (44mph)	58min (44mph)	45min (56mph)
Scarborough–York	69	1	46min (55mph)	46min (55mph)	46min (55mph)	41min (59mph)
Hull–Leeds	66	up to 14	55min (45mph)	55min (45mph)	55min (45mph)	48min (52mph)
Liverpool–Manchester Oxford Road	56	2	46min (45mph)	46min (45mph)	46min (45mph)	42min (50mph)

LINESPEEDS (km of track)

Up to 35mph	83	83	83	82
40–75mph	649	646	646	644
80–105mph	157	160	160	170
110–125mph	3	3	3	3
Over 125mph	0	0	0	0
TOTAL	892	892	892	898

GAUGE (km of route)

W6A	460	460	460	460
W7	460	460	460	460
W8	460	460	460	460
W9	42	42	70	175
W10	0	0	27	175
W11	0	0	0	175

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	66	66	66	66
20.4–24.1 tonnes	819	819	819	825
24.2–25.4 tonnes	7	7	7	7
TOTAL	892	892	892	898

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
LONDON NORTH EASTERN ZONE				
Track	7.2	5.3	33.9	23.9
Structures	4.6	3.6	43.5	32.4
Signalling	5.8	1.8	83.3	97.9
Plant & Machinery	0.0	0.1	0.0	0.0
Telecoms	1.1	1.0	0.7	1.7
Stations	6.6	15.3	21.3	15.5
Depots	0.0	0.0	7.1	7.2
TOTAL	25.3	27.1	189.8	178.6

NORTH WEST ZONE

Track	1.9	1.1	3.3	6.4
Structures	1.7	0.3	14.8	19.0
Signalling	0.0	0.3	9.8	2.9
Telecoms	0.2	0.2	0.2	0.0
Stations	0.4	1.2	0.0	0.0
Other	0.0	0.0	0.7	0.0
TOTAL	4.2	3.1	28.9	28.3

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Leeds Station	2001/02	2.2	3.6	33.0	2.3	41.1	4/5
Other committed schemes	Various	1.5	1.2	5.0	0.4	8.1	Various
Huddersfield–Halifax: new service	2000/01	5.0	0.0	0.0	0.0	5.0	5
TOTAL		8.7	4.8	38.0	2.7	54.2	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
North Trans-Pennine route: upgrade	110.0	3
Freight: gauge enhancements	82.4	1
ECML: Phase I	75.2	5
Other schemes	28.0	Various
North Trans-Pennine: Church Fenton remodelling	6.0	1
Leeds: Station Regeneration Programme	1.8	1
Cross-country journey-time and frequency improvements	0.6	2
Hull Docks strategy	0.6	1
TOTAL	304.6	

The sum of the expenditures may not match totals due to rounding



Central Trains; EWS; Freightliner.

Options for major improvements to capability

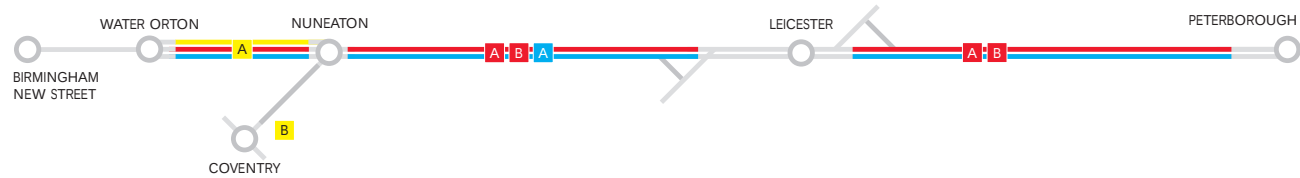
- A** Nuneaton–Peterborough: major resignalling project
- B** Felixstowe–Nuneaton and Birmingham: gauge enhancement and capacity upgrade

IOS options

- A** Stansted–The Midlands: additional capacity

Customer Reasonable Requirements and other development options

- A** Nuneaton–Walsall and Birmingham: electrification
- B** Coventry Colliery: reinstatement of connection



Route characteristics

DESCRIPTION This route has two tracks, with single-track sections at some of the junctions. Linespeed is up to a maximum of 90mph. The route is signalled through a mixture of multiple aspect signals controlled from Leicester, Nuneaton, Coventry and Salfley PSB, with mechanical signalling controlled from some 17

signal and level-crossing boxes. The infrastructure on this route is not used to capacity, but is limited by the constraints at the interfaces with the West Coast, East Coast and Midland Main Lines.

Route vision

Our vision for the Birmingham and Coventry–Peterborough Route is a high-performing east–west link providing fast, long-distance passenger journeys and a key freight route, avoiding the London radial routes particularly for Felixstowe–Midlands services and beyond. This is a significant interurban cross-

country route providing excellent interchange opportunities with north–south arteries serving growth markets such as Stansted Airport. It will continue to offer competitive journey times for key markets such as Birmingham–Cambridge–Stansted.

Options for development

INFRASTRUCTURE We have consulted with our customers, the passenger and freight train operators, to establish their aspirations on this route. We propose a package of infrastructure improvements to meet these aspirations.

- Resignal the Nuneaton–Peterborough section of the route and increase capacity and flexibility.
- Remodel and resignal between Syston Junction and Wigston Junction (on Route 5).
- Electrification from Nuneaton to Walsall and Proof House Junction (together with signalling immunisation work).
- A new service from Melton Mowbray to Kettering via Corby (subject to local authority funding), and increases in frequency of services on the Birmingham–Peterborough Route.

FREIGHT We will continue to work with industry partners, particularly freight operators and the sSRA to identify and develop options for specific gauge, axle weight, and capability improvements, including options for operating 775m trains with a gauge up to W10w.

We are now conducting detailed feasibility studies into the option of diverting Felixstowe to the Midlands and North West England container services over this route.

Part of this route, from Nuneaton to Peterborough, is also being considered as part of the proposed Third Anglo-Scottish Freight Route.

sSRA Incremental Output Statements The sSRA proposes an increase in capacity to facilitate a higher-frequency service on the route.

Customer Reasonable Requirements As part of the Coventry Colliery development it is intended to construct a warehouse and distribution centre, with appropriate access to the rail network.

Local Transport Plans All the local authorities connected with this route see rail as an important part of their local plans. All encourage the use of a fair and efficient transport system, balancing social and economic needs. Specific features of local plans include:

Leicestershire County Council supports:

- New stations at Blaby, Kibworth and East Goscote
- Increased service frequencies on routes radiating from Leicester.

Leicester City Council supports:

- Improved interchange and information systems
- A new station at Kibworth
- The Ivanhoe Line project
- Increased service frequencies on routes radiating from Leicester.

Warwickshire County Council supports:

- New local service between Birmingham and Nuneaton, including new stations at Hams Hall and Coleshill, Arley and Galley Common
- Increased service frequency between Coventry and Nuneaton
- Improvements to passenger and information facilities at Water Orton, Bedworth and Nuneaton stations.

West Midlands

- Introduction of new local rail services between Birmingham, Water Orton and Tamworth/Hams Hall.
- Further expansion of the light rail network either along new lines or, where appropriate, by means of further track sharing with the heavy rail network
- New station at Foleshill serving Coventry arena
- Improved rail freight facilities at Castle Bromwich
- Improved access to the rail network, including information systems.

Rutland County Council supports:

- Frequency and journey-time improvements to passenger services
- Encouragement of rail freight
- Refurbishment and improvements to Oakham Station
- Investigations into a possible new station at Ketton.

Progress on the 1999 NMS

STATION REGENERATION Works have been completed at South Wigston, Bedworth, Oakham, Stamford and Melton Mowbray.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Nuneaton–Peterborough	Major signalling capacity upgrade	Increased capacity	2003/04	A
Felixstowe–Nuneaton–Birmingham	Freight gauge enhancement and capacity improvements	W10w gauge and additional capacity including 775m train operation	2005	B
IOS(C): Stansted–Cambridge–Peterborough–Leicester–Birmingham	Railtrack proposes to offer sSRA an alternative output	Higher frequency of service	2004	A
Nuneaton–Walsall and Birmingham	Electrification	Provide capability to operate 25kV trains	2004/05	A
Coventry Colliery	Reinstatement of connection	New services	2001/02	B

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Peterborough–Birmingham	147	5	1hr 45min (53mph)	1hr 45min (53mph)	1hr 40min (55mph)	1hr 40min (55mph)
Peterborough–Nuneaton	114	4	1hr 15min (57mph)	1hr 15min (57mph)	1hr 10min (61mph)	1hr 10min (61mph)
LINESPEEDS (km of track)						
Up to 35mph			5	5	5	5
40–75mph			150	150	150	150
80–105mph			95	95	95	95
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			250	250	250	250
GAUGE (km of route)						
W6A			126	126	126	126
W7			126	126	126	126
W8			58	58	58	126
W9			22	22	22	126
W10			0	0	0	126
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			250	250	250	230
24.2–25.4 tonnes			0	0	0	20
TOTAL			250	250	250	250

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	0.4	0.5	0.6	0.9
Structures	1.2	2.4	4.4	5.2
Signalling	0.9	1.6	2.9	4.1
Telecoms	0.1	0.0	0.1	0.9
Stations	0.4	0.1	2.8	1.7
Other	0.0	0.0	0.1	0.1
TOTAL	3.0	4.6	10.8	12.9

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	0.0	1.1	0.0	1.3	Various
TOTAL		0.2	0.0	1.1	0.0	1.3	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	68.4	Various
Nuneaton–Walsall: electrification	50.0	2
TOTAL	118.4	

The sum of the expenditures may not match totals due to rounding



Central Trains, Wales & West; EWS; Freightliner.

Options for major improvements to capability

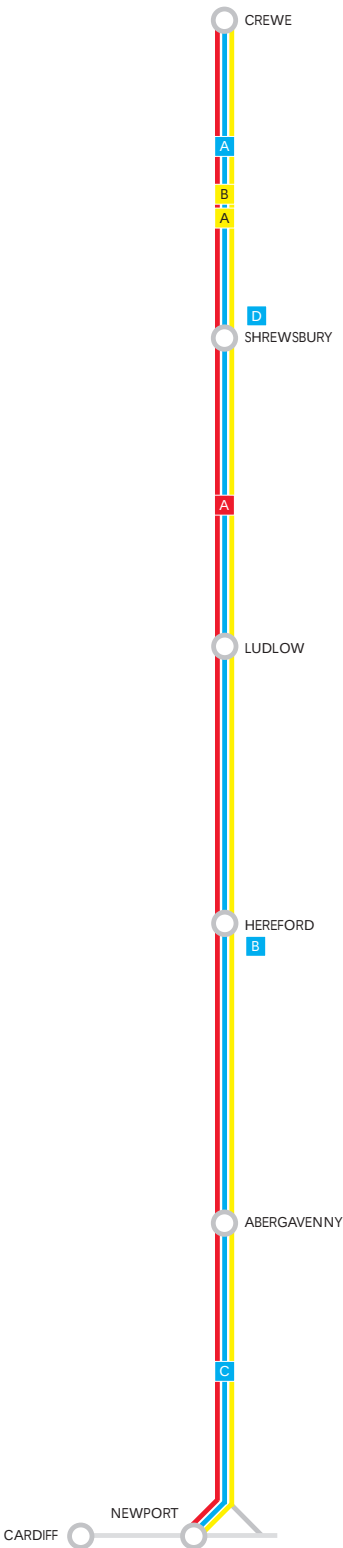
- A
- Newport–Crewe: improved capacity and operational flexibility

IOS options

- A
- Cardiff Central–Crewe: reduce journey time
- B
- Hereford: reversible working in two platforms
- C
- Cardiff Central–Crewe: additional capacity
- D
- Shrewsbury: operational flexibility

Customer Reasonable Requirements and other development options

- A
- Newport–Crewe: provide for 30 tonne axle weight
- B
- Newport–Crewe: provide 775m loops



Route characteristics

DESCRIPTION The route is two track with linespeeds ranging from 75–90mph. Capacity is constrained by three long block sections: Abergavenny–Pontrilas, Marshbrook–Dorrington and Prees–Wrenbury; and by the distance between and length of freight loops. Most of the route is mechanically signalled.

KEY CAPACITY CONSTRAINTS The section Newport–Hereford is steeply graded with significantly different heavy freight and passenger train speeds. There

is a long signal section between Abergavenny and Pontrilas on a steep gradient. There are limited freight loops.

Hereford–Shrewsbury has a long signal section between Marshbrook and Dorrington and there are limited freight loops.

Shrewsbury–Crewe has a long signal section between Prees and Wrenbury.

Route vision

Our vision is to strengthen this important strategic link between North, Mid and South Wales by improving its flexibility, reliability and capacity. To attract more passenger business to the route, we propose to make the route more competitive with road transport through linespeed and other improvements. We envisage a standard journey time below three hours between Cardiff and Manchester. This would also allow more attractive services between North and

South Wales and, with proposed improvements in the Manchester area, to destinations such as Manchester Airport, Leeds and Newcastle.

We envisage more capacity and improvements in axle weight and train length to allow the route to fulfil its role as an important freight link from South Wales to the Midlands and the North. These would permit the operation of 775m long freight trains.

Options for development

MAJOR CAPACITY UPGRADES Capacity can be increased throughout the route, with the added benefits of improving operational flexibility and performance, by the following developments.

In the Abergavenny–Pontrilas section, divide the existing long block sections with an additional signal in each direction.

On the Marshbrook–Dorrington section shorten the block section and reopen the existing signal box at Church Stretton.

In the Prees–Wrenbury section reopen a signal box.

At Craven Arms build a new passing loop and improve an existing passing loop.

At Hereford improve an existing passing loop and introduce a more flexible layout.

At Shrewsbury modify the track layout.

St Julian's viaduct near Newport We anticipate undertaking significant refurbishment of the viaduct in 2001/02. We have examined the possibility of adding a footbridge/cycleway in response to a request from the local authority.

sSRA Incremental Output Statements Three IOSs are proposed to improve capacity and journey time between Cardiff and Crewe and to improve flexibility at Hereford and permit the operation of 775m long freight trains.

Customer Reasonable Requirements These cover the following options:

- Improvements to flexibility on the route to improve performance during disruption through better siting of crossovers.
- A standard journey time of under three hours between Cardiff and Manchester through overall linespeed improvements and removal of speed restrictions.
- Increased capacity through shortening long block sections and improvements to freight loops.
- Improved capability for freight in terms of axle weight and train length.

Local Transport Plans All LTPs include the aspiration to improve road–rail interchanges and passenger facilities at stations.

Many local authorities are interested in the capability of the railway to carry more freight.

Many LTPs include the aspiration to reduce rail journey times.

Progress on the 1999 NMS

STATIONS We have now completed the Station Regeneration Programme as planned on this route, covering a total of 12 stations.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Crewe–Newport	Shortening of signal sections, improvements to freight loops and resiting of crossovers to increase capacity, operational flexibility and performance	Additional capacity and operational flexibility	2004	A
IOS(J): Cardiff Central–Crewe	Detailed scheme being prepared	Reduced journey times by 5min for Class 158 and potential for 100mph trains to use its maximum speed	2006	A
IOS(O): Hereford	Detailed scheme being prepared	Reversible working for passenger trains in two through platforms, and ability to run with passenger trains to and from Worcester to the bay platform	2006	B
IOS(C): Cardiff Central–Crewe	Detailed scheme being prepared	Ability to run two regular-interval fast trains from Cardiff Central to Crewe, one local train between Cardiff and Hereford and Shrewsbury and Crewe, also at least two freight trains in each direction each hour between Cardiff and Shrewsbury	2006	C
IOS(O): Shrewsbury	Railtrack proposes to offer sSRA an alternative output	Reopen third through platform for passenger trains of up to six vehicles	2006	D
Newport–Crewe	Increase permitted axle loads from 25.5 tonnes to at least 30 tonnes	Enhanced capability	2005	A
Newport–Crewe	Provide for 775m long freight trains or the optimum length based on cost and traffic	Enhanced capability	2005	B

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Newport–Crewe	204	8	2hr 18min (55mph)	2hr 18min (55mph)	2hr 18min (55mph)	2hr 13min (58mph)
Newport–Hereford	70	2	48min (55mph)	48min (55mph)	48min (55mph)	45min (58mph)
Newport–Shrewsbury	152	8	1hr 46min (53mph)	1hr 46min (53mph)	1hr 46min (53mph)	1hr 42min (55mph)
Hereford–Shrewsbury	82	4	57min (53mph)	57min (53mph)	57min (53mph)	56min (54mph)
Shrewsbury–Crewe	53	0	30min (66mph)	30min (66mph)	30min (66mph)	29min (68mph)
LINESPEEDS (km of track)						
Up to 35mph			6	6	6	6
40–75mph			84	84	84	63
80–105mph			317	317	317	338
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			406	406	406	407
GAUGE (km of route)						
W6A			204	204	204	204
W7			204	204	204	204
W8			204	204	204	204
W9			0	0	0	204
W10			0	0	0	204
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			0	0	0	1
24.2–25.4 tonnes			406	406	406	406
TOTAL			406	406	406	407

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
GREAT WESTERN ZONE				
Track	1.8	1.7	11.4	11.1
Structures	0.7	0.6	13.4	8.6
Signalling	0.2	0.1	10.5	0.1
Plant & Machinery	0.0	0.0	1.0	5.1
Telecoms	0.0	0.0	0.5	0.8
Stations	0.5	0.2	3.7	3.7
TOTAL	3.2	2.6	40.6	29.3

MIDLANDS ZONE

Track	2.6	2.8	3.6	5.9
Structures	0.4	0.2	1.9	2.3
Signalling	0.7	0.1	3.3	31.2
Telecoms	0.0	0.0	0.1	0.9
Stations	0.3	0.1	1.5	0.9
Other	0.1	0.4	0.0	0.0
TOTAL	4.1	3.6	10.5	41.3

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.3	0.5	4.5	0.0	5.3	Various
TOTAL		0.3	0.5	4.5	0.0	5.3	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	7.6	Various
North and West: route-strategy improvements	4.1	1
TOTAL	11.7	

The sum of the expenditures may not match totals due to rounding



Central Trains; West Coast;
First North Western; EWS.

Committed schemes

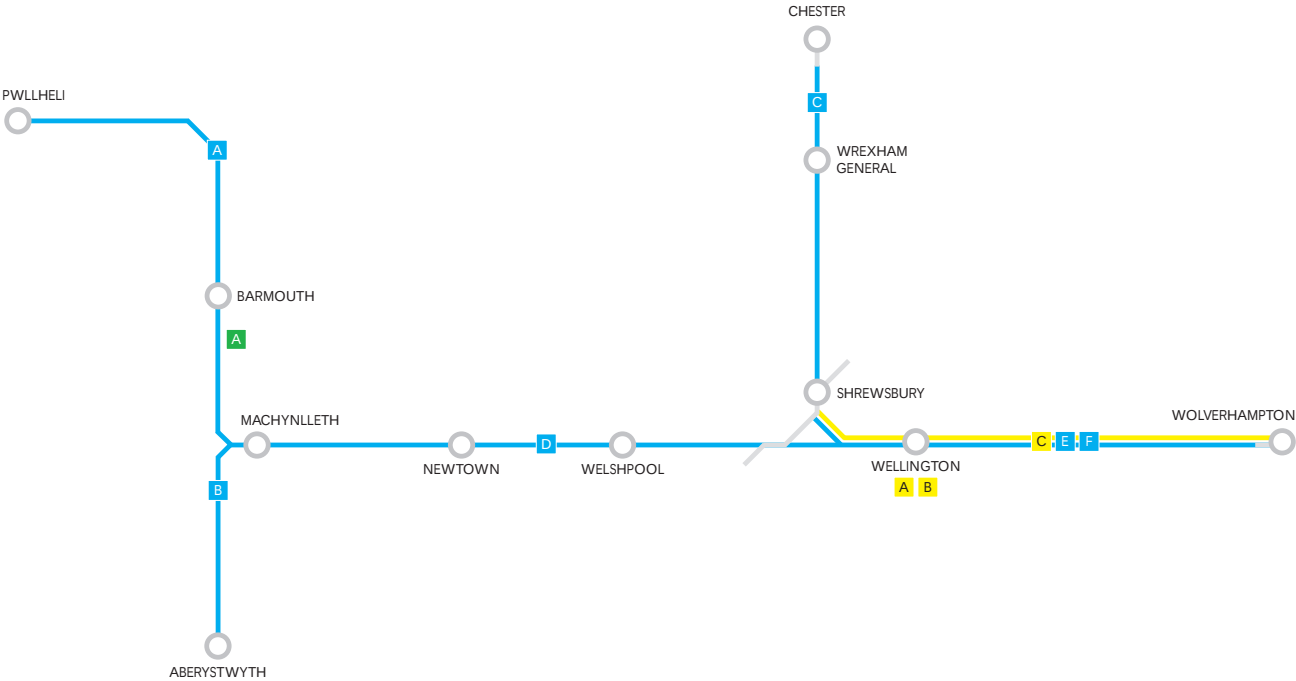
- A Barmouth Viaduct: Timber repairs to enable removal of TSR

IOS options

- A Pwllheli–Machynlleth: journey-time improvements
- B Pwllheli–Aberystwyth: operational flexibility
- C Chester–Shrewsbury: reduced journey-time
- D Aberystwyth–Shrewsbury: journey-time improvements
- E Shrewsbury and Wellington–Wolverhampton (fast): journey-time improvements
- F Shrewsbury and Wellington–Wolverhampton: additional capacity

Customer Reasonable Requirements and other development options

- A Wellington: additional capacity
- B Wellington: signalling installation work
- C Shrewsbury–Wolverhampton: higher axle weights



Route characteristics

DESCRIPTION The route is a two-track railway from Wolverhampton–Chester and single track from Shrewsbury to Aberystwyth and Pwllheli. The signalling system is mechanical from Wolverhampton–Chester, with Radio Electronic Token Block on the Cambrian lines. Linespeed is predominately 70mph with a maximum linespeed in some sections of 80mph.

KEY CAPACITY CONSTRAINTS Route capacity is constrained by the single-line sections from Sutton Bridge–Aberystwyth and from Dovey Junction–Pwllheli and by the number and length of passing loops that currently exist.

Route vision

This route provides a crucial transport link both locally and to the rest of the country for the communities on the route.

We believe the rail network can help the area's economy, including tourism, to develop in an environmentally responsible way.

We are continuing to work with external stakeholders to make the case for further socio-economic investment in the route. We are committed to the future of this route and are demonstrating this by the investments made on timber viaduct replacement and sea defence works.

Committed development plans

INFRASTRUCTURE The strategy of renewal of the timber bridges on the route continues, with both Phases I and II of the works to Barmouth Viaduct being completed. This has resulted in an increased speed, from 10mph to 20mph, for Sprinter traffic. Linespeed will be 40mph once all works are complete.

Work continues to prevent erosion of the sea defences at Afon Wen and Llanaber.

Options for development

We are working with train operators and local government to develop strategic partnerships for the route to improve journey times and increase service frequencies.

We will continue to work with industry partners, local authorities and outside developers to improve our stations. In particular, we will address the ease of interchange with other transport modes, car parking, real-time passenger information systems and access for the disabled.

Renewal of signalling and linespeed improvements

Wolverhampton–Shrewsbury The feasibility study into linespeed improvements on this section of the route has been completed and the output is being discussed with our industry partners. The aim is to reduce journey times by approximately three minutes.

A feasibility study was undertaken in respect of the renewal of signalling which prioritised the work to be undertaken. Design work has commenced for the area controlled by Wellington signal box. It is proposed to commence physical works in April 2000.

We are developing a scheme for the bay platform at Wellington Station to be brought back into use to enable Central Trains to run additional services between Wolverhampton and Shrewsbury.

Linespeed improvements Shrewsbury–Aberystwyth The feasibility study into linespeed improvements on this section of route has been completed and the output is being discussed with our industry partners. The aim is to reduce journey times and with the provision of an additional passing loop at Dovey Junction enable the introduction of an hourly service to Aberystwyth.

Linespeed improvements Dovey Junction–Pwllheli A feasibility study has been undertaken into linespeed improvements on this section of the route. The output is being discussed with our industry partners.

sSRA Incremental Output Statements The sSRA proposes improved journey times and regular interval services, together with improved connections and operational flexibility.

Customer Reasonable Requirements Central Trains wishes to improve the service west of Wolverhampton to provide two semi-fast and one all-stations train per hour off peak.

Local Transport Plans All the local authorities connected with this route see rail as an important part of their local plans. All encourage the use of a fair and efficient transport system, balancing social and economic needs. Specific features of local plans include:

Shropshire County Council and Telford and Wrekin Council support:

- Increased frequencies and shorter journey times on the Shrewsbury–Wolverhampton–Birmingham, Shrewsbury–Aberystwyth and Pwllheli and Shrewsbury–Chester routes.
- Provision of enhanced direct services between Shropshire and London.
- Better interchange and passenger facilities at stations, including car and cycle parking, information displays and waiting facilities.
- Integration between modes, including through-ticketing and joint marketing and information.
- Expansion of the role of rail freight, including consideration of terminal sites in the Shrewsbury area.

Gwynedd, Powys and Ceredigion County Councils support:

- Journey-time reductions on the Birmingham–Shrewsbury–Aberystwyth Route, and additional passing facilities to enable an hourly frequency to operate throughout the day.
- Additional trains and journey-time reductions on the Cambrian Coast Line, plus significantly improved interchange with the Birmingham–Aberystwyth services at Machynlleth.
- Signalling alterations to improve access for passengers at Machynlleth and allow the introduction of direct Aberystwyth–Barmouth–Pwllheli services.

Wrexham County Borough Council supports:

- Increased frequencies and shorter journey times on the Shrewsbury–Chester route.
- Provision of better direct services between Wrexham and London.
- Better interchange and passenger facilities at stations, including car and cycle parking, information displays and waiting facilities.
- Integration between modes, including through-ticketing and joint marketing and information.

Progress on the 1999 NMS

STATION REGENERATION Works have been completed at Chirk, Welshpool, Penrhyndeudraeth, Llandecwyn, Porthmadog, Criccieth, Caersws, Newtown, Minfordd, Pwllheli, Wellington, Telford Central, Morfa Mawddach, Tonfanau, Gobowen, Aberystwyth, Machynlleth, Aberdovey, Penhelig, and Llwyngwril.

CAMBRIAN COAST TIMBER BRIDGE RENEWALS Work has continued at a number of sites on the Cambrian Coast. Works commenced to Barmouth Viaduct in October 1999 and Phases I and II have been completed. The long-term programme on this Grade II listed structure is currently being re-evaluated following the increase in works carried out in 1999 above that planned due to the new efficient working practices adopted.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Barmouth Viaduct	Timber repairs to viaduct	Removal of TSR	2000/01	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(I): Pwllheli–Machynlleth	Railtrack proposes to offer sSRA an alternative output	Improved connections and through-running opportunities to Aberystwyth and/or Shrewsbury	2006	A
IOS(O): Pwllheli–Aberystwyth	Detailed scheme being prepared	Capability at Machynlleth to arrive at either platform from the west and depart back to the west with passengers on board	2004	B
IOS(I): Chester–Shrewsbury	Detailed scheme being prepared	Regular-interval timetable with reduced journey time of 3min	2004	C
IOS(I): Aberystwyth–Shrewsbury	Detailed scheme being prepared	Improved connection opportunities to/from Pwllheli	2004	D
IOS(C): Shrewsbury and Wellington–Wolverhampton (fast trains)	Detailed scheme being prepared	Regular interval service with reduced journey times (by 5min)	2004	E
IOS(C): Shrewsbury and Wellington–Wolverhampton (local trains)	Detailed scheme being prepared	Regular interval service	2004	F
Wellington	Track work	Bay platform brought into use for additional services	2000/01	A
Wellington	Signal box work	Renewal of signal installation in the area controlled by Wellington signal box	2001	B
Shrewsbury–Wolverhampton	Increase axle loads	Increase above current max permitted	2005/06	C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Wolverhampton–Shrewsbury	47	2	34min (52mph)	34min (52mph)	34min (52mph)	31min (57mph)#
Shrewsbury–Pwllheli	191	29#	3hr 23min (35mph)	3hr 23min (35mph)	3hr 23min (35mph)	3hr 13min (37mph)#
Shrewsbury–Aberystwyth	132	6	1hr 45min (47mph)	1hr 45min (47mph)	1hr 45min (47mph)	1hr 35min (52mph)#
Dovey Junction–Pwllheli	87	24#	1hr 51min (29mph)	1hr 51min (29mph)	1hr 51min (29mph)	1hr 45min (31mph)#
LINESPEEDS (km of track)						
Up to 35mph			22	22	22	22
40–75mph			377	377	377	283
80–105mph			31	31	31	125
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			430	430	430	430
GAUGE (km of route)						
W6A			329	329	329	329
W7			2	2	2	2
W8			2	2	2	2
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			190	190	190	190
20.4–24.1 tonnes			240	240	240	146
24.2–25.4 tonnes			0	0	0	94
TOTAL			430	430	430	430

Reflects IOS proposal and CRR for journey-time reductions

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown

The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)**RENEWALS**

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	4.5	5.0	6.3	10.2
Structures	2.4	2.0	7.5	8.9
Signalling	0.0	0.3	6.4	35.7
Telecoms	0.2	0.1	0.5	2.7
Stations	1.8	0.4	9.6	6.0
Other	0.1	0.4	0.2	0.3
TOTAL	9.0	8.2	30.5	63.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.7	0.0	3.5	0.0	4.2	Various
Wellington: turnback facility	2000/01	0.0	0.1	0.0	0.0	0.1	4
TOTAL		0.7	0.1	3.5	0.0	4.3	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	25.7	Various
Mid Wales: journey-time improvements	10.0	2
TOTAL	35.7	

The sum of the expenditures may not match totals due to rounding



FNW; Virgin West Coast;
Wales & West; EWS.

Committed schemes

- A** Chester–Bangor: North Wales Coast linespeed increase
- B** Wexham–Bidston: linespeed increase
- C** North Wales Coast and Conwy Valley: erosion and sea-defence work

Options for major improvements to capability

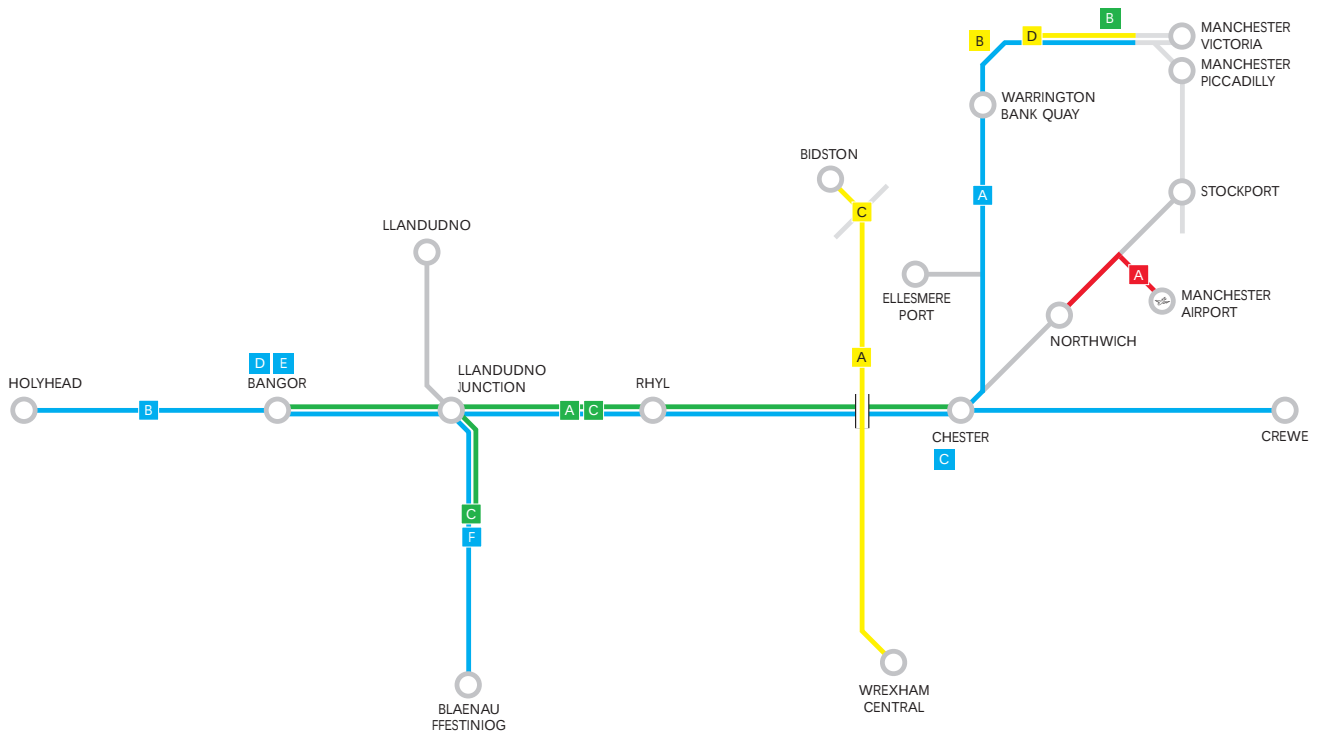
- A** Manchester Airport: Western Link

IOS options

- A** Manchester–Chester via Warrington: journey-time reduction
- B** Crewe–Holyhead: journey-time reduction
- C** Chester: provide for parallel moves
- D** Bangor: turnback facility for operational flexibility
- E** Bangor: increase speed into and out of station junction
- F** Llandudno Junction–Blaenau Ffestiniog: journey-time reduction

Customer Reasonable Requirements and other development options

- A** Wrexham–Bidston: linespeed increase
- B** Parkside: regional freight centre
- C** Bidston–Woodchurch: extend electrification
- D** Manchester–Earlestown (Chat Moss): loading gauge enhancement



Route characteristics

DESCRIPTION This route covers the North Wales Main Line linking Anglesey and towns in North Wales to Chester, Crewe and Manchester. The North Wales branch lines to Wrexham and Bidston, Llandudno and Blaenau Ffestiniog are also included.

It provides an important link between North Wales and the north west of England and to London via the West Coast Main Line. Access to the ferry terminal via the railhead at Holyhead links communities and businesses in Ireland, Wales and England. For the smaller communities the routes provide an important public transport link.

This route is primarily a two-track railway with some of the branch lines single track. The main line is generally designated for 75mph running with the branch lines at various speeds between 45 and 60mph. The line between Wrexham and Bidston is an important freight route for steel from South Wales.

The North Wales Coast Main Line is a strategically important route recognised as both a TENS and Interreg II route linking Britain and Ireland to mainland Europe. The area west of Flint has been granted Objective 1 status for ERDF assistance.

Route vision

Our strategy is to provide the infrastructure to meet anticipated growth and to deliver service reliability and reduced journey times. This will stimulate further growth through the provision of higher-quality passenger and freight services.

Our vision of this route is part of a network of high-speed links between North Wales, Liverpool, Chester, London, Manchester Airport and Manchester city centre.

These serve the important interurban and tourist markets along the route,

providing a viable alternative to the lorry and car.

The proposed Manchester Airport Western Link could significantly alter the pattern of services throughout the North West and North Wales, linking directly to Manchester Airport, creating exciting new journey opportunities and reducing the peripherality of North Wales.

The route is an important part of the Seaforth–Hull Trans-Pennine Primary Freight Route.

Committed development plans

JOURNEY TIMES We are currently implementing a scheme to increase the linespeed on the North Wales Main Line from 75 to 90mph for the winter 2000 timetable. When complete, a potential four minutes will be removed from the current journey time for express services between Chester and Bangor. This scheme is funded jointly by Railtrack and the Welsh Office.

Development of WCML As part of the committed upgrade, services to Holyhead will benefit from reduced journey times south of Crewe. In addition, six trains per day will run to Chester from London with three running through to Holyhead. A more detailed assessment is contained within Route 1.

STATIONS The Station Regeneration Programme continues on the route and all remaining stations will be completed by March 2001.

FREIGHT A scheme is currently being implemented and work is on site to reinstate the former branch to Weaste and to convert the associated eastbound Goods Loop at Eccles to a run-round facility for freight services.

Coastal Sea Defence Strategy We are embarking upon a major ten-year coastal sea defence strategy. This is based on a recent assessment of the condition of the structures along the North Wales coast and the Conwy Valley. Both areas are subject to significant periodic flooding and scour. The strategy will also take into account the anticipated rise in sea level of 80mm over the next 20 years.

Work will include repairs to sea walls and the installation of 'rock armour' defences at Mostyn, Conwy, Penmaenmawr and Llanfairfechan. Along the tidal Conwy Valley scour protection will be provided and a feasibility study will be undertaken to investigate the requirements for a protective bund adjacent to the line between Glan Conwy and Llanrwst.

Options for development

INFRASTRUCTURE

Manchester Airport Western Link The growth in demand for services into Manchester from the south and the forecasts for the expansion of rail passengers accessing Manchester Airport provide both challenges and opportunities for the rail industry. Railtrack believes these challenges are met most effectively by the extension of the Manchester Airport line to the west, to join the Altrincham–Chester line. Together with the upgrading of the Sandbach–Northwich line to carry passenger traffic this would dramatically improve access to Manchester Airport from the south and west.

At Hartford, we are proposing to upgrade the existing link between the WCML and the Chester–Altrincham line to provide improved facilities for passenger services. This link will provide the potential for direct access to the Airport from Liverpool and the North, avoiding central Manchester. Access to the airport from Chester and North Wales would be greatly enhanced.

Services operating from the South and North Wales could link with services running northward via Manchester, creating new journey opportunities, for example Llandudno–Sheffield, Cardiff–Manchester Airport–Manchester–Leeds–Newcastle and Birmingham–Blackpool.

sSRA Incremental Output Statements There are a number of sSRA enhancements that Railtrack is evaluating for this route. These include:

- Journey-time reductions between Crewe and Holyhead for the planned new Class 175 vehicles. This would enable these trains to take advantage of 100mph running with an overall journey time reduction of six minutes. We are addressing the work necessary to deliver this reduction.

Further journey-time reductions have been requested:

- Between Llandudno Junction and Blaenau Ffestiniog for existing trains
- On the approaches to Bangor Station
- Between Manchester and Chester via Warrington, with a goal of 54min.

The provision of increased flexibility will be assessed at:

- Bangor to allow trains to turn back more easily from the Manchester direction by providing two crossovers and associated signalling.
- Chester to provide the ability to have parallel train running to the east of the station by providing a new crossover on the Warrington-bound tracks.

Customer Reasonable Requirements CRRs for this route include reducing journey time by increasing the linespeed between Wrexham Central and Bidston. The work associated with this has been assessed and discussed with the service operator FNV.

The extension of the Merseyrail DC network to Woodchurch remains an option and we will look to work with industry partners in developing this scheme (see also Route 32).

It is anticipated that a number of new GMPTE CRRs will now be agreed following the completion of GMPTE's rail strategy study.

STATIONS We are seeking to facilitate the development of stations along the route in particular a potential park and ride site at Newton-le-Willows where discussions are taking place with Merseytravel and St Helens MBC.

FREIGHT Detailed studies have been carried out into the potential gauge enhancements to Holyhead and along the Chat Moss route. We will explore with our partners the options for freight including clearance for 9'6" containers.

We will be looking to address further freight aspirations including increasing axle loads to 30 tonnes to Shotton and to Northenden. Initial indications are that a major structural overhaul would be required and significant upgrade to the track.

As part of our strategy for a network of significant regional intermodal freight terminals, we have identified the former colliery site at Parkside as a suitable location. This offers access in both directions to the WCML and Trans-Pennine routes but also crucially to the strategic motorway network. At present we are developing a master plan for the site with a view to submitting a planning application towards the end of 2000.

We are part-funding a study into rail freight potential in Mid and North Wales. The study is being led by the Welsh Development Agency and involves local authorities.

Local Transport Plans We are working with local authorities to develop further the opportunities for this route in relation to the aspirations contained within their local transport plans. We are working closely with Cheshire County Council, Warrington Borough Council, Halton Borough Council and Merseytravel with regard to their aspirations.

Enhancement works along the North Wales coast will be targeted at enabling Objective 1, TENS and Interreg II funding to be secured for the route. We are also discussing with the various local councils and the government agencies with a view to facilitating the provision of a number of local multimodal rail freight depots along the route.

Progress on the 1999 NMS

During the year, a major new train depot opened at Chester to service the current and planned fleet of FNV trains. Facilities provided include carriage washing (including underframe cleaning), cranes, wheel dropping, fuelling and general maintenance. A major part of the scheme included environmental works to remove decades-worth of accumulated contamination. The new depot has created a significant number of new jobs.

Implementation work continues to deliver the North Wales linespeed increase for the winter 2000 timetable. This involves major track and signalling work necessary for the 75 to 90mph upgrade.

The Greater Manchester PTE rail strategy study has been completed and Railtrack will look to work with the PTE to understand the findings and to work in partnership to deliver the recommendations.

A significant scheme is under way to improve Llandudno Junction Station with the assistance of a town improvement grant from the Welsh Development Agency.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Chester–Bangor	Linespeed increase	From 75 to 90mph	2000/01	A
Weaste	Freight connection	New service opportunities	2000/01	B
North Wales Coast and Conwy Valley	Coastal defence strategy	Enhanced performance	2000–10	C

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Manchester Airport Western Link	Enhance capacity Manchester Airport–Northwich	New capacity and service opportunities		A
IOS(J): Manchester–Chester via Warrington	Detailed scheme being prepared	Improve journey times to 50min	2004	A
IOS(J): Crewe–Holyhead	Railtrack proposes to offer sSRA an alternative output	Reduce journey times by 6min, exploiting 100mph potential of new stock on semi-fast services	2006	B
IOS(O): Chester	Detailed scheme being prepared	Provision of parallel moves to east of station	2006	C
IOS(O): Bangor	Detailed scheme being prepared	Turnback facility for trains from the east from two platforms	2006	D
IOS(O): Bangor	Detailed scheme being prepared	Increase speed and enable entry into down and up platforms at linespeeds	2006	E
IOS(J): Llandudno Junction–Blaenau Ffestiniog	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 4min	2006	F
Wrexham–Bidston	Journey-time reduction	Linespeed increases 40–50 to 50–60mph		A
Parkside	Capacity	New freight centre		B
Bidston–Woodchurch	Operational flexibility	Extend electrification		C
Manchester–Earlestown (Chat Moss)	Freight capability	Loading-gauge enhancement to W10w		D

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Manchester–Chester via Warrington	65	7	1hr 2min (39mph)	1hr 2min (39mph)	1hr 2min (39mph)	50min (48mph)#
Stockport–Chester	62	13	1hr 14min (31mph)	1hr 14min (31mph)	1hr 14min (31mph)	1hr 14min (31mph)
Crewe–Chester	34	0	22min (57mph)	22min (57mph)	22min (57mph)	21.5min (59mph)
Chester–Holyhead	136	5	1hr 43min (49mph)	1hr 39min (51mph)	1hr 39min (51mph)	1hr 37min (52mph)
Crewe–Holyhead	170	6	2hr 1min (52mph)	1hr 57min (54mph)	1hr 57min (54mph)	1hr 55min (55mph)#
Bidston–Wrexham Central	44	13	57min (29mph)	57min (29mph)	57min (29mph)	54min (30mph)
Llandudno–Blaenau Ffestiniog	50	11	1hr 10min (26mph)	1hr 10min (26mph)	1hr 10min (26mph)	1hr 6min (28mph)#

LINESPEEDS (km of track)

Up to 35mph	63	63	66	66
40–75mph	663	534	534	314
80–105mph	54	183	183	410
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	780	780	780	789

GAUGE (km of route)

W6A	408	408	408	408
W7	340	340	340	340
W8	307	307	307	307
W9	4	4	4	26
W10	0	0	0	26
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	2	2	2	2
20.4–24.1 tonnes	778	778	778	784
24.2–25.4 tonnes	0	0	0	3
TOTAL	780	780	780	789

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown

The sum of the figures may not match totals due to rounding

IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.2	2.7	8.4	18.3
Structures	1.4	1.0	4.9	6.3
Signalling	0.5	0.6	11.1	14.8
Plant & Machinery	0.2	0.0	0.0	0.0
Telecoms	0.0	0.8	0.5	0.0
Stations	3.3	0.1	0.0	0.0
Depots	0.1	0.1	0.0	0.0
TOTAL	7.7	5.3	25.0	39.4

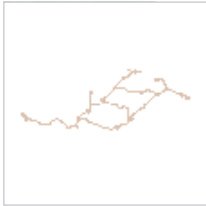
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	7.8	1.9	1.5	0.0	11.2	Various
Chester–Bangor: journey-time improvement	2000/01	0.5	0.3	0.0	0.0	0.8	5
Reinstatement of Eccles–Weaste line	2000/01	0.3	0.2	0.0	0.0	0.5	5
TOTAL		8.6	2.4	1.5	0.0	12.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	35.6	Various
Freight: gauge enhancements	3.6	1
Bidston–Woodchurch: electrification	0.3	1
TOTAL	39.5	

The sum of the expenditures may not match totals due to rounding



Central Trains; FNW; Midland Main Line;
Northern Spirit; Virgin CrossCountry;
EWS; Freightliner.

Committed schemes

- A** Sheffield–Leeds and York, Sheffield–Doncaster, and Sheffield–Liverpool: route clearance for new Class 170 trains

Options for major improvements to capability

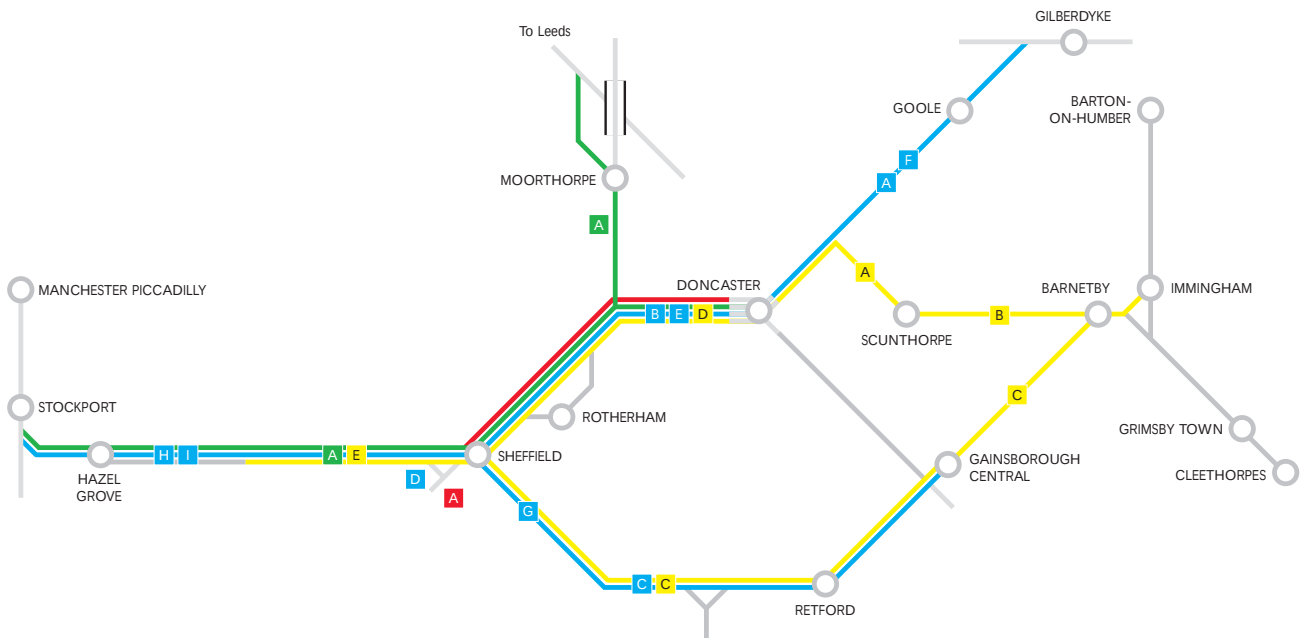
- A** Sheffield Area: major capacity upgrade

IOS options

- A** Hull–Doncaster: additional capacity
- B** Sheffield–Doncaster: additional capacity
- C** Sheffield–Lincoln: increased service hours
- D** Dore Junction: operational flexibility
- E** Sheffield–Doncaster: improved journey times
- F** Doncaster–Goole: improved journey times
- G** Sheffield–Worksop: improved journey time
- H** Sheffield–Manchester: improved journey time
- I** Sheffield–Manchester: additional capacity

Customer Reasonable Requirements and other development options

- A** Doncaster–Immingham: improved capability
- B** Immingham–Scunthorpe: improved capability
- C** Immingham–Sheffield: improved capability
- D** Doncaster–Chesterfield: improved capability
- E** Doncaster–Hope Valley: improved capability



Route characteristics

DESCRIPTION The route links Sheffield to Manchester, Leeds, Doncaster and through north Lincolnshire to Grimsby and Cleethorpes. The link across the Pennines between Sheffield and Manchester is especially important because parallel roads are poor quality and mainly single carriageway. It also plays an important role in providing urban train services to the South Yorkshire area and forms part of the Greater Manchester PTE area network with services to Stockport. Trains to Lincoln, Retford, Worksop and the Robin Hood service to Nottingham also use the route. Throughout its length the route is vital to freight operators as it serves the port of Immingham, the steel mills of Scunthorpe, the quarries of Derbyshire and the coal mines and power stations in north Nottinghamshire.

KEY CAPACITY CONSTRAINTS This route currently operates close to full capacity.

STATIONS

Dore The single line between Dore West Junction and Dore Station constrains capacity not only for trains through the Hope Valley but also causes a reduction in capacity on the Midland Main Line between Dore Station Junction and Sheffield. This constraint will have to be removed if forecast future demand is to be met.

Hope Valley Capacity on the core section of this route between Chinley and Dore is constrained by the mix of services and the lack of passing loops.

Sheffield The station area has capacity constraints which need addressing if future demand to enhance services into the city is to be met.

Meadowhall to Doncaster This section of route has a proliferation of flat junctions and a wide mix of traffic. These factors limit the ability of the existing infrastructure to accommodate the projected traffic growth for both freight and passengers.

Route vision

Our vision for this route is centred upon supporting the large number of service opportunities identified by our customers by developing capacity around the Sheffield node and journey-time improvements on the main corridor. We also wish to develop the freight capability of the route to secure the traffic growth to the South Humberside ports and industries. The route interacts with the three main line routes that it intersects: WCML Route 1, ECML Route 2 and Midland Main Line Route 5, and our development of all these routes is closely interlinked.

The Dore–Sheffield–Doncaster corridor is already nearing capacity and significant infrastructure enhancement would be needed to accommodate all aspirations. We may be able to support the aims of South Yorkshire's Objective 1 status with this.

To complement the additional frequency on the Sheffield–Doncaster corridor, increased service frequency along the Hope Valley will enable rail to compete more readily with the poor road network linking South Yorkshire and Manchester.

The development of freight services, particularly from Immingham, is expected to lead to significant increases in freight train movements. The combination of forecast freight growth, the opening of the new ABP Humberside International Terminal at Immingham and the effects of high-gauge freight (see Route 8) could exceed current capacity east of Doncaster in the future. This would be further complicated by the reduced journey times proposed for this section which will have an adverse affect on capacity.

The development of neighbouring routes – in particular, the major works under way to completely remodel Leeds Station (Route 8), the plans to remodel the junctions at Doncaster (Route 2), and the development of the WCML at Stockport and Manchester (Route 1) – will have significant additional benefits for service growth on this route. The plans at Doncaster will provide for better services from Sheffield to Doncaster and then onwards to Hull (see Route 2) while the improved capacity at Leeds offers the potential for more Leeds–Sheffield services (see Route 8).

Committed development plans

INFRASTRUCTURE The Manchester South resignalling scheme will involve remodelling of the Stockport Station area. This will lead to an improvement in journey times of one minute. The constraint at Doncaster will be eased by work currently under way at South Yorkshire Junction which is integral with the development of the ECML (see Route 2).

STATIONS At Goole, we will be demolishing the existing station and replacing it with a modern one. It will incorporate a new ticket office, waiting area and a new platform canopy, along with a new car park. This is planned for completion this year.

At Sheffield Station, we are commencing work to regenerate this Grade II Listed Structure. Work on this station will include a new footbridge, canopy repairs and new roofing. The scheme also includes three new lifts and a toilet for the disabled – all developed with the potential for this station to serve as a national pilot location for disabled facilities and access. At Shireoaks, we will redevelop the station and platforms.

Options for development

INFRASTRUCTURE

Major Capacity Upgrades The route, particularly around Sheffield, serves a large number of different customers. All are experiencing an increase in demand for services and therefore wishing to run more trains. In addition the two PTEs served by route, Greater Manchester and South Yorkshire, and other local authorities have increasingly challenging aspirations. The capacity constraints which affect several stretches of the route, particularly in the Sheffield area, on the Hope Valley, Meadowhall and Scunthorpe will continue to be the subject of option evaluation over the coming year. In general, the optimum solutions will depend on developments on adjacent routes, which in several cases have only recently been resolved. Completion of these upgrades will be necessary to deliver our customers long-term train service aspirations.

We are considering options with our industry partners and Associated British Ports at Immingham for major track and capacity enhancements to meet the forecast increase in traffic from this port.

Sections of this route are being evaluated for inclusion in the Third Anglo-Scottish Freight Route.

ssRA Incremental Output Statements The IOS items for this route are varied in nature, including the desire to open the line from Sheffield to Lincoln at 10.00 on Sundays (historically services have not started until the afternoon), and to increase frequency of service by one train per hour on the Sheffield–Doncaster–Hull line.

All other IOSs relate to journey-time improvements. These will require a combination of track alterations and some changes to the signalling system:

Sheffield–Doncaster – two-minute reduction for stopping trains

Doncaster–Goole–Hull – one-minute reduction

Sheffield–Worksop – one-minute reduction

Sheffield–Manchester – three-minute reduction.

We are also evaluating the work necessary to enable 775m long freight trains to operate over this route.

Customer Reasonable Requirements The desire is for linespeed improvements between Birmingham and York via Leeds and Doncaster, as well as alterations to permit new types of trains to operate over some sections of this route. We are also addressing the full potential for journey-time opportunities between Doncaster and Cleethorpes.

Our freight customers have raised with us a number of requirements which we are now considering how to take forward with technical evaluations. These include to increased axle loads gauge enhancements and train lengths.

Local Transport Plans We continue to work with local authorities and PTEs to develop further the opportunities for this route in relation to the aspirations contained within their Local Transport Plans. Our early work with South Yorkshire PTE will involve feasibility studies on several possible new station sites, and potential passenger service enhancements. Where there is limited scope for rail network enhancement, we are working with the local authorities to promote better links to facilitate transport interchange(s) with the community and the existing railway eg Derbyshire and Nottinghamshire.

We are actively involved in reviewing Local Transport Plans in this area with the PTEs and local authorities prior to their final submission in July 2000. These include support for the South Yorkshire Centre of Excellence transport initiative through proposals to reduce journey times on the Leeds–Barnsley–Sheffield services. This support is in partnership with the South and West Yorkshire PTEs and Northern Spirit. The aim is to provide fast frequent services every half hour between Sheffield and Leeds and reduce the journey time to 50min.

STATIONS

We are working with Sheffield City Council on Masterplan which looks at the role of Sheffield Station in a wider context to improve transport links for the city.

Progress on the 1999 NMS

CAPACITY The work to remodel South Yorkshire Junction at Doncaster is well under way and is due for completion this year. The work will double the single lead at South Yorkshire Junction, removing conflicts on the single line between St James' Junction and Doncaster and releasing capacity between Sheffield and Doncaster.

PERFORMANCE Aldwarke is a key strategic junction north of Rotherham. We have improved the reliability of this junction in 1999/2000 through reballasting, rerailing and installing new crossing and signalling equipment. We have also undertaken similar work at Dore Station Junction.

In the Sheffield area initiatives to reduce trespass and vandalism have been put in place. An example is at Denaby level crossing, near Conisbrough which had a history of track circuit failures which meant that the crossing barriers blocked road traffic for substantial periods of time, and caused train delay. The

level crossing renewal at Denaby has prevented track-circuit failures which has reduced train delays in the area, and the barriers now operate correctly to the benefit of the local community.

STATIONS Station regeneration work has been completed at most stations except Sheffield itself. Here, work is just starting on the main phase of the regeneration project. Further progress has been made towards rebuilding Goole Station. Stations in the Hope Valley have been upgraded in partnership with Derbyshire County Council who have contributed to additional enhancements.

At Conisbrough, a new footbridge has been installed in conjunction with the Earth Centre. This footbridge connects Conisbrough Station with this popular attraction and helps the centre's long-term aim in actively encouraging visitors to use public transport.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Sheffield–Leeds and York, Sheffield–Doncaster and Sheffield–Liverpool	Introduce Class 170 operation	New, faster trains leading to a more comfortable passenger environment and faster journey times	2000	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Sheffield Area	Major capacity upgrade	Capacity improvements		A
IOS(C): Hull–Doncaster	Detailed scheme being prepared	Half hourly services	2004	A
IOS(C): Sheffield–Doncaster	Detailed scheme being prepared	Additional 1 train per hour	2004	B
IOS(C): Sheffield–Lincoln	Detailed scheme being prepared	Available from 10.00 on Sundays	2004	C
IOS(O): Dore Junction	Detailed scheme being prepared	Provide for parallel movements	2004	D
IOS(J): Sheffield–Doncaster	Detailed scheme being prepared	Reduce journey time by 2min	2006	E
IOS(J): Doncaster–Goole	Detailed scheme being prepared	Reduce journey time by 1min	2006	F
IOS(J): Sheffield–Worksop	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 1min	2006	G
IOS(J): Sheffield–Manchester	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 3min	2006	H
IOS(C): Sheffield–Manchester	Railtrack proposes to offer sSRA an alternative output	Increase frequency of fast services	2006	I
Doncaster–Immingham	Gauge clearance to W9 followed by W10	Capability improvement		A
Immingham–Scunthorpe	Increase of axle loads to 30 tonnes	Capability improvement		B
Immingham–Sheffield	Increase of axle loads to 30 tonnes	Capability improvement		C
Doncaster–Sheffield–Chesterfield	Increase in maximum train lengths	Capability improvement		D
Doncaster–Hope Valley	Increase in maximum train lengths	Capability improvement		E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Sheffield–Doncaster	31	1	26min (44mph)	26min (44mph)	26min (44mph)	24min (48mph)
Doncaster–Goole	27	2	22min (46mph)	22min (46mph)	22min (46mph)	21min (48mph)
Sheffield–Worksop	24	5	28min (32mph)	28min (32mph)	28min (32mph)	27min (33mph)
Sheffield–Manchester	60	1	48min (47mph)	48min (47mph)	48min (47mph)	40min (56mph)
Manchester Airport–Cleethorpes	198	(Up to 34)	3hr 4min (40mph)	3hr 4min (40mph)	3hr 4min (40mph)	2hr 52min (43mph)
Sheffield–Leeds (Moorthorpe)	63	5	44min (53mph)	44min (53mph)	44min (53mph)	44min (53mph)
LINESPEEDS (km of track)						
Up to 35mph			196	196	196	196
40–75mph			662	662	662	662
80–105mph			21	21	21	21
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			878	878	878	878
GAUGE (km of route)						
W6A			467	467	467	467
W7			463	463	463	463
W8			416	416	416	416
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			877	877	877	877
24.2–25.4 tonnes			1	1	1	1
TOTAL			878	878	878	878

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
LONDON NORTH EASTERN ZONE				
Track	4.8	5.0	31.3	26.7
Structures	1.0	1.0	3.8	2.5
Signalling	1.5	1.2	38.7	40.3
Plant & Machinery	0.7	0.0	8.8	7.9
Telecoms	0.4	0.1	0.0	0.0
Stations	1.8	0.4	7.5	5.8
TOTAL	10.2	7.7	90.2	83.1

NORTH WEST ZONE

Track	2.5	5.7	1.2	3.0
Structures	0.2	0.2	1.9	4.1
Signalling	0.0	0.0	2.2	3.1
Electrification	0.0	0.2	5.1	0.0
Plant & Machinery	0.0	0.0	0.8	0.0
Telecoms	0.0	0.1	0.0	0.0
Stations	0.4	0.0	0.0	0.0
TOTAL	3.1	6.2	11.3	10.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.6	0.2	5.3	0.4	6.5	Various
TOTAL		0.6	0.2	5.3	0.4	6.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Sheffield area: capacity improvements	100.0	1
Other schemes	42.5	Various
Freight: gauge enhancements	1.8	1
TOTAL	144.3	

The sum of the expenditures may not match totals due to rounding



GNER; ScotRail; Virgin CrossCountry; EWS.

Committed schemes

- A** Forth Bridge: improved capability

Options for major improvements to capability

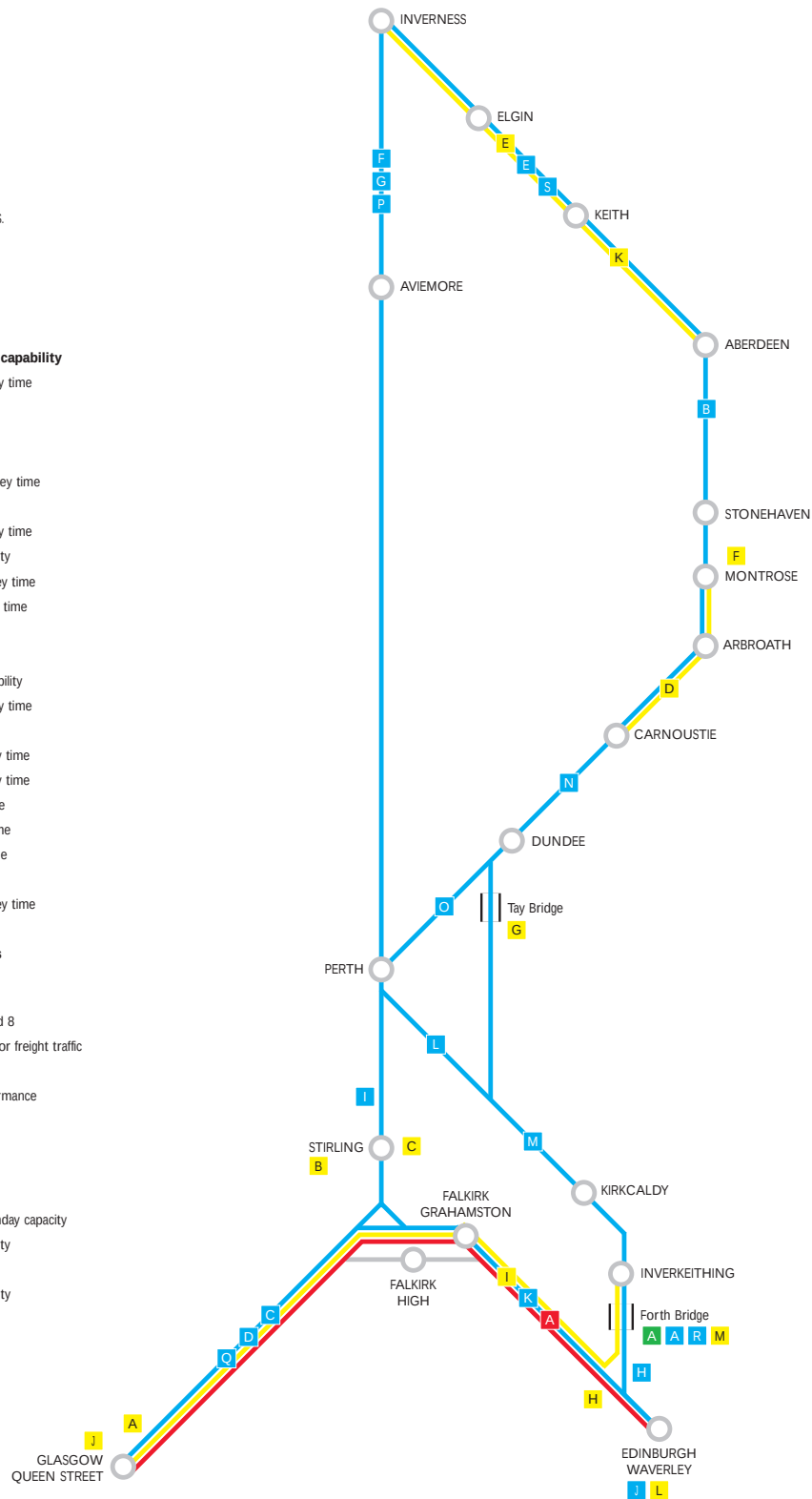
- A** Edinburgh–Glasgow: improved journey time

IOS options

- A** Forth Bridge: operational flexibility
- B** Edinburgh–Aberdeen: improved journey time
- C** Glasgow–Dundee: additional capacity
- D** Glasgow–Aberdeen: improved journey time
- E** Aberdeen–Inverness: additional capacity
- F** Edinburgh–Inverness: improved journey time
- G** Glasgow–Inverness: improved journey time
- H** Haymarket–Inverkeithing: resignalling
- I** Dunblane: operational flexibility
- J** Edinburgh Waverley: operational flexibility
- K** Edinburgh–Glasgow: improved journey time
- L** Edinburgh–Perth: additional capacity
- M** Edinburgh–Dundee: improved journey time
- N** Dundee–Aberdeen: improved journey time
- O** Perth–Dundee: improved journey time
- P** Perth–Inverness: improved journey time
- Q** Glasgow–Perth: improved journey time
- R** Forth Bridge: additional capacity
- S** Aberdeen–Inverness: improved journey time

Customer Reasonable Requirements and other development options

- A** Eastfield: additional capacity
- B** Stirling: reactivation of platforms 7 and 8
- C** Stirling–Kincardine: reopening of line for freight traffic
- D** Inverkeilor–Carnoustie: resignalling
- E** Aberdeen–Inverness: enhanced performance
- F** Montrose: enhanced performance
- G** Tay Bridge: enhanced capability
- H** Edinburgh Park: new station
- I** Fife–Glasgow: additional capacity
- J** Glasgow Queen Street: additional Sunday capacity
- K** Aberdeen–Inverness: additional capacity
- L** Edinburgh: facility upgrade
- M** Forth Bridge: additional Sunday capacity



Route characteristics

DESCRIPTION The Scottish Express Route serves very diverse markets. In central Scotland the route provides the main link between the commercial centres of Edinburgh and Glasgow. The lines from Edinburgh and Glasgow to Aberdeen complete the triangle of high-speed ScotRail express services. The stretch between Edinburgh and Aberdeen is also served by GNER and Virgin Trains. North of Perth and Aberdeen the passenger services serve more rural and leisure markets, but with some commuting particularly into Aberdeen and Inverness.

The Express Route is the main network for freight traffic moving within Scotland.

The Scottish Express Route is primarily a two-track railway but with a considerable mileage of single line between Perth and Inverness, and Aberdeen and Inverness. There is a short four-track section between Edinburgh Waverley and Haymarket West Junction.

The signalling on the route is a mixture of semaphore and colour-light.

A short section of the route in Edinburgh is electrified using 25kV overhead-line equipment.

Maximum speeds range from 50mph in the north to 100mph for parts of the Edinburgh–Glasgow route. There are differential speeds for multiple units between Edinburgh and Aberdeen.

KEY CAPACITY CONSTRAINTS There are a number of capacity constraints on the route.

The analysis of the line in the Haymarket West Junction and Inverkeithing Central Junction area has shown that it will reach capacity by 2002 given the predicted passenger and freight traffic growth. The result will be a constriction on train operating company and local authority aspirations for developing traffic in to and out of Fife. We are addressing this issue through the development of a scheme to enhance the signalling which will reduce headways and thereby increase capacity.

If freight growth on the Dundee–Aberdeen section is at the high end of predictions, the current looping facilities in the southbound direction will require enhancement. Analysis of the future traffic levels on this stretch shows that we can accommodate the predicted 200% growth in the freight traffic through such measures.

The aspirations of both the passenger and the freight customers on the Aberdeen–Inverness section are expected to utilise all available capacity by 2002/03. We are addressing this predicted shortfall by the development of schemes to enhance capacity through higher speeds and the creation of new passing loops.

Route vision

Our vision is to develop the route as the principal mode of transport between the main centres of government, commerce, industry and culture in order to serve effectively the people of Scotland, by providing more train paths and faster journeys with greater comfort and reliability.

The delivery of this vision will be through the enhancement of capacity and investment in journey-time reduction measures designed to meet the aspirations of our customers. The route will be continually developed to offer facilities which will allow users to achieve further step changes in the quality of their services.

The Express Route has a key role in the expansion of freight traffic in Scotland. We will support the freight customers through the development of siding facilities and through the enhancement of the route infrastructure in order to improve its ability to carry larger, longer and heavier trains. These measures will enable more freight to be transferred from busy roads such as the A9 and A90 to rail, benefiting the environment, allowing goods to move without congestion and helping to reduce road accidents.

Committed development plans

INFRASTRUCTURE

Journey-time improvements for all express services on the route are currently being investigated. Feasibility studies have been carried out on most parts of the route to identify potential speed increases. Journey-time reduction work on the Edinburgh–Aberdeen Line has already delivered a 3 to 11 minute saving and further work is ongoing to increase this. We are also committed to delivering a five-minute reduction in the journey time between Edinburgh and Inverness by October 2000. This will be achieved through a review of the potential of the current infrastructure to accept higher speeds. Finally, we are working towards the reduction in the journey time between Aberdeen and Inverness to 1hr 50min by 2003.

Uninterruptible power supplies The problems of 'dirty' power supplies corrupting sophisticated signalling equipment is being tackled through the installation of UPS equipment at a number of sites on the Edinburgh–Glasgow line. This work started in 1999 and will be completed this year at which time the programme will move to other key routes.

STATIONS All stations on the Express Route will have their station regeneration completed by the end of 2000/01 with the exception of Perth and Edinburgh Waverley. We are continuing to develop, jointly with our partners, a programme of works at Perth Station which is expected to go beyond the scope of the Station Regeneration Programme.

At Edinburgh Waverley a further phase of Station Regeneration Programme work will commence during 2000/01 to include the additional options of improvements to passenger and retail facilities, expanded customer information facilities and installation of comprehensive CCTV security systems.

Options for development

MAJOR CAPACITY UPGRADES We are currently developing a signalling scheme to improve capacity between Haymarket West Junction and Inverkeithing. As a result we will deliver enhanced capability over the Forth Bridge including the ability to operate trains over the structure at shorter intervals. The most concentrated maintenance work in the 110-year history of the bridge will also allow heavier freight trains to use the route once the work is complete. Capacity between Edinburgh and Perth will also be improved as a result of the signalling work.

Future capacity constraints between Aberdeen and Inverness have been predicted from the analysis we have undertaken. We are currently working to evaluate options to deliver whole route enhancement on this line as an extension of the journey-time reduction initiative. This work is considering the most appropriate form and location of passing facilities to improve capacity.

Additional services between Glasgow and Dundee may cause a capacity constraint at Queen Street Station depending on timetable constraints. To overcome this potential problem, we have started a study into the ability of the station to accommodate a further platform capable of handling six-vehicle trains.

SSRA Incremental Output Statements There are 19 IOS measures relating to the Express Route, 11 of which relate to journey-time reductions for key services. We propose to deliver these initiatives through a combination of infrastructure improvements and changes in the cant deficiency rules.

The delivery of increased capacity on the network to accommodate improved services is also a cornerstone of the Express Route IOSs. There are four key locations where capacity is perceived to be a potential issue. These are between Inverkeithing and Haymarket, more widely between Edinburgh and Perth, between Aberdeen and Inverness, and between Glasgow and Dundee.

Customer Reasonable Requirements The prime focus of CRRs lodged by ScotRail involves journey-time reduction targets and the securing of capacity on the network to accommodate additional services. We have already started work on a number of journey-time reduction initiatives and, through the Route Strategy, have identified areas for future work to ensure capacity is available for the predicted traffic levels.

ScotRail, GNER and Virgin have all lodged CRRs seeking to enhance the facilities at Waverley Station. These are addressed in our plans, and include improvements to customer amenities in the concourse and platform areas.

Freight customers are seeking improved clearances for container traffic on the route as well as the creation of new facilities to further develop rail freight in Scotland.

Local Transport Plans The Express Route and the facilities on the network feature highly in the local authority plans for the areas through which the route passes. Detailed ideas can be grouped under three broad headings:

- Improvement to station access facilities. This includes the provision of full mobility-impaired access to platforms and other facilities at stations. It also incorporates enhancements to the station car parking at certain key locations.
- Promotion of rail freight. A high proportion of the local authorities are promoting the transfer of freight from road to rail in order to deliver a more sustainable freight transport regime in their area and nationally.
- Integration of public transport which will be addressed in co-operation with the train operating companies and through the development of facilities at stations on the route.

We are continuing discussions with the CERT (City of Edinburgh Rapid Transit) project team to ensure compatibility between the guided busway scheme and the adjacent railway infrastructure. This includes the construction of Edinburgh Park Station.

Tay Bridge Work is currently in development to enable freight traffic to use the Tay Bridge. The structural work proposed will also allow passenger services to traverse the structure at a higher speed than at present.

Raithes Farm Freight Terminal We are currently finalising with other stakeholders in the development of a new freight terminal at Raithes Farm north of Dyce. This scheme, which is predicted to increase the rate of growth of rail freight traffic in the northeast corner of Scotland, has already attracted positive support from local industry.

MAJOR STATIONS

Edinburgh Waverley In order to provide the capacity needed to satisfy the predicted growth in passenger demand at this location, wholesale remodelling of the platforms and track layouts each side of the station will be needed. Alternatives for achieving this remodelling take into account the restricted development options within the existing train shed and the wider possibilities of a comprehensive redevelopment of the station site within the centre of Edinburgh. This will create a station fit for the 21st century and contribute positively to the regeneration of the east end of the city. We continue to work with all interested parties to achieve this goal. A Commissioners' Hearing, into aspects of the redevelopment proposals, will be held in 2000. It is anticipated such a redevelopment, if approved, would commence in four- or five-years' time.

Progress on the 1999 NMS

EDINBURGH-GLASGOW ScotRail introduced its 15-minute interval Edinburgh-Glasgow service in September 1999. Railtrack enabled this initiative with a programme of infrastructure works including the extension of car parks to meet the anticipated demand for the new services, the installation of controlled-emission toilet equipment and the extension of the maintenance facility at Haymarket Depot.

ROUTE CAPACITY Capacity enhancement works on the Express Route are progressing. The creation of additional paths over the Forth Bridge is being taken forward in association with the HMRI.

Plans are under development to enable freight route traffic to use the Tay Bridge combined with a raising of the speed for passenger traffic over the bridge.

The problem of creating additional paths between Aberdeen and Inverness is being addressed through a detailed study into the route driven by the journey-time reduction initiative.

JOURNEY-TIME REDUCTIONS During the course of the year, we have agreed speed increases on the Edinburgh-Aberdeen Route. This has allowed train operating companies on the line to show journey-time reductions in their May 2000 timetables. This work will continue in 2000.

SIGNALLING The ROSS signalling project, centred on the Cowlaers signal box, was completed to time in May 1999. New intermediate block signals were successfully commissioned at Polmaise in August. This work has improved the capacity of the infrastructure in the area.

PLANT AND ELECTRICAL The installation of point heaters has continued during the year with a further 144 sites delivered on the Express Route. Remote condition monitoring equipment was extended and applied to a further 45 sites during the year. Uninterruptible power supply equipment was installed at four sites on the Edinburgh-Glasgow Line with a further four sites planned for 2000.

STRUCTURES Part of the slab supporting track on the approach to Queen Street Station was replaced in the summer to provide a more robust support for key crossovers in the station throat.

STATIONS The Station Regeneration Programme works continued throughout the year and a further 24 stations were completed on the Express Route in 1999. A further 11 stations will be completed by March 2001. Station regeneration work at Edinburgh Waverley to re-cover the roof over platforms 14 to 17 has been completed together with other works to improve security for customers. We have worked closely with GNER which has provided a new Travel Centre and First Class Lounge.

Discussions regarding the construction of a new station at Edinburgh Park on the western edge of the city are progressing with the City of Edinburgh Rapid Transit (CERT) project team.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Forth Bridge	Completion of refurbishment	Improved capability	2006	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Edinburgh–Glasgow	Infrastructure enhancements including creation of a new loop and relocation of certain stations to coincide with existing loops	Increased capacity and improved journey time to 38min		A
IOS(O): Forth Bridge	Signal review	Ability to run two trains over the bridge at any one time in the same direction	2006	A
IOS(I): Edinburgh–Aberdeen	Infrastructure alterations	Journey-time reduction to 2hr 15min with six stops	2006	B
IOS(C): Glasgow–Dundee	Infrastructure review	Capacity enhancement for half-hourly service	2004	C
IOS(I): Glasgow–Aberdeen	Infrastructure alterations	Journey-time reduction to 2hr 29min with five stops	2006	D
IOS(C): Aberdeen–Inverness	New loop	Hourly off-peak service	2006	E
IOS(I): Edinburgh–Inverness	Infrastructure alterations	Journey-time reduction to 2hr 59min with five stops	2006	F
IOS(I): Glasgow–Inverness	Infrastructure alterations	Journey-time reduction to 3hr 9min all stops	2006	G
IOS(O): Haymarket–Inverkeithing	Resignalling	3min headway	2006	H
IOS(O): Dunblane	Detailed scheme being prepared	Ability to turnback from platform	2004	I
IOS(O): Edinburgh Waverley	Infrastructure review	Ability to make parallel moves platforms 14 and 15	2006	J
IOS(I): Edinburgh–Glasgow	Infrastructure alterations	Journey-time reduction to 44min with two stops	2006	K
IOS(C): Edinburgh–Perth	Infrastructure review	Hourly off-peak service	2006	L
IOS(I): Edinburgh–Dundee	Detailed scheme being prepared	Fastest possible with minor works	2004	M
IOS(I): Dundee–Aberdeen	Detailed scheme being prepared	Fastest possible with minor works	2004	N
IOS(I): Perth–Dundee	Detailed scheme being prepared	Fastest possible with minor works	2006	O
IOS(I): Perth–Inverness	Detailed scheme being prepared	Fastest possible with minor works	2006	P
IOS(I): Glasgow–Perth	Detailed scheme being prepared	Fastest possible with minor works	2006	Q
IOS(C) Forth Bridge	Railtrack proposes to offer sSRA an alternative output	Ability to run MGR trains of 102 tonnes coal wagons up to 1,835 tonnes gross over bridge to release capacity for passenger trains	2006	R
IOS(I): Aberdeen–Inverness	Infrastructure alterations	Journey-time reduction to 1hr 50min all stops	2006	S
Route-wide	Structure review	Gauge enhancement on key freight arteries		
Route-wide	Infrastructure review	Enhancement to accommodate 775m long trains		
Eastfield	Creation of runround facility	Capacity enhancement	2002	A
Stirling	Resignalling	Reactivation of platforms 7 and 8	2002	B
Stirling–Alloa–Kincardine	Reopening of line for freight traffic	Improved capacity and capability	2002	C
Inverkeilor–Carnoustie	Resignalling	Infrastructure upgrade	2006	D
Aberdeen–Inverness	Resignalling	Enhanced performance	2009	E
Montrose	Resignalling	Enhanced performance	2011	F
Tay Bridge	Structural works	Enhanced capability	2005	G
Edinburgh Park	New station	Increased patronage		H
Fife–Glasgow	Capacity	New service introduction		I
Glasgow Queen Street	Maintenance strategy	Both tracks available for traffic on Sunday		J
Aberdeen–Inverness	Capacity	Improved frequency	2011	K
Edinburgh Waverley	Infrastructure review	Facility upgrade		L
Forth Bridge	Maintenance strategy	Both tracks available for traffic on Sunday		M

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Edinburgh–Aberdeen	210	8	2hr 26min (53mph)	2hr 15min (58mph)	2hr 15min (58mph)	2hr (65mph)
Aberdeen–Inverness	174	8	2hr 12min (49mph)	2hr 12min (49mph)	2hr 12min (49mph)	1hr 50min (59mph)
Glasgow Queen Street–Aberdeen	249	6	2hr 37min (59mph)	2hr 27min (63mph)	2hr 27min (63mph)	2hr 15min (69mph)
Edinburgh–Glasgow Queen Street	76	3	48min (59mph)	48min (59mph)	45min (63mph)	38min (72mph)
Inverness–Perth	190	5	2hr 15min (52mph)	2hr 10min (54mph)	2hr 10min (54mph)	2hr (59mph)
Glasgow Queen Street–Inverness	290	12	3hr 20min (54mph)	3hr 15min (56mph)	3hr 9min (57mph)	3hr (60mph)
LINESPEEDS (km of track)						
Up to 35mph			72	72	72	69
40–75mph			750	750	750	641
80–105mph			500	500	500	532
110–125mph			0	0	0	80
Over 125mph			0	0	0	0
TOTAL			1322	1322	1322	1322
GAUGE (km of route)						
W6A			798	798	798	798
W7			798	798	798	798
W8			695	695	695	695
W9			0	0	0	472
W10			0	0	0	472
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			362	362	362	273
24.2–25.4 tonnes			960	960	960	1049
TOTAL			1322	1322	1322	1322

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	6.8	5.0	17.1	22.2
Structures	16.1	11.2	54.0	29.9
Signalling	3.7	3.1	31.5	37.1
Electrification	0.0	0.0	0.6	0.7
Plant & Machinery	3.7	0.7	4.5	0.3
Telecoms	0.4	1.4	5.4	7.3
Stations	9.2	4.6	4.8	6.6
Depots	0.2	0.2	7.0	8.1
Other	0.0	0.0	0.4	0.0
TOTAL	40.1	26.2	125.4	112.1

The sum of the expenditures may not match totals due to rounding

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	2.4	5.4	9.4	0.0	17.2	Various
Raithes Farm: new depot	2001	0.0	5.0	5.0	0.0	10.0	4
TOTAL		2.4	10.4	14.4	0.0	27.2	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	157.8	Various
Freight: gauge enhancements	35.0	1
Aberdeen–Inverness: journey-time improvements and capacity	20.0	2
Edinburgh–Glasgow: journey-time improvement	10.0	1
Stirling–Longannet–Kincardine Bridge: reopening of route	5.3	1
Edinburgh Park: new station	1.5	1
Stirling: ForthSide development	0.6	1
TOTAL	230.2	

The sum of the expenditures may not match totals due to rounding



Anglia Railways; West Anglia & Great Northern Railway (WAGN); Central Trains; EWS.

Committed schemes

- A Hackney Downs: resignalling

Options for major improvements to capability

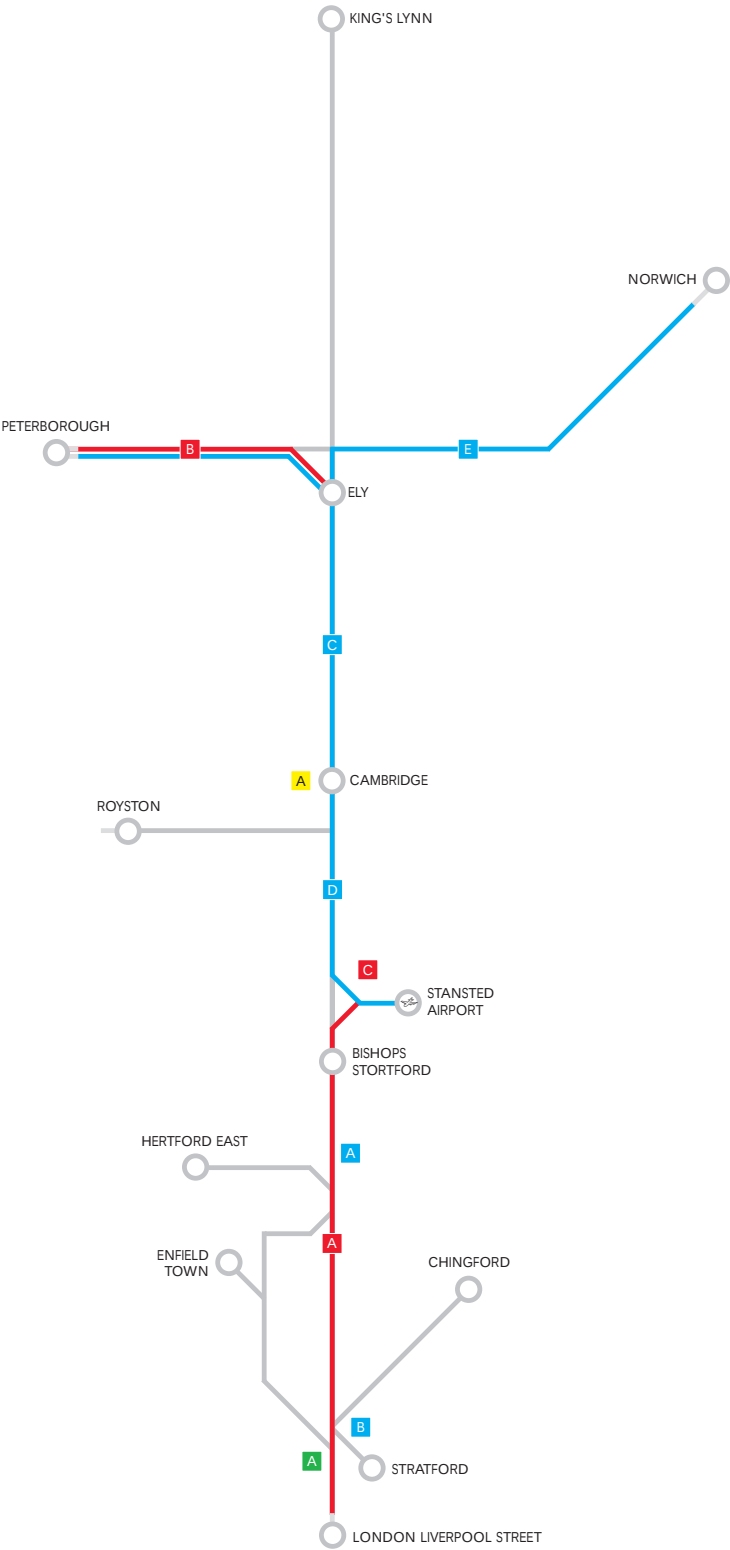
- A London–Stansted: capacity enhancements
- B Felixstowe–Nuneaton: gauge and capacity enhancements
- C Stansted Airport: additional capacity

IOS options

- A Harlow Town: turnback
- B Enfield–Stratford: remodel
- C Stansted–Peterborough: journey-time reduction
- D Stansted–Cambridge: capacity enhancements
- E Ely–Norwich: improvements to loops

Customer Reasonable Requirements and other development options

- A Cambridge–St Ives: rapid transit system



Route characteristics

DESCRIPTION The West Anglia Main Line runs from London to King's Lynn via Cambridge with several suburban branches and a link to Stansted Airport. The combination of the main line through the Lea Valley and the Southbury loop (Hackney Downs–Cheshunt) creates a four-track railway between Bethnal Green and Cheshunt. Elsewhere the route is two track, with a small number of single-line sections. The maximum speed on the main line is 90mph.

The line from Norwich–Ely and Peterborough connects East Anglia to the Midlands, the North and Scotland.

Apart from the Norwich–Peterborough section, all lines on the route are electrified.

The West Anglia Main Line serves one of the fastest growing regions in the country with densely populated areas at its southern end and some key locations at its centre, including Cambridge and Stansted Airport.

KEY CAPACITY CONSTRAINTS We predict that demand will continue to grow strongly over the next ten years, and while underlying growth can be accommodated by filling empty seats and running longer trains, both WAGN Railway and Central Trains aspire to operate more frequent services to Stansted Airport. However, capacity is restricted by the mix of fast and stopping services, and the present infrastructure on the route will not permit their aspirations to be met. WAGN now provides a four-train-per-hour service (between the morning and evening peaks) to the airport, which has helped to encourage passenger growth of around 30% during the year. Rail now has a 25% share of the market for travel to Stansted Airport – the highest share of any UK airport.

A prerequisite for capacity enhancement is to renew the signalling, telecoms and overhead-line equipment. We have started work on a major scheme, West Anglia Route Modernisation (WARM).

Route vision

Our vision for this route is to provide frequent and reliable high-quality services to all destinations, with sufficient capacity for rail to assist in delivering the rapid economic growth in this area. Growing passenger volumes mean that significant investment in infrastructure is needed, which we have started.

We will continue to improve our stations and, in particular, address integration with other transport modes.

Committed development plans

We have started work on resignalling the Hackney Down area.

The Thameslink 2000 programme will enable trains from King's Lynn to reach destinations south of the Thames, London. We will undertake platform extensions at Meldreth, Shepreth, Foxton and Cambridge as part of this programme.

Options for development

We are finalising options to stimulate rail growth on this route. The £90M package of improvements includes extending platforms for longer trains and building an additional track Cheshunt–Broxbourne. This will enable the recently introduced four-train-per-hour, off-peak service to Stansted Airport, to be extended throughout the day without disrupting other services. We have investigated the capacity of Stansted Airport tunnel, and for additional services to operate into the airport we will need to build another parallel tunnel. At Cambridge, we have looked at the future demand for paths through the station and in order to meet all aspirations an island platform will be required.

We are also evaluating a link from this route to the proposed CrossRail scheme in Central London which creates a new link from Liverpool Street and Paddington.

To address the forecast growth in freight traffic from Felixstowe, we are developing options for capacity and gauge enhancements to accommodate 9'6" containers on the cross-country route to Ely, Peterborough, the Midlands and the North. Details are given on Route 9.

We are also developing plans to improve capacity to enable more frequent passenger services to operate on the cross-country routes (Ely–Peterborough and Ely–Norwich). In the long term, these lines may be linked into the East–West Rail project (see Route 27).

We have been consulting with local authorities over the pivotal role rail can perform in delivering Integrated Transport policies through their LTPs. Local authority aspirations for the route include continued support for improvements to capacity and frequency as planned, including East–West Rail, the Ely–Peterborough route and Cambridge station in particular. We are working with external partners to develop a rapid transit system using the Cambridge–St Ives Branch to link proposed housing developments with the city centre. Other aspirations include restoration of Ely West curve for both freight and passenger use, increased capacity between Ely and King's Lynn, a new station at Chesterton (Cambridge) and, to aid the economic regeneration of the Lea Valley, the development of an Enfield–Stratford service.

Progress on the 1999 NMS

LINESPEED IMPROVEMENT HITCHIN–CAMBRIDGE We have completed work and delivered a saving of 2.5 minutes King's Cross–Cambridge, where the fastest journey time is now 45 minutes.

SAFETY IMPROVEMENTS AT STANSTED TUNNEL Equipment has been installed at the tunnel to accommodate the new more frequent services.

FREIGHT CAPACITY AT KING'S LYNN We have installed a longer freight loop at King's Lynn.

STATION REGENERATION PROGRAMME We have completed work to 44 stations, including Rye House, King's Lynn, Rectory Road (part funded by WAGN) and Wymondham.

'ACCESS FOR ALL' AT STATIONS We have provided access to two more stations, at Whittlesford (part funded by Cambridgeshire County Council) and Walthamstow Central.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Hackney Downs	Resignal	Modern signalling		A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

London–Stansted route capacity upgrade	WARM project enhancements including third track Cheshunt–Broxbourne	Four trains per hour all day Stansted–London, also additional off-peak Harlow service		A
Felixstowe–Nuneaton	Gauge and capacity enhancements	Increased freight and passenger capacity, increased gauge size (W10w) and 775m train length		B
Stansted Airport	Build second tunnel	Major capacity upgrade		C
IOS(O): Harlow Town	Railtrack proposes to offer sSRA an alternative output	Ability to terminate trains from the south and start back towards London using reinstated up loop	2006	A
IOS(O): Enfield Town–Stratford	Railtrack proposes to offer sSRA an alternative output	New service	2006	B
IOS(I): Peterborough–Stansted	Railtrack proposes to offer sSRA an alternative output	Improve journey time by 2min	2004	C
IOS(C): Cambridge–Stansted	Double tunnel and build new platform at Cambridge	Two trains per hour Stansted–Cambridge	2006	D
IOS(O): Ely–Norwich	Detailed scheme being prepared	Standardise headway in order to provide more timetabling flexibility	2006	
Cambridge–St Ives	Develop rapid transit system	Improved access to and through Cambridge		A

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Liverpool Street–Stansted Airport	60	2	41min (55mph)	41min (55mph)	41min (55mph)	41min (55mph)
London Liverpool Street–Cambridge	90	6	1hr 10min (48mph)	1hr 10min (48mph)	1hr 10min (48mph)	1hr 10min (48mph)
London Liverpool Street–King's Lynn	156	12	1hr 59min (49mph)	1hr 59min (49mph)	1hr 59min (49mph)	1hr 59min (49mph)
London King's Cross–Cambridge	93	0	45min (77mph)	45min (77mph)	45min (77mph)	45min (77mph)
London King's Cross–King's Lynn	159	7	1hr 33min (63mph)	1hr 33min (63mph)	1hr 33min (63mph)	1hr 33min (63mph)

LINESPEEDS (km of track)

Up to 35mph	39	39	39	39
40–75mph	445	445	445	445
80–105mph	224	224	224	224
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	708	708	708	708

GAUGE (km of route)

W6A	380	380	380	380
W7	335	335	335	335
W8	335	335	335	335
W9	46	46	48	66
W10	0	0	48	66
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	17	17	17	17
20.4–24.1 tonnes	691	691	691	691
24.2–25.4 tonnes	0	0	0	0
TOTAL	708	708	708	708

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	11.3	9.7	25.3	20.0
Structures	2.1	4.0	23.4	14.7
Signalling	13.4	15.6	43.6	43.7
Electrification	0.0	8.0	21.0	4.0
Plant & Machinery	0.4	0.5	0.0	0.0
Telecoms	0.0	1.8	13.3	4.4
Stations	5.5	3.7	10.1	7.7
Depots	0.0	0.1	3.0	3.0
TOTAL	32.7	43.4	139.6	97.5

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	1.6	1.5	5.6	0.0	8.7	Various
Thameslink 2000	2006/07	0.1	0.1	6.7	0.0	6.9	4/5
TOTAL		1.7	1.6	12.3	0.0	15.6	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
London–Stansted: route capacity	90.0	4
Stansted Airport: second tunnel	30.0	1
Other schemes	23.8	Various
TOTAL	143.8	

The sum of the expenditures may not match totals due to rounding



Anglia Railways; First Great Eastern; LTS Rail; EWS; Freightliner; DRS.

Committed schemes

- A** London–Norwich: journey-time reductions
- B** Witham: station lifts
- C** Wivenhoe: regauge platforms

Options for major improvements to capability

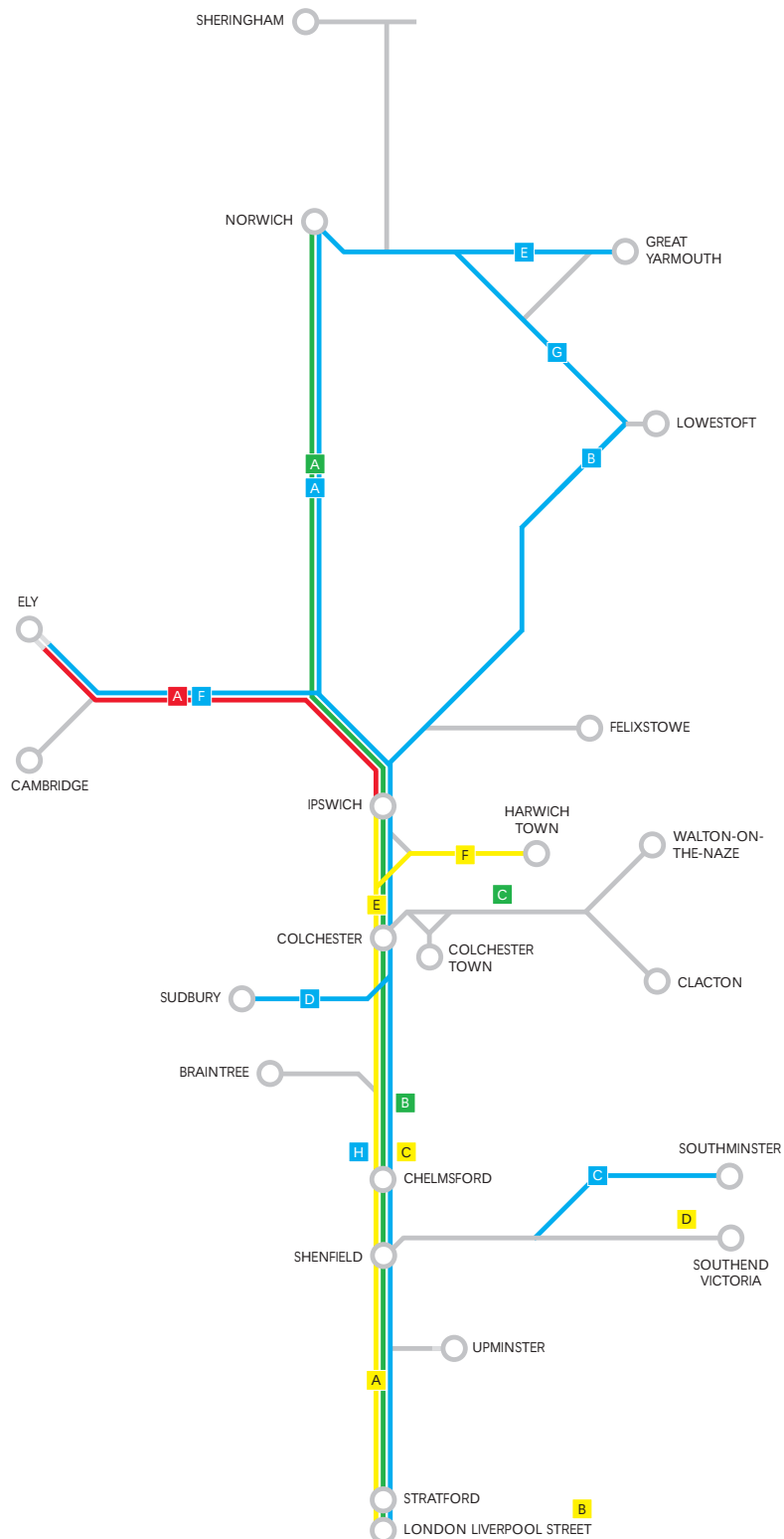
- A** Ipswich–Ely: gauge and capacity enhancements

IOS options

- A** London–Norwich: journey-time reduction
- B** Ipswich–Lowestoft: capacity improvement
- C** Wickford–Southminster: journey-time reduction
- D** Sudbury–Marks Tey: journey-time reduction
- E** Norwich–Great Yarmouth: additional capacity
- F** Ipswich–Peterborough: additional capacity
- G** Norwich–Lowestoft: additional capacity
- H** London–Colchester: improved journey times

Customer Reasonable Requirements and other development options

- A** London–Shenfield: 'E' lines platform extensions
- B** Liverpool Street: additional 12-vehicle platforms
- C** Beaulieu Park: new station
- D** Southend Airport: new station
- E** Ipswich/Harwich–Stratford: gauge and capacity enhancement
- F** Stratford–Harwich: clear route for Class 92 locos



Route characteristics

DESCRIPTION The Great Eastern Main Line runs from London to Norwich and has a number of branches. There are four tracks London–Shenfield; two with speeds generally of 90mph (the main lines), and two of up to 70mph (the electric lines). Beyond Shenfield towards Colchester, the line is two track with speeds up to 100mph. The London–Norwich Route and the routes to Southend, Braintree, Clacton, Walton-on-the-Naze and Harwich are electrified. The route also serves the ports of Felixstowe (the country's largest container port) and Harwich.

The major modernisation completed in 1997 invested £220M into creating a route capable of reliably delivering 24 trains per hour during the peak into London from Shenfield over the main lines, and up to 20 per hour over the 'E' lines between Ilford and London (18 per hour from Gidea Park).

KEY CAPACITY CONSTRAINTS We expect passenger demand at peak times to continue to grow over the next ten years. This means that capacity may need increasing and we are working with our customers to refine our predictions and identify the enhancements which are needed to meet the growth.

The main line has enough capacity for growth of up to 15% over the high peak hour if all available train paths are used and trains are all 12 vehicles in length. Some overcrowding is likely to occur, however, during the morning high peak of 30 minutes. At the moment, trains on the electric lines are typically eight cars in length and are around 50% more crowded in peak periods than trains on the main lines, which are usually 12-vehicle trains.

First Great Eastern and Anglia Railways continue to successfully develop their off-peak business and although capacity exists on the trains themselves to accommodate the forecast growth, the number of train paths available is constrained by the mixture of semi-fast, stopping and freight services from Shenfield to Ipswich. The route is currently operating at close to capacity in terms of available train paths.

Route vision

Our vision is to provide high-quality and reliable infrastructure, with capacity sufficient to accommodate the demand for travel to London, while developing the rail market share from the major centres of population in East Anglia, including Chelmsford, Colchester, Ipswich and Norwich.

For the longer term, we are looking at how services could be integrated with CrossRail should this project be developed further.

We also envisage a network which will cater for the growth in freight traffic, and which will be able to accommodate longer trains operating within an enhanced loading gauge.

We are working with other industry partners and local authorities to provide station facilities, which will improve integration, accessibility, and safety.

Committed development plans

In the future journey times will be reduced without loss of reliability or capacity, by a minute from late 2000 when we complete OLE improvements over the main lines from Stratford to Shenfield.

Resignalling of the Norwich–Sheringham line will be completed this year. This includes installation of AWS and the equipment necessary to operate TPWS.

Options for development

INFRASTRUCTURE To provide further capacity on the main lines we would need to build an extra main line track Liverpool Street–Shenfield, as well as providing extra stabling facilities for trains in the Stratford area between the morning and evening peaks. Both lengthening the electric lines' platforms and/or creating additional main line capacity will require additional platforms at Liverpool Street, probably located between the present platforms 10 and 11. We are considering lengthening electric line platforms for 12-vehicle trains throughout much of the inner suburban area within seven to eight years. This will accommodate passenger growth of up to 20% above current levels.

To allow for further growth, we are continuing to develop our freight routing strategy, which is evaluating the options of operating Freightliner traffic from Felixstowe via Bury St Edmunds and Peterborough, as an alternative to the Great Eastern/North London Line route. We are in consultation with the sSRA and our freight customers on how best to balance the overall traffic demands and fund the infrastructure upgrades required.

MAJOR STATIONS

London Liverpool Street Station Regeneration Programme work will start in 2000/01 together with improvements to concourse retailing facilities and a study into a new customer information system. We are also working with our customers and the sSRA to improve platform capacity.

Local authority aspirations are linked to stronger use of local rail in the off-peak periods. Strong support is also given to the East–West Rail Project and the freight routing strategy via Bury St Edmunds. Aspirations include an hourly service between Ipswich and Cambridge and Ipswich and Peterborough, capacity improvements on the East Suffolk Line and Braintree Branch, and new stations at Beaulieu Park, University of Essex, Southend Airport and Dussindale (Norwich).

Progress on the 1999 NMS

IPSWICH-FELIXSTOWE LINE MODERNISATION We have renewed the signalling equipment and doubled capacity on the route for passenger and freight services.

OVERHEAD LINE IMPROVEMENTS STRATFORD-SHENFIELD We will complete this year and deliver a one-minute journey-time reduction.

SHERINGHAM LINE RESIGNALLING Work has started and commissioning is planned for this year.

RELIEVING CAPACITY BOTTLENECK BETWEEN STRATFORD AND FOREST GATE JUNCTION Outside peak periods, we have started to relieve the key bottleneck between Forest Gate Junction and Stratford, where fast and stopping services share a four-track railway with freight traffic crossing between the LTS (Route 17) and NLL (Route 26) on flat junctions. We have installed additional signals between Woodgrange Park and South Tottenham (NLL), to allow some diesel-hauled freight services to be diverted away from Stratford, by using the Barking-Gospel Oak route across London.

AWS We have installed the Automatic Warning System in the remaining GE branches to Felixstowe, Norwich-Lowestoft and Great Yarmouth. As we resignal the Sheringham Line, we are also installing AWS and the equipment necessary to operate TPWS.

'Access for all' at stations We have provided improved access at 5 more stations including Halesworth which was part funded by Suffolk County Council.

CUSTOMER INFORMATION SYSTEM IMPROVEMENTS Real time CIS at Anglia Railways unmanned stations is being installed. New and extended CIS system will be installed at all First Great Eastern stations this year.

NEW STATION AT BRAINTREE FREEPORT A station to serve the new development was opened during the year.

STATION REGENERATION PROGRAMME We have completed 59 stations this year, including Stratford, Mistley (part funded by Rail Heritage and GE) and Halesworth (part funded by the local authority).

TRACK RENEWALS Our programme to remove speed restrictions is on target and by the end of 1999/2000, we will have removed all but three.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
London–Norwich	OLE improvements	1min journey-time reduction		A
Witham	New lifts and ramps	'Access for all' facilities		B
Wivenhoe	Regauge platforms	Improved stepping distances		C

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Ipswich–Ely	Gauge and capacity enhancements including longer loops	Increased freight and passenger capacity Longer freight trains and enhanced gauge		A
IOS(J): London–Norwich	Railtrack proposes to offer sSRA an alternative output	Improve journey time by 4min	2006	A
IOS(C): Ipswich–Lowestoft	Detailed scheme being prepared	1 train per hour at regular intervals	2004	B
IOS(J): Wickford–Southminster	Earthworks, realignment and level crossing works	Improve journey time by 2min	2006	C
IOS(J): Sudbury–Marks Tey	Re-sleeper	Improve journey time by 1min	2004	D
IOS(C): Norwich–Great Yarmouth	Norwich platforms and route capacity	2 trains per hour at regular intervals	2004	E
IOS(C): Ipswich–Peterborough	Detailed scheme being prepared	Regular interval service	2004	F
IOS(C): Norwich–Lowestoft	Norwich platforms and route capacity	2 trains per hour at regular intervals	2004	G
IOS(J): London–Colchester	Railtrack proposes to offer sSRA an alternative output	Improve journey time by 4min	2006	H
Liverpool Street–Shenfield	Extend suburban platforms at majority of stations	12-vehicle suburban services		A
Liverpool Street	Two new 12-vehicle platforms	Improved 12-vehicle capacity		B
Beaulieu Park	Station and loops	Improved access to the network		C
Southend Airport	Station	Improved access to the network		D
Ipswich/Harwich–Stratford	Alternative to Ipswich–Ely option	Increased freight and passenger capacity Longer freight trains and enhanced gauge		E
Stratford–Harwich	Clear Route for Class 92 locos operation	Improved route capability		F

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Southend	67	9	55min (45mph)	54min (46mph)	54min (46mph)	54min (46mph)
London Colchester	83	5	44min (70mph)	43min (72mph)	43min (72mph)	43min (72mph)
London Ipswich	111	1	58min (71mph)	57min (72mph)	57min (72mph)	55min (75mph)
London Norwich	185	2	1hr 35min (72mph)	1hr 34min (73mph)	1hr 34min (73mph)	1hr 31min (76mph)
LINESPEEDS (km of track)						
Up to 35mph			33	33	33	33
40–75mph			689	689	689	689
80–105mph			392	392	392	245
110–125mph			0	0	0	147
Over 125mph			0	0	0	0
TOTAL			1114	1114	1114	1114
GAUGE (km of route)						
W6A			644	644	644	644
W7			404	404	404	404
W8			404	404	404	404
W9			0	106	154	213
W10			0	106	154	154
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			84	84	84	84
20.4–24.1 tonnes			1030	1030	1030	1030
24.2–25.4 tonnes			0	0	0	0
TOTAL			1114	1114	1114	1114

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	9.4	7.1	25.4	20.0
Structures	3.5	2.7	17.0	22.4
Signalling	12.5	4.0	28.9	21.3
Electrification	1.5	1.4	2.2	4.0
Plant & Machinery	1.3	0.5	5.4	4.8
Telecoms	0.2	2.0	3.4	4.6
Stations	12.0	7.7	24.3	18.2
Depots	0.0	0.4	12.1	12.4
TOTAL	40.4	25.8	118.6	107.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	3.9	2.2	5.6	0.0	11.7	Various
Marks Tey–Colchester: operational flexibility improvements	2006	0.0	0.0	8.8	0.0	8.8	Various
Stratford Station: enhancement	2002	0.0	0.3	0.7	0.0	1.0	Various
Ipswich Station: enhancement	2001	0.0	0.8	0.0	0.0	0.8	Various
Platform extensions for Class 170	2001	0.2	0.3	0.0	0.0	0.5	Various
TOTAL		4.1	3.6	15.1	0.0	22.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Felixstowe–Nuneaton: additional capacity for freight	200.0	1
Other schemes	61.4	Various
Felixstowe–Nuneaton: gauge enhancements	60.0	1
Hythe: proposed new station	1.5	1
TOTAL	322.9	

The sum of the expenditures may not match totals due to rounding



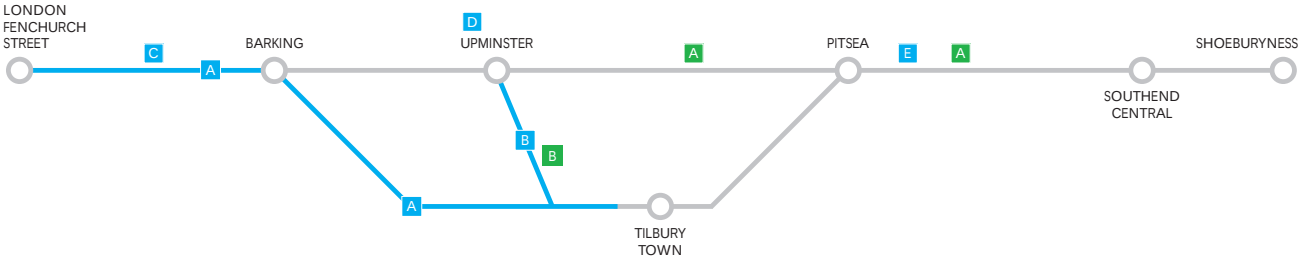
EWS, LTS Rail.

Committed schemes

- A Basildon and Leigh-on-Sea: lifts
- B Chafford Hundred: new link to Lakeside shopping centre

IOS options

- A Fenchurch Street–Grays: journey-time reduction
- B Grays–Upminster: capacity enhancements
- C West Ham: turnback facilities
- D Upminster: new bidirectional signalling crossovers
- E Benfleet: new bidirectional signalling crossovers



Route characteristics

DESCRIPTION This route runs from Fenchurch Street to Shoeburyness, with a loop between Barking and Pitsea via Tilbury. It is two track with a single-track line connecting Chafford Hundred Station (close to the Lakeside shopping complex) with Upminster and Grays on the Tilbury Loop. The maximum speed is 75mph on the main line. The route is electrified throughout.

This route received a major modernisation completed in 1997, which invested over £150M to transform an ageing infrastructure and create one of our most modern and reliable routes.

KEY CAPACITY CONSTRAINTS Demand is led by central London commuting which is expected to continue growing, although largely within the capability of existing services.

The opening of West Ham station has caused a reduction in overall capacity on the route which is now being addressed by improving the capability of the signalling system.

Route vision

Our vision is to develop a high-quality, safe and reliable service, which sets world-class standards of excellence for a community passenger railway. At the same time, we will work with freight customers to develop the potential for extra freight on rail which the North Thameside area provides, including that which would be generated by the possible development of the Shellhaven site.

Committed development

We are completing work on a passenger new link to Lakeside Shopping Centre from Chafford Hundred Station. We are also improving access for all at Basildon and Leigh-on-Sea stations.

Options for development

We are working with LTS Rail to improve linespeeds between Fenchurch Street and Upminster. Options for further journey time and capacity improvements are being developed as part of the Incremental Output Statement process.

The sSRA IOS proposals for this route include a number of capacity and operational flexibility improvements throughout the route together with a reduction in journey time from London to Grays.

Local authority aspirations are linked to the Thames estuary as a priority area for economic regeneration with likely development in the Tower Hamlets, Barking and Thurrock areas and beyond. A new station is proposed at Barking Reach and a link to Canvey Island.

LTS Rail is keen to develop leisure use of the railway, especially at weekends and to the Lakeside shopping centre, where we are jointly constructing improved access from the station.

We are improving passenger safety and security at LTS Rail stations, and are working together to provide a new high-quality brand image as LTS Rail re-launch as c2c. We are assessing freight terminal and capacity requirements as part of our strategy for the route.

Progress on the 1999 NMS

JOURNEY-TIME IMPROVEMENTS We are studying options to remodel three crossovers and realign curves to allow trains to run at 100mph and save two minutes between Fenchurch Street and Upminster.

FREIGHT CAPACITY NEEDS Additional signals at Woodgrange Park and South Tottenham (NLL) are relieving congestion at Stratford (on Route 16) so permitting further growth for North Thameside freight services.

CLASS 357 CLEARANCE We have completed route clearance and are working with LTS Rail to ensure that their new vehicles are introduced as smoothly as possible during 2000.

TRACK RENEWALS Our programme to remove speed restrictions is on target and by the end of 1999/2000, we will have removed all but one.

STATION REGENERATION PROGRAMME We will have completed eight stations in 1999/2000, including Southend East, Shoeburyness and Westcliffe, the last being part funded by LTS Rail. We plan to finish the rest during 2000.

STATIONS We continue to work with LTS Rail to improve passenger information at stations. LTS Rail has installed ticket barriers at most stations.

We have provided access at three more stations: West Ham, Basildon and Chafford Hundred (Basildon being jointly funded with Essex County Council).

At Chafford Hundred Station we are improving access to Lakeside shopping centre by creating a new subway link.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Basildon and Leigh-on-Sea	Upgrade lifts	Improved 'Access for all' facilities		A
Chafford Hundred	New passenger link	Improved access to Lakeside shopping centre		B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(J): Fenchurch Street–Grays	Track and OHLE works	32min journey time	2004	A
IOS(C): Upminster–Grays	Extend length of double track	Ability to run four passenger trains per hour	2006	B
IOS(O): West Ham	Detailed scheme being prepared	Turnback facilities to provide for trains from Barking	2004	C
IOS(O): Upminster	Detailed scheme being prepared	Additional bi-directional crossovers to provide for 12 trains per hour in the peak direction and eight trains per hour in the contra-peak direction, all flighted	2004	D
IOS(O): Benfleet	Detailed scheme being prepared	Additional bi-directional crossovers to provide for eight trains per hour in the peak direction and four trains per hour in the contra-peak direction, all flighted	2004	E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Fenchurch Street–Barking	12	1	12min (38mph)	12min (38mph)	12min (38mph)	10min (45mph)
London Fenchurch Street–Basildon	39	3	30min (49mph)	30min (49mph)	30min (49mph)	27min (53mph)
London Fenchurch Street–Southend Central	58	6	47min (46mph)	47min (46mph)	47min (46mph)	44min (49mph)
London Fenchurch Street–Chafford Hundred	32	4	31min (39mph)	31min (39mph)	31min (39mph)	28min (43mph)

LINESPEEDS (km of track)

Up to 35mph	4	4	4	4
40–75mph	216	216	216	214
80–105mph	0	0	0	2
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	220	220	220	220

GAUGE (km of route)

W6A	115	115	115	115
W7	102	102	102	102
W8	102	102	102	102
W9	19	19	19	19
W10	0	0	0	19
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	11	11	11	11
20.4–24.1 tonnes	209	209	209	209
24.2–25.4 tonnes	0	0	0	0
TOTAL	220	220	220	220

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	3.1	3.3	25.4	20.0
Structures	1.1	1.4	16.1	12.3
Signalling	0.6	0.4	3.5	6.4
Electrification	0.0	0.3	11.6	4.0
Plant & Machinery	0.4	0.3	0.0	0.0
Telecoms	0.0	0.8	0.9	4.4
Stations	3.6	1.5	7.6	7.7
Depots	0.0	1.0	1.4	1.5
TOTAL	8.8	9.0	66.5	56.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.0	1.5	5.6	0.0	7.1	Various
Station improvements	2000/01	1.3	0.0	0.0	0.0	1.3	Various
TOTAL		1.3	1.5	5.6	0.0	8.4	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	35.6	Various
Freight: gauge enhancements	20.0	1
Fenchurch Street–Upminster, Grays, and Southend Central: journey-time reduction	3.1	1
Barking Reach: new station	1.5	1
TOTAL	60.2	

The sum of the expenditures may not match totals due to rounding



Connex South Eastern;
Virgin CrossCountry;
EWS, Freightliner.

Committed schemes

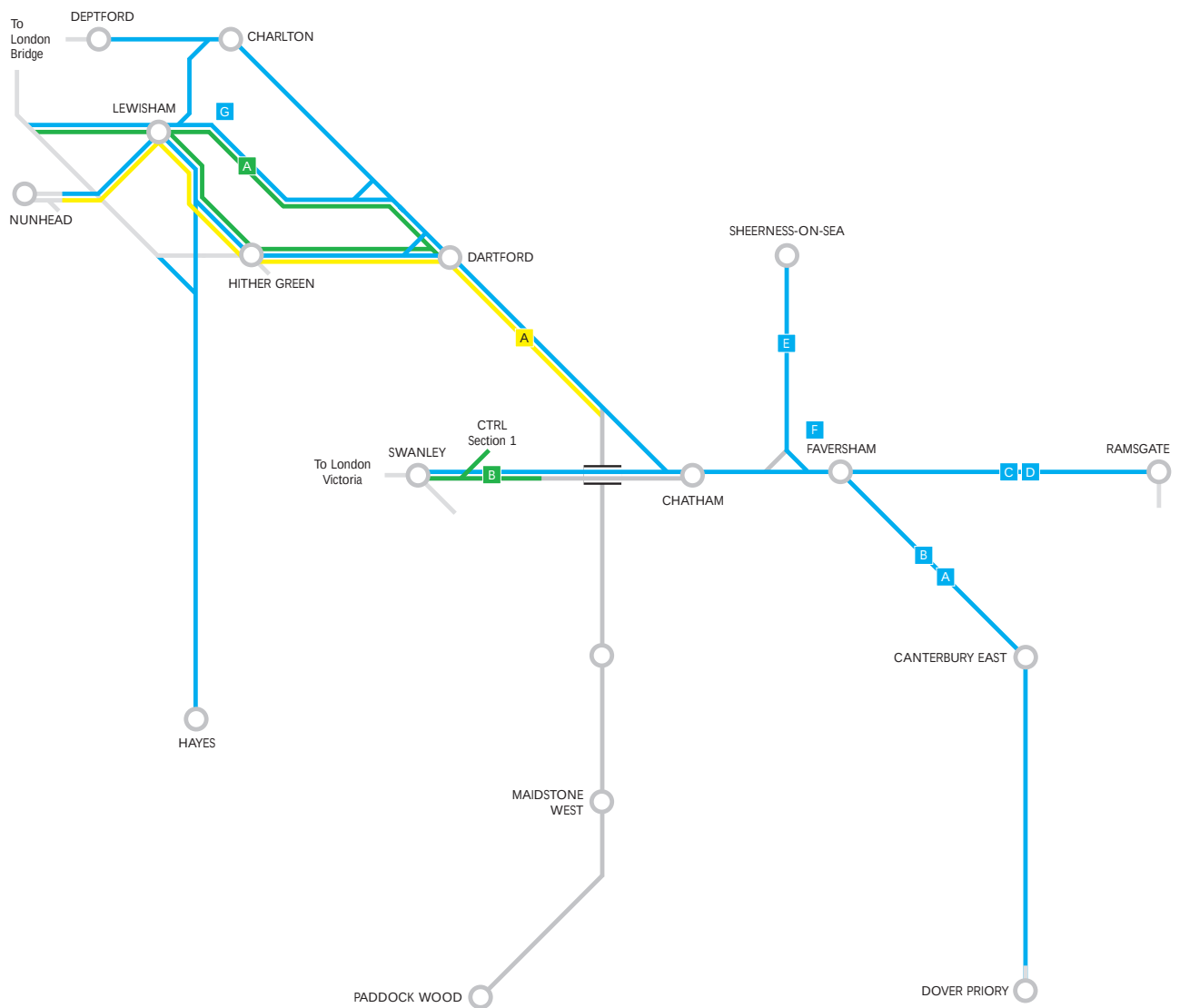
- A Thameslink 2000: additional capacity
- B Fawkham Junction–Waterloo: additional capacity

IOS options

- A Victoria–Dover Priory: improved journey time
- B Victoria–Dover Priory: improved journey time
- C Victoria–Ramsgate: improved journey time
- D Victoria–Ramsgate: improved journey time
- E Sittingbourne–Sheerness: operational flexibility
- F Faversham: operational flexibility
- G Southeast London: improved journey time

Customer Reasonable Requirements and other development options

- A Clapham Junction–Thamesport and Hoo Junction: additional freight capability



Route characteristics

DESCRIPTION This is a high-density commuter railway with much lower-density rural services in Kent. It consists of three separate lines to Dartford, where they merge and continue to Rochester where the Swanley–Ramsgate Line is joined. The route includes branch lines from Lewisham–Hayes, Strood–Paddock Wood, Sittingbourne–Sheerness and Faversham–Dover. Linespeed is 60mph as far as Dartford, then 70mph to Strood, 60mph to Newington and 90mph to Ramsgate. The route is two track throughout with the exception of a short single-track section on the Sheerness Branch.

The route primarily serves the passenger market, but has important freight flows to terminals at Thamesport (Grain) and Sheerness.

All passenger lines are electrified.

KEY CAPACITY CONSTRAINTS Capacity on this route is restricted between Charing Cross and London Bridge on Route 6 which prevent additional suburban trains operating into London from the Dartford lines. The track layout in the Lewisham area is very complex, with a high-frequency passenger service and less frequent freight trains. It is currently not possible to accommodate aspirations to stop more trains at Lewisham to connect with the Docklands Light Railway.

The two-track section between Rochester Bridge Junction and Gillingham is intensively used, with three stations within two miles adding to the congestion.

Route vision

Our vision for the route is to increase capacity by providing more seats on peak services into London through lengthening existing services. Our aim is to provide a high-quality service. This will be achieved by a package of measures to improve performance and the introduction of new rolling stock which, in conjunction with infrastructure enhancements, will generate journey-time improvements.

CTRL Section 1, due for completion in 2003, will release capacity on the existing route. The new timetable then will provide the opportunity to optimise use of the capacity by passenger and freight services, reduce journey times, and move to 12-car suburban services.

Committed development plans

Channel Tunnel Rail Link (CTRL) CTRL Section 1, due for completion in 2003 will significantly increase capacity with the provision of the new route from Fawkham Junction to Eurotunnel for Eurostar and release capacity for other operators over the existing route.

Thameslink 2000 Thameslink 2000 will provide the ability to operate 12-vehicle cross-London trains from Dartford via Sidcup and Bexleyheath. In

conjunction with the works described in other routes, this scheme will provide a significant increase in passenger capacity for journeys to or via the City of London.

Other commitments We will continue with station regeneration work throughout the year, with a further 14 stations to be completed before March 2001.

Options for development

Thameslink 2000 We wish to build on the Thameslink 2000 proposal by expanding the area of 12-car operation to include the Woolwich Line and the stations between Dartford and Gillingham.

ssRA Incremental Output Statements Provision of infrastructure and timetable capability to enable the journey time between Victoria and Dover Priory to be reduced by seven minutes, for Class 400 series trains and calling at Bromley South, Rochester, Chatham, Gillingham, Rainham, Sittingbourne, Faversham, Selling and Canterbury East.

Provision of infrastructure and timetable capability to enable the journey time between Victoria and Dover Priory to be reduced by ten minutes, for Class 365 trains and calling at Bromley South, Rochester, Chatham, Gillingham, Rainham, Sittingbourne, Faversham, Selling and Canterbury East.

Provision of infrastructure and timetable capability to enable the journey time between Victoria and Ramsgate to be reduced by seven minutes, for Class 400 series trains and calling at Bromley South, Rochester, Chatham, Gillingham, Rainham, Sittingbourne, Faversham, Whitstable, Herne Bay, Birchington, Margate and Broadstairs.

Provision of infrastructure and timetable capability to enable the journey time between Victoria and Ramsgate to be reduced by ten minutes, for Class 365 trains and calling at Bromley South, Rochester, Chatham, Gillingham, Rainham, Sittingbourne, Faversham, Whitstable, Herne Bay, Birchington, Margate and Broadstairs.

Provision of infrastructure and timetable capability to enable minor journey-time improvements in the southeast London suburban area, assuming current rolling stock.

Provision of bi-directional working over the Down Line between the Sheerness Branch at Eastern Junction and Sittingbourne.

Provision of bi-directional working on all platforms at Faversham.

Customer Reasonable Requirements During 2000 we will examine options to improve capacity and performance on the congested Medway Towns corridor. Potential solutions include signalling and track layout enhancements and upgrading of assets to improve reliability.

In association with Connex, we will examine track layout and signalling alterations at a number of locations to improve performance and operational flexibility.

Our freight customers have identified a number of requirements and we will continue cost, feasibility and funding investigations during this year. These include clearance for W10w gauge trains between Clapham Junction and Thamesport, clearance for 775m long trains on North Kent Lines, and route clearance studies for Class 92 locomotives between Clapham Junction and Hoo Junction and for Class 325 units on several routes.

Local authorities We are working with local authorities, Connex and Arriva to develop proposals to increase the attractiveness of the Medway Valley Line. Issues being examined include the potential for service enhancements, improving facilities and security at stations, and creating better modal interchanges.

We will work with SELTRANS, SWELTRAC and customers to develop proposals for enhanced train frequencies on south London radial and orbital routes.

STATION DEVELOPMENT Railtrack, SELTRANS and the London Borough of Bromley, in conjunction with adjoining landowner Tesco are in consultation over delivery of a new transport interchange at Elmers End which will include improving access to the rail network.

Progress on the 1999 NMS

Station Regeneration Programme During 1999, station regeneration work has been completed at Albany Park, Margate, Cuxton, East Farleigh, Halling, Farningham Road, Kemsley and Swale. Depot regeneration work at Slade Green has also been completed.

Millennium Dome The major work enhancing the station facilities at Charlton and providing a new rail/bus interchange to serve the Millennium Dome was completed in November 1999.

Signalling Work is progressing on the Dartford Area Signalling scheme, with completion scheduled for April 2001. Replacement of the signalling interlocking at Angerstein is scheduled for completion by February 2001.

Structures Work to strengthen and refurbish King's Ferry Bridge was completed in December 1999.

New Trains Routes from London to Ramsgate and Dover via Faversham have been cleared for Connex's new Class 375 trains.

Freight A feasibility study into the possibility of reconnecting the cement works at Holborough to the network has been carried out by Railtrack, on behalf of Blue Circle. Blue Circle is now seeking T&WA approval for the scheme.

Depots Improvement works are complete at Ashford Depot and redevelopment work has begun at Ramsgate crew depot.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
TL2000: Cross-London from Dartford via Sidcup and Bexleyheath	Provision of 12-vehicle operation	Increased capacity	2006	A
CTRL Section1: Waterloo–Fawkham Junction	Capacity upgrades from Waterloo to Fawkham Junction	Increased capacity	2003	B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(J): Victoria–Canterbury East–Dover Priory	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 7min for key passenger flows	2006	A
IOS(J): Victoria–Canterbury East–Dover Priory	Railtrack proposes to offer sSRA an alternative output	Reduced journey times by 10min for key passenger flows	2006	B
IOS(J): Victoria–Ramsgate	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 7min for key passenger flows	2006	C
IOS(J): Victoria–Ramsgate	Railtrack proposes to offer sSRA an alternative output	Reduced journey times by 10min for key passenger flows	2006	D
IOS(O): Sittingbourne–Sheerness	Railtrack proposes to offer sSRA an alternative output	Provide reversible working over the Down line to/from the Sheerness Branch at Eastern Junction to/from the loop at Sittingbourne Station	2006	E
IOS(O): Faversham	Railtrack proposes to offer sSRA an alternative output	All platforms to be fully reversible	2006	F
IOS(J): Southeast London suburban routes	Railtrack proposes to offer sSRA an alternative output	Target reductions on key flows of 1–2min	2006	G
Clapham Junction–Thamesport and Hoo Junction	Study of route gauge clearance	Increased freight tonnage and flexibility	2006	A

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Victoria–Chatham	55	1	41min (50mph)	41min (50mph)	41min (50mph)	40min (52mph)
London Victoria–Canterbury East	98	6	1hr 22min (45mph)	1hr 22min (45mph)	1hr 22min (45mph)	1hr 17min (48mph)
London Victoria–Dover Priory (via Faversham)	124	7	1hr 39min (47mph)	1hr 36min (48mph)	1hr 36min (48mph)	1hr 29min (52mph)
London Victoria–Ramsgate (via Faversham)	127	11	1hr 43min (46mph)	1hr 43min (46mph)	1hr 43min (46mph)	1hr 35min (50mph)
London Charing Cross–Dartford	27	6	34min (30mph)	34min (30mph)	34min (30mph)	34min (30mph)
LINESPEEDS (km of track)						
Up to 35mph			62	62	62	62
40–75mph			333	333	333	333
80–105mph			184	184	184	184
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			578	578	578	578
GAUGE (km of route)						
W6A			292	292	292	292
W7			58	58	58	58
W8			53	53	53	53
W9			0	0	0	41
W10			0	0	0	41
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			10	10	10	10
20.4–24.1 tonnes			27	27	27	27
24.2–25.4 tonnes			541	541	541	541
TOTAL			578	578	578	578

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	21.5	7.9	20.5	21.9
Structures	1.5	2.8	11.5	11.0
Signalling	32.8	29.0	51.4	104.3
Electrification	3.8	0.8	9.7	14.1
Plant & Machinery	0.1	0.1	1.1	1.0
Telecoms	0.1	0.2	5.7	11.3
Stations	12.0	9.6	10.2	7.9
Depots	0.0	0.0	4.4	4.3
Other	0.7	0.1	0.8	0.7
TOTAL	72.5	50.5	115.4	176.6

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	7.7	1.4	3.6	0.0	12.7	Various
Thameslink 2000	2006/07	0.2	0.3	11.2	0.0	11.7	4/5
TOTAL		7.9	1.7	14.8	0.0	24.4	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	62.0	Various
London commuter area capacity: South Eastern	40.0	2
Route: clearance for Class 365/375	0.2	2
TOTAL	102.2	

The sum of the expenditures may not match totals due to rounding



Connex South Central; Connex South Eastern; Eurostar (UK); Gatwick Express; Silverlink; South West Trains; Thameslink; Thames Trains; Virgin CrossCountry; EWS; Freightliner.

Committed schemes

- A** Blackfriars Station: additional capacity
- B** London Bridge: additional capacity
- C** Bermondsey: additional capacity
- D** Various stations: additional capacity
- E** London Victoria–Battersea Park: operational flexibility
- F** Brighton Station: improved passenger facilities
- G** London Victoria–Eastbourne: route clearance for Class 375 trains
- H** Guildford–Redhill–Brighton: route clearance for Class 221 trains

Options for major improvements to capability

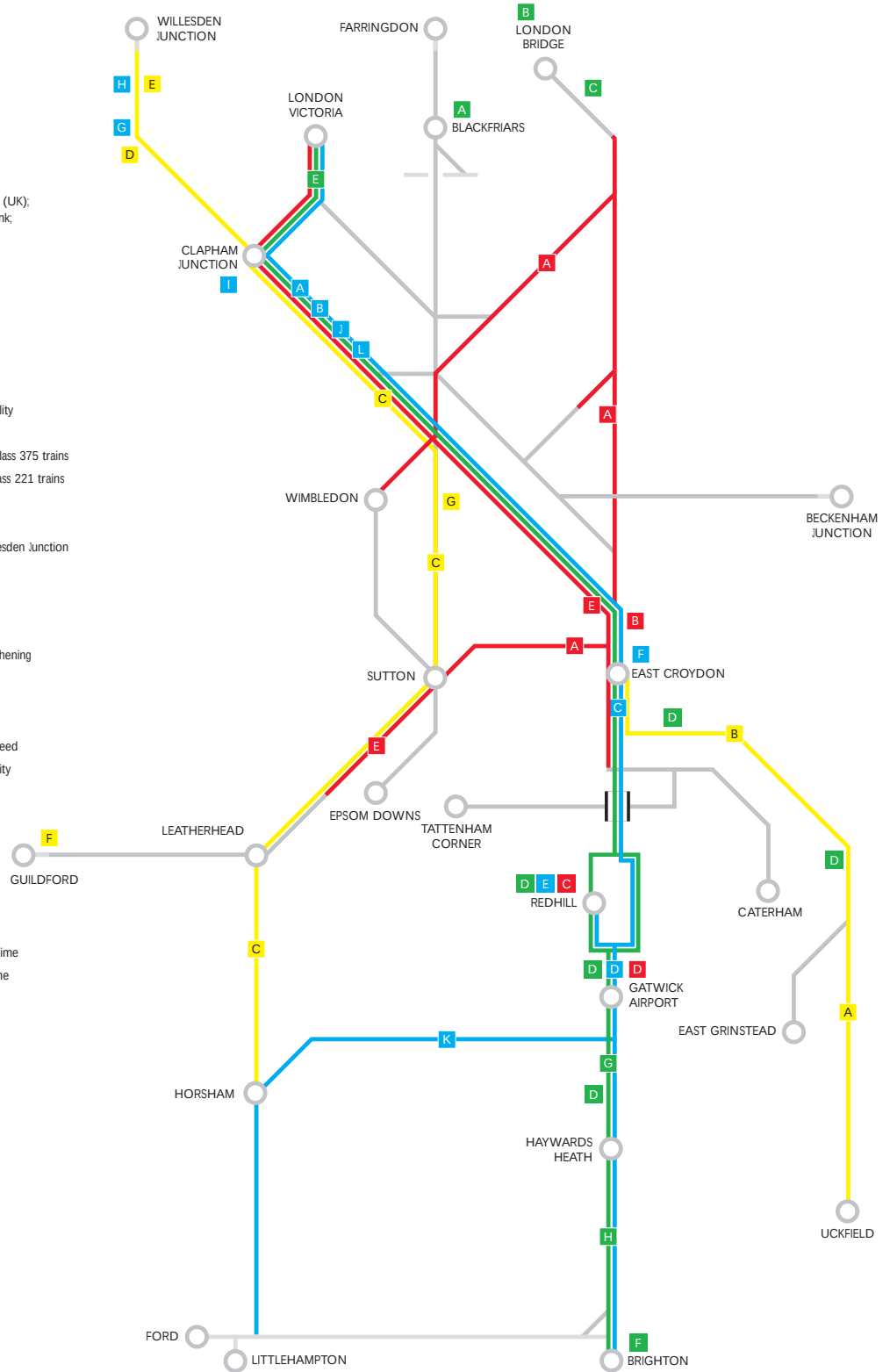
- A** East London Line: enable through trains from Willesden Junction and Finsbury Park to South London destinations
- B** Windmill Bridge Junction: new flyover
- C** Redhill: additional capacity
- D** Gatwick Airport: additional capacity
- E** London Victoria–Purley and Epsom: platform lengthening

IOS options

- A** London Victoria–Brighton: improved linespeed
- B** London Victoria–Gatwick Airport: improved linespeed
- C** London Victoria–Three Bridges: operational flexibility
- D** Guildford–Gatwick Airport: operational flexibility
- E** Redhill: operational flexibility
- F** East Croydon: operational flexibility
- G** Chelsea Railway Bridge: additional capacity
- H** Shepherd's Bush: operational flexibility
- I** Clapham Junction: operational flexibility
- J** London Victoria–Havant: improved journey time
- K** London Victoria–Bognor Regis: improved journey time
- L** London Victoria–Eastbourne: improved journey time

Customer Reasonable Requirements and other development options

- A** Hurst Green–Uckfield: electrification
- B** South Croydon–Uckfield: additional capacity and improved journey time
- C** Clapham Junction–Horsham: improved linespeed
- D** West London Line: additional freight capability
- E** Shepherd's Bush: new station
- F** Merrow: new station
- G** Eastfields: new station



Route characteristics

DESCRIPTION This route links South London and the south coast with London's West End (at Victoria) and the City (via London Bridge or Blackfriars). Over the busiest section between Clapham Junction and Balham the route carries some 700 trains per day, making it one of the most heavily used routes in Great Britain. The route also caters for a large leisure market, providing access to Gatwick Airport, central London and the resorts of the Sussex Coast.

The core route is four track from Victoria and London Bridge to Balcombe Tunnel, where it becomes two track for much of the remainder of its length to Brighton. Linespeed is variable, but generally 60–70mph in Greater London, 70–90mph elsewhere and with a short stretch at 100mph.

The West London Line connects the West Coast Main Line, North London Line and Great Western Main Line with the south London network. This two-track line has a predominant linespeed of 40mph with a short section of 60mph and flat, low-speed entry and exit junctions.

Other lines are predominantly two track with linespeeds generally between 60 and 75mph. With the exception of the line between Hurst Green and Uckfield, the route is electrified throughout.

KEY CAPACITY CONSTRAINTS The route has several points at which capacity is constrained with a subsequent impact on performance. At Victoria Station the 19 platforms are operating close to capacity at the busiest periods of the day. There is limited opportunity to create further capacity by timetable alterations but in the longer term the competing demands of Routes 6, 19 and 23 will put increasing pressure on Victoria's platform capacity.

At Windmill Bridge Junction, about a kilometre north of East Croydon, the lines from Victoria and London Bridge converge. Although there are already two flyovers there is a flat junction at the point where fast-line trains from Victoria cross fast-line trains to London Bridge.

Trains from Tonbridge and Guildford join the Brighton Main Line at Redhill and those continuing towards Gatwick Airport must reverse in Platforms 1 or 2. The high level of occupation of these platforms and the number of movements across the track layout restricts capacity for through trains.

The 40mph single-lead crossover between the fast and slow lines at Earlswood restricts capacity and flexibility.

Since the track layout at Gatwick Airport was designed the train service pattern has changed significantly to reflect the growth in airport traffic and the current layout is no longer fit for its purpose. In particular, the 15-minute-frequency Gatwick Express service has to cross from the fast lines to Platforms 1 and 2, reducing capacity and impacting on performance.

Between Balcombe Tunnel Junction and Brighton, the line is generally two track and is near capacity throughout the day. The position is compounded by the differing stopping patterns and rolling stock characteristics.

Train lengths are a capacity constraint in the suburban area, where most platforms can only accommodate eight-vehicle trains.

Capacity on the West London Line is constrained by the complex flat junctions at each end of the route, low linespeed across Chelsea Bridge and the AC/DC changeover point at North Pole.

Route vision

Our vision for this route is to provide a reliable, high-capacity railway which will enable the business and leisure markets to grow. The route must provide a fast, frequent, modern and reliable service between London, East Croydon, Gatwick Airport and the Sussex Coast, while also meeting the needs of freight and north of London services. We expect high levels of passenger growth on main line routes over the next ten years and this is driving our proposals for infrastructure enhancements.

The Thameslink 2000 scheme will provide significant additional capacity and will generate many new opportunities for journeys to and via the City of London. Further development of our route strategy has identified the key areas to be addressed to create additional capacity and these are set out in more detail below.

We wish to achieve journey-time improvements on all main lines within this route but opportunities are limited in the short term because of the mix of rolling stock used and the density of the service. In the longer term new rolling stock fleets and infrastructure enhancements will facilitate journey-time improvements, but our primary short-term objective is to develop minor capacity and linespeed enhancements which can be used to improve the reliability of the service and journey times.

We will develop the West London Line to maximise its potential as a provider of local orbital passenger services, longer distance cross-London services as well as domestic and Channel Tunnel freight traffic.

Committed development plans

Thameslink 2000 The Thameslink 2000 Programme is a joint initiative, with the sSRA and the Secretary of State. The principal objective is to provide the infrastructure to allow a major expansion of Thameslink services which have experienced substantial demand growth since their introduction in 1988.

Specifically, the programme will:

- Reduce overcrowding on Thameslink and other London commuter services.
- Reduce overcrowding on London Underground.
- Reduce the need for interchange between main line and Underground services.
- Provide for the introduction of new cross-London services, so improving public transport accessibility in south east England including access to areas of expected demand growth such as the London Bridge development area, Docklands, the King's Cross lands and London's airports.
- Facilitate the dispersal of passengers from St Pancras following completion of the Channel Tunnel Rail Link (CTRL).

The programme has four key features:

- Provision of a 24-train-per-hour service in the peak periods through central London between St Pancras Midland Road and Blackfriars.
- Eighteen trains per hour in off-peak periods.

- Connection of the existing central London Thameslink Route to the ECML (Great Northern Line) north of King's Cross.
- Provision for operation of 12-vehicle trains on most Thameslink 2000 routes.

Railtrack's role involves provision of the infrastructure to deliver the number of train paths in support of the train-service pattern specified by the sSRA.

Improvements and revisions to the Thameslink 2000 Programme have been developed during the period that the CTRL programme was under review. These have been incorporated into a supplementary Transport and Works Act application which has been submitted to the Deputy Prime Minister. He has announced that there will be a public inquiry which is expected to start mid-2000.

The core programme remains largely unchanged but a number of improvements and enhancements have been incorporated.

In summary, the programme comprises substantial works in a corridor extending from Bermondsey, to the east of London Bridge through to the new station at St Pancras Midland Road. Track and station capacities will be increased by extensive track remodelling, and station reconstruction and refurbishment.

Committed development plans *(continued)*

Major works on Route 19 include:

- Construction of a grade-separated junction at Bermondsey to separate Thameslink 2000 and Charing Cross-bound trains.
- Two additional lines between London Bridge and Metropolitan Junction (Route 6).
- Two additional through lines and three new through platform faces at London Bridge.
- An additional line at Tanners Hill (St John's) (Route 6).
- Signalling works to provide the specified track capacity which will be integrated with renewals of signalling equipment and control systems approaching the end of their economic life.
- A link to the East Coast Main Line to the north of King's Cross (Route 2).
- Extensive reconstruction of London Bridge, Blackfriars and Farringdon Stations.
- Improvements to the interchanges with London Underground at Blackfriars and Finsbury Park.
- Fitting out the new St Pancras Midland Road Station which will provide interchange with the new international station and improved connections to St Pancras and King's Cross domestic stations and to London Underground.
- Platform extensions at Balcombe, Earlswood, Oxted, Redhill, Salfords and Sanderstead.

The sSRA has specified some changes to the destinations in outer areas. The Thameslink 2000 network will now include Peterborough, Bedford, King's Lynn, Dartford, Ashford, Eastbourne, Sutton, Wimbledon, Littlehampton, Guildford, Horsham and Sevenoaks.

The timescales for undertaking Thameslink 2000 will not be finalised until the timescale for Section 2 of the CTRL programme is agreed and the public inquiry has reported. The current project plan assumes Thameslink 2000 will be operational in late 2006.

Other commitments A package of signalling and track improvements is currently under way and will be completed during late 2000. These works will enable passenger trains to use an additional line between Battersea Park and Victoria and will be completed in late 2000. This will significantly improve the flexibility of the layout and reduce delays.

We will carry out enhancements to signalling at Earlswood to improve the flexibility of the junction connecting the fast and slow lines during this year.

We will complete gauging assessments for Class 375 trains units between London and Eastbourne, Seaford, Brighton, Littlehampton, Bognor Regis and Portsmouth Harbour during this year. Gauging assessments for Class 221 trains will also take place on the Reading–Guildford–Brighton Route.

We will continue with the Station Regeneration Programme throughout the year, with work starting at Redhill, Horley and Wivelsfield early this year. The second phase of SRP work at Earlswood, Salfords, Three Bridges and Haywards Heath will start in summer 2000. A package of station regeneration work and improvements to retail facilities and the taxi set-down/pick-up point will be completed this year.

Installation of new customer information systems is in progress at Connex stations, with completion expected later this year. A new customer information system will also be provided at Gatwick Airport during 2000.

Options for development

Brighton Main Line capacity enhancements If we are to reduce the present level of peak overcrowding and cater for future growth, a number of key bottlenecks must be addressed.

The most significant pinchpoint on the route is Windmill Bridge Junction, to the north of East Croydon, where we are proposing a new flyover which will increase capacity by separating south-bound Victoria fast trains and north-bound London Bridge fast trains.

Gatwick Airport currently handles 29 million passengers per year and BAA anticipates that this figure will rise to 40 million within ten years. Railtrack supports BAA's target of 40% of airport passengers using public transport for journeys to and from the airport. To stimulate this growth, Gatwick's rail station must be developed into a world-class interchange point. We will continue to work with our customers and BAA to develop a high-quality station which provides a seamless transfer between rail and air, provides capacity for the forecast growth and ensures long-term improvement of rail's share of travel to and from the airport.

We also need to enhance the track layout at Gatwick Airport if the new capacity created at Windmill Bridge Junction is to be used effectively. We have developed a number of solutions and we are carrying out further analysis and consultation with our customers to identify the layout which will best serve the needs of all stakeholders and complements the station development proposals described above.

Trains on the Reading–Gatwick and Tonbridge–Gatwick routes have to change directions at Redhill and at present this move can only be made in two of the three platforms. We propose to improve the track layout so that some of these trains can use all platforms. This will create capacity which can be used by London–Brighton and Tonbridge/Reading–Gatwick services.

Further options to improve capacity, flexibility and performance include track layout changes at Wandsworth Common, Earlswood and Brighton. At Earlswood, we will examine the feasibility of increasing the junction speed to 70mph and replacing the single leads with a double junction.

We believe that this package of work at Windmill Bridge Junction, Gatwick Airport and Redhill will provide capacity for growth for ten years. In the longer term, further solutions may be necessary if demand continues to grow and we are evaluating a range of options. These may include longer trains

on the Brighton Line, and linespeed and capacity enhancements on the parallel South Croydon–Uckfield and Streatham Junction/Selhurst–Arundel routes including provision of a new northeast chord at Arundel Junction.

South London capacity enhancement We have examined a number of potential solutions to the capacity problems on the South London suburban network. Our analysis has concluded that the most cost-effective way to resolve overcrowding and cater for growth in this area is by train lengthening. Therefore our plan includes a platform lengthening programme which will enable ten-vehicle trains (compared with the current eight) to run on the Victoria–Purley via Norbury and Victoria–Epsom via West Croydon routes. We have evaluated double-deck trains, but the large number of tunnels and rail intersection bridges make this option very expensive.

We believe that the Thameslink 2000 and East London Line proposals will create sufficient capacity to meet demand on the routes feeding London Bridge and platform lengthening will not be necessary on those lines.

West London Line We are supporting the local authorities' aspirations for new stations at Shepherd's Bush and Chelsea Harbour provided that they are accompanied by capacity enhancements. These stations will serve new developments, provide additional transport interchanges and encourage greater use of the West London Line as a strategic orbital rail corridor. However, the additional time taken by trains to stop at more stations uses capacity and we need to ensure that sufficient capacity is available for other uses. Therefore, in association with the local authorities, we are developing proposals to carry out structural improvements to Chelsea River Bridge to enable the linespeed to be increased to 50mph. It will also be necessary to move the changeover point between AC and DC traction from North Pole to the new station at Shepherd's Bush to avoid the need for trains to stop twice in less than a mile. Further work will take place during 2000 to develop proposals which will enable empty trains to run between St Pancras and North Pole Depot after completion of CTRL Section 2.

East London Line (see Route 26) We are working with LUL to develop detailed proposals to integrate the East London Line with the national rail network. The scheme will enable through services to operate from Willesden Junction and Finsbury Park in the north to Wimbledon via Peckham Rye, Crystal Palace and West Croydon in the south. This will require a new junction near South Bermondsey, a new grade-separated junction at New Cross Gate, additional platforms at Crystal Palace and alterations to the track layout at West Croydon and Wimbledon. During 2000, we will also consider other potential South London destinations.

Uckfield Line We believe that development of the Uckfield Line could reduce peak overcrowding on the Brighton Main Line and we are evaluating options with Connex as part of the franchise replacement process. The development will include the electrification of the line so that the diesel trains currently in use can be replaced with modern, high-performance electric trains. Further options being evaluated include redoubling the line to enable an improved service to London, significant linespeed improvements and, should demand require it, the reopening of the Lewes–Uckfield and Eridge–Tunbridge Wells lines.

Horsham resignalling The feasibility study of potential options for the renewal of signalling equipment at Horsham has been completed. The scheme will involve complete resignalling of the area between Littlehaven, Warnham and Christ's Hospital. It will include provision of a new crossover at Horsham to enable trains to run from Dorking to platforms 1 and 2 at Horsham, signalling enhancements to improve operational flexibility, and improved headways between Christ's Hospital and Horsham.

Rolling-stock replacement We will continue to work with customers to achieve route clearance for rolling stock to replace the existing Mark 1 fleet. We will complete gauging assessment for Class 375 trains between Victoria, London Bridge and Eastbourne, Hastings, Brighton, Littlehampton, Bognor Regis and Portsmouth Harbour by the end of the year.

SSRA Incremental Output Statements Provision of infrastructure and timetable to deliver a 45-minute journey time between Victoria and Brighton for trains calling at East Croydon only and formed of Class 375 trains.

Provision of infrastructure and timetable to deliver a 25-minute journey time between Victoria and Gatwick Airport for non-stop trains formed of Class 460 trains.

Provision of infrastructure and timetable to enable the journey time between Victoria and Havant via Worthing to be reduced by three minutes, for trains formed of Class 400 series trains and calling at Clapham Junction, East Croydon, Gatwick Airport, Haywards Heath, Hove, Shoreham-by-Sea, Worthing, Angmering, Barnham and Chichester.

Provision of infrastructure and timetable to enable journey time between Victoria and Bognor Regis via Horsham to be reduced by five minutes, for Class 400 series trains and calling at Clapham Junction, East Croydon, Gatwick Airport, Horsham then all stations.

Provision of infrastructure and timetable to enable minor journey-time improvements in the South London suburban area, with Class 455/456 trains.

One up line and one down line between East Croydon and Purley to be available at all times, including during weekend and overnight engineering work. At East Croydon, four platforms must be available.

Sunday services between Guildford and Gatwick Airport to be able to operate throughout on all dates when the line between Guildford and Redhill is open.

Facilities to enable two trains to use the same platform at Redhill to be retained.

The headway across Chelsea River Bridge (West London Line) to be three minutes.

The speed through the connection at Clapham Junction between the West London Line and the Brighton slow lines to be increased to 30mph.

Customer Reasonable Requirements Our freight customers have identified a number of requirements. These include clearance for W10w and W11 gauge trains on the West London Line, alterations to accommodate 775m long trains on the West London Line and between Clapham Junction and Redhill, route clearance studies for Class 92 locomotives between Clapham Junction and Redhill and for Class 325 units on a variety of routes.

We will undertake a review of the timetable with a view to optimising capacity and achieving a 28-minute journey time with clockface departures for Gatwick Express services.

In association with Connex, we will explore track layout and signalling alterations at a number of locations to improve performance and operational flexibility.

MAJOR STATIONS

An initial study of options for long-term development of Victoria Station has been completed. We will focus on providing sufficient passenger flow capacity through the station to meet growth forecasts and identify potential improvements to the passenger interchange, primarily with London Underground. Further work is expected to be undertaken during 2000 to develop these initial findings.

Studies into improvements into concourse-based passenger and tenant facilities, the provision of a more extensive airline check-in facility (in conjunction with Gatwick Express) and a new customer information system will be undertaken.

STATIONS

There are proposals for new station facilities and office accommodation at Epsom Station. We have held discussions with a developer to identify the potential for improvements to East Croydon Station. In conjunction with Connex, the local authority and developers, we are looking at opportunities to provide new facilities at Three Bridges. New station access, interchange facilities and car parking are being developed for Brighton.

In association with West Sussex County Council we will investigate the feasibility of new stations at Coldwaltham and Barnes Green (on the Arun Valley Line), at Maidenbower near Three Bridges and at Haywards Heath South.

We will continue to work with Surrey County Council and South West Trains on development of proposals for a new station at Mewar, near Guildford.

We are working with Connex and the local authority to develop plans for a new station at Eastfields between Streatham and Mitcham Junction.

We support development of the Fastway project which will improve the integration of the national rail and local bus networks at Crawley, Three Bridges and Horley.

Progress on the 1999 NMS

THAMESLINK 2000 Wide-ranging consultation with many organisations took place during development of revised designs. An information caravan staffed by members of the programme team visited locations where design changes to the programme scope are proposed. These activities were completed before a supplementary application for powers under the Transport and Works Act was made in September 1999. This included all changes and significant design improvements to the programme that have arisen since the original application was made in 1997. The Deputy Prime Minister has announced that a public inquiry will be held and preparatory work on compiling supporting data has commenced.

We have worked closely with the sSRA in producing closure notices for those parts of the network which will be removed as part of the scheme.

Revised documents reflecting the new programme scope and implementation strategy were prepared and distributed within the industry. Briefing sessions were held in advance of consultation with individual train operators whose responses have been generally favourable.

To ensure that benefits from Thameslink 2000 are maximised and to address some significant objections to the 1997 T&WA application, a number of further enhancements were agreed in principle with the sSRA. These include provision of an additional through line and platform at London Bridge and an additional track in the St John's (Tanners Hill) area. These works will allow both the specified Thameslink 2000 service and the same number of trains as currently serve Charing Cross during the peak to operate. At both Blackfriars and Finsbury Park it has been established that the interchange between main line stations and the Underground stations would be inadequate for the increased number of passengers forecast. Proposed improvements to the arrangements at Blackfriars were included in the supplementary T&WA application. Development of design proposals for works at Finsbury Park have commenced. In outer areas the range of destinations which can be served by 12-vehicle trains has been expanded.

Negotiations continued with objectors to the 1997 T&WA application and have continued to include the additional objections made to the 1999 application. The revised designs for Blackfriars and Farringdon stations and the range of enhancements at London Bridge have been developed in consultation with significant objectors.

We have published our Statement of Case for Thameslink 2000.

We have also concluded a first version of a full Thameslink 2000 timetable to show how the proposed service pattern would fit with non-Thameslink services. The output has been shared with the sSRA. Further development and refinement will be undertaken.

OTHER INFRASTRUCTURE CHANGES Major refurbishment of the Ouse Valley Viaduct, undertaken in conjunction with English Heritage and Railway Heritage was completed in October 1999.

Route clearance for Class 460 trains between Victoria and Gatwick Airport has been completed.

The first phase of a project to convert Battersea Yard Bridge to an embankment has been completed. The final phase will be completed by Easter 2001.

STATIONS The new station at West Brompton, on the West London Line, opened in June 1999.

In association with Connex, the installation of automatic ticket gates at Victoria has been completed. At Gatwick Airport a package of station regeneration work and provision of new way-finding arrangements between the station and airport terminal have been completed. The regeneration of Brighton Station is continuing according to programme and the work is scheduled to be completed in July 2000. The crash deck which had been erected to allow the new roof to be installed safely has been removed.

SRP work has been completed at Balcombe, Caterham, Clapham High Street, Hassocks, Preston Park, Queen's Road (Peckham), Riddlesdown and West Norwood. Depot regeneration work at Streatham Hill has also been completed.

SRP work at South Croydon, Purley Oaks and Horsham is in progress and will be completed in summer 2000. The renewal of Selhurst wheel lathe will be completed in the summer of 2000.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Thameslink 2000: Blackfriars Station	Revised station layout	12-vehicle platforms	2006	A
Thameslink 2000: London Bridge	Extensive changes to track layout	Increased capacity	2006	B
Thameslink 2000: Bermondsey	Grade-separated junction	Increased capacity	2006	C
Thameslink 2000: Balcombe, Earlswood, Oxted, Redhill, Salfords and Sanderstead	Longer platforms	Operation of 12-vehicle trains	2006	D
Victoria–Battersea Park	Upgrade empty train route to passenger-carrying status	Improved flexibility in the station throat	2000	E
Brighton Station	Completion of station regeneration	Improved passenger facilities	2000	F
Victoria–Eastbourne/Seaford/Brighton/Littlehampton, Bognor Regis and Portsmouth	Route clearance	Permit introduction of new Class 375 trains	2006	G
Guildford–Redhill–Brighton	Route clearance	Permit introduction of new Class 221 trains	2006	H

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

East London Line	Track alterations at West Croydon, Crystal Palace and Wimbledon	Through trains from Willesden Junction and Finsbury Park to South London destinations	2006	A
Windmill Bridge Junction	New flyover	Increased capacity	2006–10	B
Redhill	Additional capacity	Increased capacity	2006–10	C
Gatwick Airport	Revised track layout	Increased capacity	2006–10	D
Victoria–Purley and Epsom	Longer platforms	10-vehicle platforms	2006–10	E
IOS(J): London Victoria–Brighton	Railtrack proposes to offer sSRA an alternative output	Journey time of 45min	2006	A
IOS(J): London Victoria–Gatwick Airport	Railtrack proposes to offer sSRA an alternative output	Higher linespeeds including differential linespeeds for newer stock	2006	B
IOS(O): London Victoria–Three Bridges	Railtrack proposes to offer sSRA an alternative output	One pair of tracks to be available at all times, including during engineering work at nights and weekends	2006	C
IOS(O): Guildford–Gatwick Airport	Detailed scheme being prepared	Redhill–Gatwick to remain open when the line between Redhill and Guildford is open on Sundays	2006	D
IOS(O): Redhill	Detailed scheme being prepared	Facilities for two trains to use the same platform to be retained	2006	E
IOS(O): East Croydon	Railtrack proposes to offer sSRA an alternative output	No more than two platforms to be closed on Sundays for engineering works	2006	F
IOS(C): Chelsea Railway Bridge	Detailed scheme being prepared	Reduce headways to 3min	2006	G
IOS(O): Shepherd's Bush	Detailed scheme being prepared	Allow traction change in new station	2006	H
IOS(O): Clapham Junction	Railtrack proposes to offer sSRA an alternative output	Allow access to WLL from Brighton Line at 30mph	2006	I
IOS(J): Victoria–Havant via Worthing	Detailed scheme being prepared	Reduced journey time by 3min	2006	J
IOS(J): Victoria–Bognor Regis via Gatwick and Horsham	Detailed scheme being prepared	Reduced journey time by 5min	2006	K
IOS(J): Victoria–Eastbourne via Gatwick and Lewes	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 3min	2006	L
IOS(J): South London suburban routes	Railtrack proposes to offer sSRA an alternative output	Target reductions on key flows of 1–2min	2006	
Hurst Green–Uckfield	Electrification	Reduced journey times, increased journey opportunities	2006–10	A
South Croydon–Uckfield	Provide double track throughout and linespeed improvement	Improved capacity and journey times	2010–15	B
Clapham Junction–Horsham via Dorking	Linespeed improvements	Relieve capacity problems on the Brighton Main Line	2010–15	C
West London Line	W10w and W11 gauge clearance	Increased freight tonnage and flexibility	2006	D
West London Line	Alteration to allow 775m long trains	Increased freight tonnage and flexibility	2006	D
West London Line	New stations at Shepherd's Bush and Chelsea Harbour	New station	2000–02	E
Merrow	New station near Guildford	New station	2006	F
Eastfields	New station between Balham and Mitcham Junction	New station	2006	G

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Victoria–East Croydon	17	0	13min (48mph)	13min (48mph)	13min (48mph)	12min (53mph)
London Victoria–Gatwick Airport	43	0	30min (53mph)	30min (53mph)	30min (53mph)	25min (64mph)
London Bridge–Gatwick Airport	43	1	28min (62mph)	28min (62mph)	28min (62mph)	25min (64mph)
London Victoria–Brighton	81	1	49min (62mph)	49min (62mph)	49min (62mph)	45min (65mph)
London Bridge–Brighton	81	4	56min (54mph)	56min (54mph)	56min (54mph)	54min (56mph)
London Victoria–Eastbourne	94	7	1hr 25min (41mph)	1hr 25min (41mph)	1hr 25min (41mph)	1hr 22min (43mph)
London Victoria–Havant (via Worthing)	140	10	1hr 51min (47mph)	1hr 51min (47mph)	1hr 51min (47mph)	1hr 48min (48mph)

LINESPEEDS (km of track)

Up to 35mph	97	97	97	97
40–75mph	653	653	653	653
80–105mph	195	195	195	195
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	945	945	945	945

GAUGE (km of route)

W6A	426	426	426	426
W7	97	97	97	97
W8	82	82	82	82
W9	52	52	52	52
W10	0	0	0	10
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	89	89	89	89
20.4–24.1 tonnes	193	193	193	193
24.2–25.4 tonnes	664	664	664	664
TOTAL	945	945	945	945

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	8.0	5.5	76.7	62.8
Structures	9.8	2.7	26.0	22.8
Signalling	0.3	0.5	50.0	9.0
Electrification	2.0	0.8	17.6	13.2
Plant & Machinery	0.1	0.1	1.5	1.5
Telecoms	8.4	4.8	7.1	9.1
Stations	19.4	10.9	47.0	21.7
Depots	0.0	0.0	4.4	4.3
Other	0.0	0.2	1.1	1.0
TOTAL	48.0	25.5	231.4	145.4

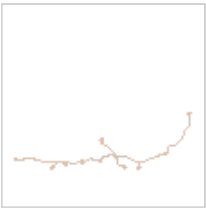
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Thameslink 2000	2006/07	5.1	5.9	195.6	2.0	208.6	4/5
Other committed schemes	Various	9.0	24.4	1.4	0.0	34.8	Various
Victoria Station	Various	1.1	2.0	0.2	0.2	3.5	Various
Victoria carriage road upgrade	2000/01	1.8	0.7	0.0	0.0	2.5	Various
TOTAL		17.0	33.0	197.2	2.2	249.4	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Brighton main line: upgrade	360.0	1
London commuter area capacity: South Central	100.0	1
Other schemes	49.3	Various
South London: journey-time improvements	20.0	1
Victoria Station	5.0	1
TOTAL	534.3	

The sum of the expenditures may not match totals due to rounding



Connex South Central;
South West Trains;
Wales & West, EWS.

Committed schemes

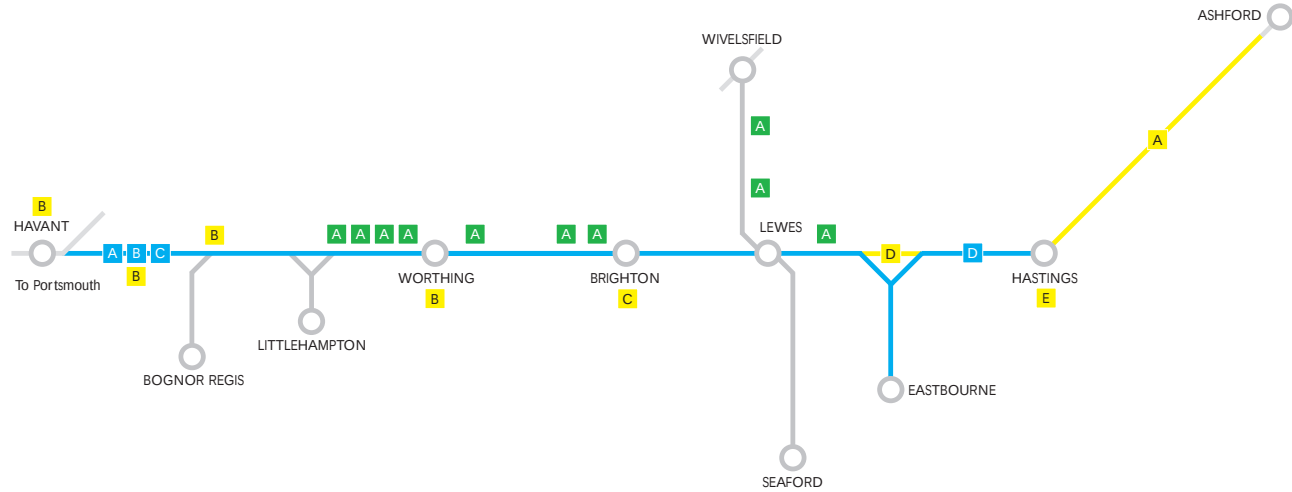
- A
- Thameslink 2000: platform lengthening

IOS options

- A
- Havant–Brighton: additional capacity
- B
- Havant–Brighton: improved journey time
- C
- Eastleigh–Brighton: additional capacity
- D
- Brighton–Hastings: improved journey time

Customer Reasonable Requirements
and other development options

- A
- Hastings–Ashford: electrification
- B
- Worthing, Barnham, Chichester and Havant:
additional overtaking facilities
- C
- Brighton: improved track layout for coastal services
- D
- Polegate–Pevensey: possible new line
- E
- Hastings: station improvements



Route characteristics

DESCRIPTION This route carries short and medium distance passenger services along the coast in addition to London services which join the route at St Leonards, Lewes, Hove and Arundel Junction.

The route is almost entirely two track, although the short Ore–Appledore and Newhaven Harbour–Seaford sections are single track. Linespeed is predominantly 75mph with notable exceptions being 90mph from Southerham

Junction to Willingdon Junction and 60mph from St Leonards Warrior Square to Ashford. Apart from the Ore–Ashford section, the route is electrified.

KEY CAPACITY CONSTRAINTS The principal capacity constraint is the lack of places where fast trains can overtake slower services. Capacity is also constrained on the single-line sections, particularly between Ore and Appledore.

Route vision

Our vision is to improve journey times and train frequencies so that rail becomes an increasingly attractive mode of travel. Initially, we envisage electrification of the Ashford–Hastings Line to provide faster journey times with modern rolling stock. This will also open the line to longer-distance trains and the next stage of

development will be to examine the opportunities to improve journey times by reviewing stopping patterns and developing infrastructure changes to increase linespeeds and to allow fast trains to overtake slower services.

Committed development plans

Thameslink 2000 The Thameslink 2000 project will enable trains to run between Eastbourne and Littlehampton and routes to the north of London via London Bridge and Blackfriars. To accommodate Thameslink 2000 trains at stations on this route, we will carry out platform extensions at Plumpton, Cooksbridge, Berwick, Hampden Park, Hove, Portslade, Lancing, West Worthing, Durrington-on-Sea, Goring-by-Sea and Angmering.

New rolling stock We will complete gauging assessment for Class 375 trains between Eastbourne, Brighton, Littlehampton, Bognor Regis and Portsmouth Harbour by the end of the year.

Station regeneration The programme of station regeneration will continue, with work at Hove, Portslade, Shoreham-by-Sea, Southwick, Lancing, West Worthing, Durrington-on-Sea, Angmering, Lewes, Eastbourne, Cooden Beach, Collington and Bexhill. Depot regeneration work at Littlehampton and St Leonards will continue and the latter has been expanded to include the renewal of the carriage washing machine.

Options for development

It is important that proposals for this route are assessed against other transport proposals for this corridor. We believe that the proposed multimodal study for the south coast corridor is the best means of comparing the costs and benefits of road and rail schemes and we will work closely with the Government Office for the South East (GOSE) during this study. Options to be considered include:

- Electrification of the Ashford–Hastings Route. This would enable modern, electric rolling stock to be introduced which would provide journey-time reductions and enhance the overall rail product
- Infrastructure alterations which, in conjunction with a radical review of the timetable and stopping patterns, would enable faster interurban services to run
- The provision of overtaking facilities at Worthing, Barnham, Chichester and Havant
- Improving journey times by increasing linespeeds
- Major changes at Brighton to eliminate the need for South Coast services to reverse and conflict with London services. However, this would be extremely expensive and disruptive and would probably need to be considered as an alternative to major road enhancements
- Reopening a line between Polegate and Pevensey, avoiding Eastbourne, to improve journey times between the Brighton Main Line and Hastings.

We support the 'Access to Hastings' study being carried out by GOSE as a forerunner to the full multimodal study which will commence later this year. We will work with GOSE and Connex to identify means of enhancing rail services to Hastings.

A number of new stations on this route have been proposed by East and West Sussex County Councils. We will work with the local authorities and train operators to establish the viability of these.

Station development New station access, interchange and car parking is planned at Brighton.

SSRA Incremental Output Statements Provision of two locations in each direction between Havant and Brighton at which fast trains can overtake stopping trains, one of which might be a longer loop to enable trains to pass while moving.

Provision of the infrastructure and timetable to enable a journey-time reduction of three minutes between Havant and Brighton for Class 159 trains and calling at Chichester, Barnham, Worthing, Shoreham and Hove.

Provision of the infrastructure and timetable to enable a journey-time reduction of two minutes between Brighton and Hastings for Class 400 series trains and calling at Falmer, Lewes, Polegate, Eastbourne, Bexhill and St Leonards.

Provision of the infrastructure and timetable to enable an hourly Eastleigh–Brighton service to operate.

Customer Reasonable Requirements A major scheme to build a new station at Hastings and refurbish platform facilities continues to be developed to ensure that it meets the needs of Connex and the local authority.

Progress on the 1999 NMS

Station regeneration work has been completed at Aldrington, Goring-by-Sea, Falmer, London Road Brighton and Newhaven Harbour.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
TL2000: Plumpton, Cooksbridge, Berwick, Hampden Park, Hove, Portslade, Lancing, West Worthing, Durrington-on-sea, Goring-by-sea and Angmering	Provide platform extensions	Accommodate TL2000 trains	2006	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(C): Havant–Brighton	Detailed scheme being prepared	Provide two locations in each direction (up and down) for fast trains to overtake stopping services, possibly one of which would enable dynamic overtaking	2006	A
IOS(J): Havant–Brighton	Detailed scheme being prepared	Improved journey times by 3min	2006	B
IOS(C): Eastleigh–Brighton	Railtrack proposes to offer sSRA an alternative output	Provide for the fast service to run in every hour (incorporates existing Eastleigh–Brighton fast services)	2006	C
IOS(J): Brighton–Hastings	Railtrack proposes to offer sSRA an alternative output	Improved journey times by 2min	2006	D
Hastings–Ashford	Electrification	Improved journey times	2003/04	A
Worthing, Barnham, Chichester and Havant	Provision of overtaking facilities	Faster inter urban services	2006	B
Brighton	Possible major track layout changes	Improved journey times for coastal services	2010–15	C
Polegate–Pevensey	Possible new line	Improved journey times	2010	D
Hastings	Station refurbishment	Improved passenger facilities	2001	E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Portsmouth & Southsea–Brighton	73	21	1hr 22min (33mph)	1hr 22min (33mph)	1hr 22min (33mph)	55min (50mph) (4 stops)
Havant–Brighton	60	5	52min (43mph)	52min (43mph)	52min (43mph)	49min (46mph)
Brighton–Hastings	56	6	1hr 3min (33mph)	1hr 3min (33mph)	1hr 3min (33mph)	1hr 1min (34mph)
Hastings–Ashford	43	7	43min (37mph)	43min (37mph)	43min (37mph)	26min (62mph) (1 stop)

LINESPEEDS (km of track)

Up to 35mph	24	24	24
40–75mph	297	297	297
80–105mph	47	47	47
110–125mph	0	0	0
Over 125mph	0	0	0
TOTAL	368	368	368

GAUGE (km of route)

W6A	199	199	199
W7	99	99	99
W8	25	25	25
W9	1	1	1
W10	0	0	0
W11	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	0	0	0
20.4–24.1 tonnes	92	92	92
24.2–25.4 tonnes	276	276	276
TOTAL	368	368	368

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.0	4.3	15.9	10.0
Structures	0.0	1.4	9.8	8.6
Signalling	0.3	0.4	3.5	3.5
Electrification	0.0	0.8	4.1	11.9
Plant & Machinery	0.1	0.1	0.5	0.7
Telecoms	0.7	0.4	1.8	3.7
Stations	0.0	0.9	7.1	5.7
Depots	0.0	0.0	4.4	4.3
Other	0.0	0.1	0.5	0.5
TOTAL	3.1	8.4	47.6	48.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Thameslink 2000	2006/07	0.2	0.3	13.2	0.0	13.7	4/5
Other committed schemes	Various	0.4	0.1	0.0	0.0	0.5	Various
TOTAL		0.6	0.4	13.2	0.0	14.2	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	91.5	Various
TOTAL	91.5	

The sum of the expenditures may not match totals due to rounding



Connex South Central;
South West Trains; Thames Trains;
Virgin CrossCountry;
Wales & West; EWS; Freightliner.

Options for major improvements to capability

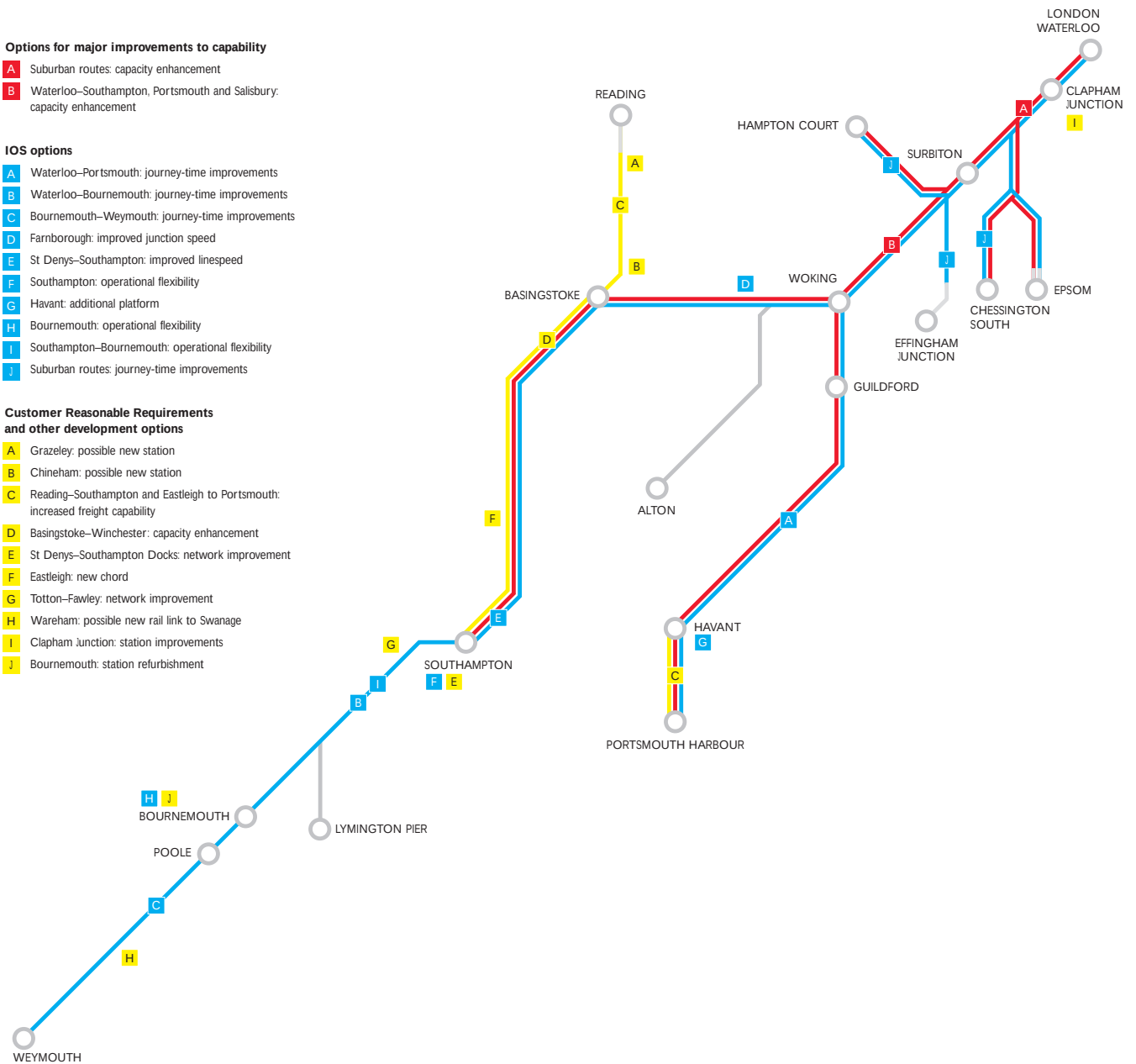
- A Suburban routes: capacity enhancement
- B Waterloo–Southampton, Portsmouth and Salisbury: capacity enhancement

IOS options

- A Waterloo–Portsmouth: journey-time improvements
- B Waterloo–Bournemouth: journey-time improvements
- C Bournemouth–Weymouth: journey-time improvements
- D Farnborough: improved junction speed
- E St Denys–Southampton: improved linespeed
- F Southampton: operational flexibility
- G Havant: additional platform
- H Bournemouth: operational flexibility
- I Southampton–Bournemouth: operational flexibility
- J Suburban routes: journey-time improvements

Customer Reasonable Requirements and other development options

- A Grazeley: possible new station
- B Chineham: possible new station
- C Reading–Southampton and Eastleigh to Portsmouth: increased freight capability
- D Basingstoke–Winchester: capacity enhancement
- E St Denys–Southampton Docks: network improvement
- F Eastleigh: new chord
- G Totton–Fawley: network improvement
- H Wareham: possible new rail link to Swanage
- I Clapham Junction: station improvements
- J Bournemouth: station refurbishment



Route characteristics

DESCRIPTION This route is the principal rail connection between Dorset, Hampshire, West Surrey, and southwest and central London.

There are eight tracks between Waterloo and Clapham Junction, where the lines diverge into those to Reading (see Route 23) and a four-track main line to Basingstoke.

Beyond Basingstoke, the route is generally two track, although east of Dorchester there is a short section of single line. Maximum speeds are 60–70mph in the London area and 90–100mph between Surbiton and Eastleigh. Speeds are more restricted beyond Eastleigh, although 85mph is possible on some sections.

The main line from Woking to Portsmouth Harbour is two track and linespeeds vary due to severe curves and gradients.

Suburban routes branch off the main lines at Raynes Park for Chessington, Dorking and Epsom, at New Malden for Kingston and Shepperton, and at Surbiton for Hampton Court and Guildford via Effingham Junction. There are also feeder routes to Alton, Reading and Lymington.

Apart from Basingstoke–Reading, the route is third-rail electrified throughout. It is primarily a passenger railway but with some freight on many of the lines. Southampton–Reading is an important Freight Route to the North West and Scotland.

KEY CAPACITY CONSTRAINTS During peak periods the fast lines between Woking and Waterloo and the slow lines between Wimbledon and Waterloo are operating at capacity and no additional train movements can be accommodated. Waterloo has 19 platforms available for domestic traffic and these are also very close to capacity at peak times.

During off-peak times, the approaches to Waterloo are still operating close to capacity and there is a likelihood that additional train movements would severely impact on performance.

There are significant numbers of crossing movements on the flat junctions at Woking, Basingstoke and Eastleigh which reduce capacity for services on the Southampton Line.

Between Worting Junction, near Basingstoke, and Southampton the number of train movements is increasing and capacity is consumed by the differing stopping patterns and train speeds, and by crossing movements at Eastleigh.

The suburban stations are only capable of accepting eight-vehicle trains and this, together with the limited capacity of the main lines approaching Waterloo, limits the short-term options to reduce overcrowding on trains at peak times.

Route vision

Recent years have seen a rapid growth in the number of passengers travelling through Waterloo in peak times and this has created overcrowding on many services. Our forecasts indicate that further significant growth can be expected during the next ten years.

Therefore, provision of capacity to accommodate this level of growth is central to our vision. We have completed an examination of a number of potential solutions and have concluded that increasing seating capacity by providing a network capable of operating longer or double-decker trains is likely to be the most viable solution.

We must also ensure that the quality of journeys made on this route is enhanced to ensure the competitiveness of rail with other modes of travel. This will be achieved by concentrating our resources on equipment reliability, track quality and providing infrastructure suitable for new rolling stock.

The route has an important role to play in providing an attractive transport mode in the Southampton area. We will work closely with Hampshire County Council and Southampton City Council to develop rail services and encourage an increase in rail utilisation in this area.

Committed development plans

We will continue the Station Regeneration Programme, with a further 59 stations due to be completed during the year. The major work at Bournemouth Station is progressing well and completion is expected in May 2000. In addition, we have started work on the second phase of regeneration work at Clapham Junction

which will focus on the large station footbridge. A multimillion-pound scheme to reconstruct the platforms at Barnes Bridge will be completed by the end of the year. Installation of a new customer information system at Waterloo will take place during 2000.

Options for development

Capacity Enhancements If passenger growth continues, a major upgrade of capacity on the routes approaching Waterloo will be essential. We have completed a study which has examined a variety of options to increase capacity on suburban and main lines either by providing more train paths or by increasing seating capacity within the existing number of trains.

To provide more paths for suburban trains, a means of improving the flow of trains in the morning peak through Wimbledon, Clapham Junction and Vauxhall, where large numbers of passengers interchange, would be necessary. This would require an additional platform at Wimbledon and a complete reconfiguration of the track layout between Clapham Junction and Vauxhall, including a new flyover at Clapham Junction. Additional platforms at Waterloo would also be required. This option would be expensive (approximately £1.3bn), with impact on the local communities because of the land purchase required and the disruption to services over a long period of construction.

A more modest option of providing a limited number of additional paths by utilising the East Putney Line was also examined. Although less expensive (approximately £300M), the benefits are comparatively small.

The southwest London suburban network can only accommodate eight-vehicle trains at present. Our study also examined a proposal to increase platform lengths within the area bounded by Dorking, Hampton Court, Kingston and Twickenham to cater for longer trains. This would provide up to 50% additional capacity on trains within the project area, at a cost of approximately £400M. A significant portion of this sum is for work at Waterloo where very major work will be needed to accommodate longer trains on platforms 1 to 6. We have also considered clearing routes within the same area for double-decker trains. Although the cost is similar (approximately £400M), less additional capacity would be provided and the disruption caused by the rebuilding of numerous bridges and other structures would be very significant.

We expect growth on main-line routes feeding Waterloo to be even higher than on suburban routes and, in association with South West Trains, we have examined potential solutions. Options include building on the capability provided by the proposed lengthening of the suburban platforms at Waterloo and providing infrastructure to enable longer main-line trains to operate between Waterloo and Portsmouth, Poole and Salisbury. This is likely to cost some £300M. An alternative solution would be to expand the area of route clearance for double-decker trains to Guildford and Basingstoke (£300M). Further work will be carried out during the year to identify the optimum number and location of depots and carriage-washing machines needed to service the larger rolling stock fleet. Enhancements to depot facilities will also be required to cater for new rolling stock to replace Mark 1 vehicles.

Our recommended strategy for meeting the long-term passenger capacity requirements on this route is to provide infrastructure for longer trains on both suburban and main-line services at a cost of £800M followed by the provision of infrastructure for double-deck trains on suburban and some main-line services in the very long term at a cost of £800M.

Between Basingstoke and Southampton, the capacity constraint is not confined to the peak hours, and our analysis of future freight and passenger train volumes suggests that saturation could be reached within ten years. We are currently developing potential long-term solutions for this part of the route and an initial study during 2000 will focus on the potential upgrading of diversionary routes and the provision of additional four-track sections between Woking Junction and Winchester. Our assessment will consider the potential port development at Southampton and the provision of direct services from Southampton to Heathrow Airport as part of the Airtrack proposal (see Route 23).

Stations and car parks The increase in passenger numbers expected over the next ten years will put pressure on a number of stations and, together with our customers, we will develop proposals for a programme of improvements which will create stations which are equipped to accommodate the numbers of passengers forecast, and provide facilities and information systems appropriate for the next 25 years. We regard Vauxhall, Clapham Junction and Wimbledon as our immediate priorities.

At Hampton Court, a planning brief has been issued proposing development including improvements to the station. Planning permission has been granted for an office development scheme which includes major station refurbishment at Woking. A new car park is planned at Brookwood Station.

Jointly with South West Trains, we have completed an initial assessment of the additional car-parking provision required at stations to accommodate growth and attract new business. We believe that some 15,000 spaces will be required across the SWT operating area, at a cost in the region of £37M.

We are seeking tenders for renewal of customer information systems at SWT stations.

SSRA Incremental Output Statements Provision of infrastructure and timetable capability to enable the journey time between Waterloo and Portsmouth Harbour to be reduced by three minutes, for units formed of Class 442 trains, and calling at Woking, Guildford, Godalming, Haslemere, Petersfield, Havant, Fratton and Portsmouth and Southsea.

Provision of infrastructure and timetable capability to enable the journey time between Waterloo and Bournemouth to be reduced by two minutes, for Class 442 trains, and calling at Winchester, Southampton Airport Parkway, Southampton Central and Brockenhurst.

Provision of infrastructure and timetable capability to enable journey time between Bournemouth and Weymouth to be reduced by two minutes, for Class 442 trains, and calling at Poole, Hamworthy, Wareham, Wool, Moreton, Dorchester South and Upwey.

Provision of infrastructure and timetable capability to enable minor journey-time improvements in the southwest London suburban area, assuming Class 455 trains.

Improving the alignment of the down fast to down slow line turnout at Farnborough to enable the speed to be increased to 50mph.

Improving the track alignment at Northam Curve, between St Denys and Southampton Central, to enable the speed to be increased to 40mph.

Provision of infrastructure to enable passenger trains from the west to run into, and start back from, the down bay platform at Southampton.

Provision of a third through-platform at Havant.

Gauge clearance for Class 375 trains at Bournemouth Station.

Provision of a three-minute signalling headway between Southampton and Bournemouth for trains calling at Brockenhurst, New Milton and Christchurch.

Provision of infrastructure and timetable to enable one additional off-peak path per hour between Waterloo and Salisbury.

Customer Reasonable Requirements Our freight customers have identified a number of requirements and we will carry out cost, feasibility and funding investigations during this year. These include route clearance for gauge W10w trains of up to 775m in length between Reading and Southampton and between Eastleigh and a potential new freight terminal in the Portsmouth area. Gauge clearance for Class 325 units between Clapham Junction and Eastleigh via various routes is also being sought.

Local authorities We will continue to work with Hampshire County Council to examine the feasibility of a new chord line to enable trains to run between Botley and Southampton without reversing at Eastleigh. Initial work has identified that traffic routed via the proposed chord cannot be accommodated without providing double track on the single-track section between Fareham Tunnel and Botley (Route 22) and providing four tracks between Eastleigh and Southampton Airport Parkway. An initial examination indicates that the total cost of this work could be in the region of £100M and it has not yet been demonstrated that the scheme will generate sufficient benefits to justify this expenditure.

We will work closely with Hampshire County Council and Southampton City Council to develop rail services and encourage an increase in rail utilisation in the Southampton area. This will include possible frequency improvements on existing routes and consideration of introducing passenger services on the Southampton Eastern Docks and Fawley freight branch lines.

We have completed a feasibility study of a new station at Chineham on the Basingstoke–Reading Line and we will continue to work with the local authorities and our customers to develop this proposal further. It is possible that a further new station may be built at Grazeley, between Mortimer and Reading, if the proposed major residential development of the adjacent area proceeds.

We will work with local authorities to establish the feasibility of a new station at Farlington, between Bedhampton and Fratton and at West Totton.

We will also continue to work with local authorities and South West Trains to examine the potential for restoring the link between the Swanage Railway and the national rail network. This would enable a direct train service to operate between Swanage, Wareham, Poole and Bournemouth.

MAJOR STATIONS An initial study of options for the long-term future of Waterloo Station has been undertaken. This will focus on provision of additional passenger-flow capacity to meet growth forecasts, improvements to passenger-interchange facilities and proposals to run longer trains which may necessitate substantial movement of the existing barrier line.

We will continue to work with South West Trains to develop a proposal to install automatic ticket gates at Waterloo.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Suburban routes via Wimbledon	Capacity enhancement: major network upgrade to significantly increase capacity. Options include infrastructure work to allow longer trains, more trains or double-decker trains	Increased capacity	2006–12	A
Waterloo–Southampton/Portsmouth/Salisbury	Capacity enhancement: major network upgrade to significantly increase capacity. Options include infrastructure work to allow longer trains or limited double-decker operation, in addition to provision of extra car parking	Increased capacity	2006–15	B
IOS(): Waterloo–Portsmouth Harbour via Woking	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 3min	2006	A
IOS(): Waterloo–Bournemouth	Railtrack proposes to offer sSRA an alternative output	Reduced journey time by 2min	2006	B
IOS(): Bournemouth–Weymouth	Detailed scheme being prepared	Reduced journey time by 2min	2004	C
IOS(O): Farnborough	Detailed scheme being prepared	Increase junction speed from 30–50mph for down fast-line trains stopping at Farnborough	2004	D
IOS(O): St Denys–Southampton	Railtrack proposes to offer sSRA an alternative output	Increase linespeed from 25–40mph	2006	E
IOS(O): Southampton	Detailed scheme being prepared	Provide for passenger trains from the west to be able to arrive in the West Bay and to depart back	2004	F
IOS(O): Havant	Detailed scheme being prepared	Provision of third through platform	2004	G
IOS(O): Bournemouth	Detailed scheme being prepared	Ability for the station to accept four-vehicle Class 375 trains on Victoria–Bournemouth services without any reduction in capacity or operational flexibility	2004	H
IOS(O): Southampton–Bournemouth	Railtrack proposes to offer sSRA an alternative output	Provide minimum three-minute headways for trains calling at Christchurch, New Milton, Brockenhurst, Southampton Central	2004	I
IOS(): Southwest suburban routes	Railtrack proposes to offer sSRA an alternative output	Target reductions on key flows of 1–2min	2006	J
Grazeley	New station between Mortimer and Reading	New station	2006	A
Chineham	New station between Basingstoke and Bramley	New station	2001	B
Reading–Southampton/Eastleigh–Portsmouth	Network improvement: route clearance to allow 775m freight trains to W10w gauge	Increased freight tonnage and flexibility	2006	C
Basingstoke–Winchester	Route improvement: provide a four-track section	Additional capacity	2006–10	D
St Denys–Southampton Docks	Network improvement: open to passenger traffic	New station	2006	E
Eastleigh	Network improvement: provision of direct chord between the Botley Line and Southampton Airport Parkway Station	Improved journey opportunities	2006	F
Totton–Fawley	Network improvement: reopen to passenger traffic	New station	2006	G
Wareham–Swanage	Network improvement: connect with Swanage Railway	Improved journey opportunities	2005	H
Clapham Junction	Station improvements	Improved passenger environment and facilities	2001	I
Bournemouth	Station improvements	Improved passenger environment and facilities	2001	J

Progress on the 1999 NMS

During 1999, station regeneration work was completed at Godalming, Havant, Liphook, Milford, Witley, Hinton Admiral, New Milton, Sway, Thames Ditton and Totton. Depot regeneration work at Bournemouth was also completed. Also during 1999, car park extensions at Farnborough and Fleet were completed. Improvements to the Railtrack-owned road network at Waterloo will be completed this year.

The renewal of signalling equipment in the Portsmouth area was completed in December 1999. The Surbiton–Woking and Guildford resignalling schemes are

substantially complete, with some minor work to be completed later this year. Development of the Dorset Coast resignalling scheme is continuing. Work is due to commence this year, with completion due in September 2002.

Work to stabilise the embankment at New Malden is in progress and will be completed by spring 2000. Embankment stabilisation work at Berrylands has been completed.

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Waterloo–Woking	39	1	23min (63mph)	23min (63mph)	23min (63mph)	23min (63mph)
London Waterloo–Guildford	48	1	32min (56mph)	32min (56mph)	32min (56mph)	32min (56mph)
London Waterloo–Portsmouth Harbour	119	7	1hr 29min (50mph)	1hr 29min (50mph)	1hr 29min (50mph)	1hr 26min (52mph)
London Waterloo–Southampton Airport	127	0	1hr 1min (78mph)	1hr 1min (78mph)	1hr 1min (78mph)	1hr 1min (78mph)
London Waterloo–Bournemouth	174	12	1hr 41min (64mph)	1hr 41min (64mph)	1hr 41min (64mph)	1hr 39min (66mph)
London Waterloo–Weymouth	220	12	2hr 32min (54mph)	2hr 32min (54mph)	2hr 32min (54mph)	2hr 28min (56mph)
Bournemouth–Weymouth	56	7	53min (40mph)	53min (40mph)	53min (40mph)	51min (41mph)
LINESPEEDS (km of track)						
Up to 35mph			78	78	78	78
40–75mph			351	351	351	351
80–105mph			599	599	599	599
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			1028	1028	1028	1028
GAUGE (km of route)						
W6A			406	406	406	406
W7			252	252	252	252
W8			123	123	123	123
W9			0	0	0	88
W10			0	0	0	88
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			2	2	2	2
20.4–24.1 tonnes			56	56	56	56
24.2–25.4 tonnes			971	971	971	971
TOTAL			1028	1028	1028	1028

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	3.4	11.0	65.3	66.9
Structures	3.2	2.8	33.4	29.3
Signalling	8.5	4.3	59.1	58.7
Electrification	0.0	1.6	16.2	14.2
Plant & Machinery	0.1	0.2	1.3	1.5
Telecoms	2.4	3.3	8.2	8.0
Stations	15.7	16.1	40.0	26.6
Depots	0.8	0.4	4.4	4.3
Other	0.0	0.2	1.1	1.0
TOTAL	34.1	39.9	229.1	210.5

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	2.7	0.0	0.5	0.0	3.2	Various
SWT: car park and security improvements	2001/02	1.0	0.2	0.7	0.0	1.9	4
SWT: customer information system	2001/02	0.0	0.0	0.6	0.0	0.6	4
Thameslink 2000	2006/07	0.0	0.0	0.2	0.0	0.2	4/5
TOTAL		3.7	0.2	2.0	0.0	5.9	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
London commuter area capacity: South Western	800.0	1
Other schemes	116.4	Various
Waterloo Station	4.5	1
TOTAL	920.9	

The sum of the expenditures may not match totals due to rounding



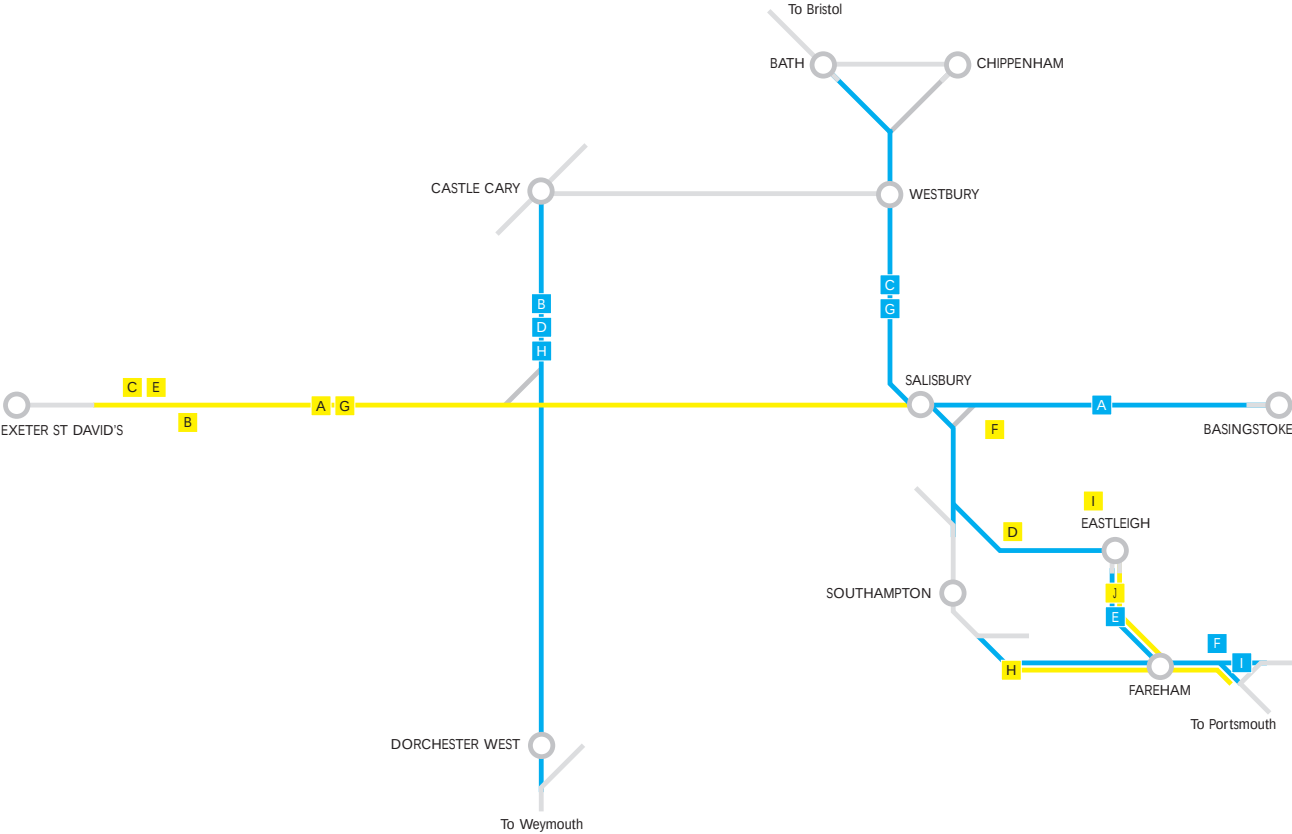
Connex South Central;
South West Trains;
Wales & West, EWS.

IOS options

- A Waterloo–Salisbury: additional train path
- B Bristol–Weymouth: operational flexibility
- C Bristol–Portsmouth: improved journey time
- D Bristol–Weymouth: improved journey time
- E Portsmouth–Eastleigh: capacity enhancement
- F Cosham: improved operational flexibility
- G Bristol–Portsmouth: additional capacity
- H Bristol–Weymouth: additional capacity
- I Eastleigh–Havant: improved journey time

Customer Reasonable Requirements
and other development options

- A Salisbury–Honiton: additional double-track sections
- B Feniton: new passing loop
- C Exeter Airport: intermodal freight terminal
- D Chandler's Ford: new station
- E Clyst Hayes: new station
- F Porton: new station
- G Salisbury–Exeter: platform extensions
- H Fareham–Woolston: South Hampshire Rapid Transit
- I Eastleigh: additional chord
- J Eastleigh–Portsmouth: freight capability improvement



Route characteristics

DESCRIPTION These lines form an important network of cross-country corridors linking Bristol and Exeter with Salisbury, Southampton, Portsmouth and Weymouth. They are mainly two-track railways, although between Salisbury and Exeter and between Castle Cary and Dorchester there are significant sections of single track.

Between Basingstoke and Exeter maximum permissible speeds are generally 85–90mph, but elsewhere linespeeds are lower with maximum speeds of 70 or 75mph.

The Southampton–Portsmouth and Eastleigh–Portsmouth sections are electrified.

KEY CAPACITY CONSTRAINTS The principal capacity constraints on the Wessex routes are the single-line sections, particularly on the Salisbury–Exeter and Castle Cary–Dorchester sections where significant improvements to train service frequency cannot be accommodated with the existing infrastructure.

Route vision

Our vision is to improve the quality of service and attractiveness of the route to encourage greater use of rail. This will be achieved by working with customers to improve train punctuality, journey times and station environments. We also envisage improvements in train frequency between key points.

Options for development

Salisbury–Exeter Route We have completed an assessment of the infrastructure required to deliver frequency improvements between Salisbury and Exeter. This has concluded that 27km of single track between Salisbury and Tisbury and between Axminster and Honiton would need to be doubled to operate a reliable hourly service frequency. In addition, the provision of a passing loop at Feniton is necessary to further improve frequency between Honiton and Exeter.

SSRA Incremental Output Statements Provision of infrastructure and timetable capability to enable the journey time between Bristol Temple Meads and Portsmouth Harbour to be reduced by five minutes, for Class 158 trains and calling at Bath Spa, Trowbridge, Salisbury, Romsey, Southampton Central, Fareham, Cosham, Fratton and Portsmouth and Southsea.

Provision of infrastructure and timetable capability to enable the journey time between Bristol Temple Meads and Weymouth to be reduced by five minutes, for Class 150 trains and calling at all stations.

Provision of infrastructure and timetable capability to enable a regular hourly service to operate between Bristol Temple Meads and Weymouth.

Provision of new infrastructure to enable Bristol–Weymouth services to run via Yeovil Junction and a new south chord.

Power-supply enhancements to enable 12-vehicle electric trains to operate between Eastleigh and Fareham.

Provision of infrastructure to enable westbound trains to terminate at Cosham and start back towards Havant and Portsmouth.

Reduction of two minutes in journey times on fast services between Eastleigh and Havant.

Customer Reasonable Requirements We will continue to work with South West Trains to achieve gauge clearance for Class 170 trains between Basingstoke and Exeter. We are also developing plans to lengthen platforms at Tisbury, Feniton and Whimple to accommodate six-vehicle trains.

Freight An intermodal freight terminal has been proposed for Exeter Airport. If this proceeds, rail access would be via the Salisbury–Exeter line and this may influence the infrastructure and passenger service proposed.

Local authorities There are a number of opportunities on the Wessex routes to generate new business by opening new stations. We have been working with Hampshire County Council and South West Trains to identify the best means of serving Chandler's Ford, between Eastleigh and Romsey. Capacity problems at Eastleigh (see Route 21) mean that alterations to the track layout and significant signalling alterations are likely to be needed to enable a regular service between Chandler's Ford and Southampton to be accommodated.

We will continue to work with Portsmouth City Council to develop proposals for a new station at Paulsgrove, between Portchester and Cosham.

A proposed new station at Clyst Hayes to serve the East Devon new settlement will be constructed in conjunction with the Salisbury–Exeter Route enhancements outlined above, if funding can be agreed with the developer.

We are jointly funding a study to examine the case for opening a new station at Porton, between Grateley and Salisbury.

We continue to support Phase 1 of the South Hampshire Rapid Transit scheme which will connect Portsmouth with Fareham via the disused Bedenham freight branch. The public inquiry has taken place and the Secretary of State's conclusion is expected shortly. Future phases include proposals to use our infrastructure between Fareham and Woolston. For this to progress, the agreement of all stakeholders is required to ensure compatibility with local transport and land-use plans. We will continue to work with Hampshire County Council to examine the feasibility of a new chord line to enable trains to run between Botley and Southampton without reversing at Eastleigh (see Route 21).

Progress on the 1999 NMS

During 1999, station regeneration work was carried out at Hedge End and Portchester. Car-park extensions at Andover and Gillingham were completed.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(C): Waterloo–Salisbury	Detailed scheme being prepared	Additional Mon-Fri off-peak path per hour	2006	A
IOS(O): Bristol Temple Meads–Weymouth via Yeovil Pen Mill	Railtrack proposes to offer sSRA an alternative output	Introduction of a daily hourly-interval service and for all trains to operate via Yeovil Junction	2004	B
IOS(J): Bristol Temple Meads–Portsmouth Harbour	Detailed scheme being prepared	Reduced journey time on key flows by 5min	2004	C
IOS(J): Bristol Temple Meads–Weymouth	Railtrack proposes to offer sSRA an alternative output	Reduced journey times by 5min	2006	D
IOS(C): Portsmouth–Eastleigh	Detailed scheme being prepared	Provide power supplies for 12-car EMU working	2006	E
IOS(O): Cosham	Railtrack proposes to offer sSRA an alternative output	Provide for westbound trains to terminate and turnback from the same platform	2006	F
IOS(C): Bristol Temple Meads–Portsmouth	Detailed scheme being prepared	Half-hourly interval service every day	2006	G
IOS(C): Bristol Temple Meads–Weymouth	Detailed scheme being prepared	Hourly interval service every day	2004	H
IOS(J): Eastleigh–Havant	Detailed scheme being prepared	Reduce journey time on fast services by 2min	2006	I
Salisbury–Tisbury and Axminster–Honiton	Provide additional double-track sections	Operate a reliable hourly service	2006	A
Feniton	Provide a passing loop	Improve capacity	2006	B
Exeter Airport	Intermodal freight terminal in conjunction with rail access from the Salisbury–Exeter Line	Additional freight capability	2006	C
Eastleigh–Romsey	Open Chandler's Ford Station. Signalling and track layout alterations probable	New station	2001/02	D
Clyst Hayes	Proposed new station	New station to serve the East Devon new settlement	2006	E
Grateley–Salisbury	Study for new station at Porton	New station	2006	F
Tisbury, Feniton and Whimple stations	Platform extensions	Enable six-car operation	2006	G
Fareham–Woolston	The South Hampshire Rapid Transit scheme includes plans to use Railtrack infrastructure	Reduced capacity for heavy rail services	2010	H
Botley–Eastleigh–Southampton	Chord linking Botley and main lines south of Eastleigh Station	Enables flexibility for SHRT and provides additional capacity via Southampton Airport Parkway	2010	I
Eastleigh–Portsmouth	Increased capability	Provide W10w gauge and 775m length train operation		J

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Portsmouth Harbour–Bristol Temple Meads	166	10	2hr 21min (44mph)	2hr 21min (44mph)	2hr 21min (44mph)	2hr 16min (45mph)
Bath Spa–Portsmouth Harbour	146	10	2hr 13min (41mph)	2hr 13min (41mph)	2hr 13min (41mph)	2hr 8min (44mph)
Westbury–Weymouth	89	18	2hr 12min (25mph)	2hr 12min (25mph)	2hr 12min (25mph)	2hr 7min (26mph)
Basingstoke–Exeter Central	200	12	2hr 11min (57mph)	2hr 11min (57mph)	2hr 11min (57mph)	2hr 11min (57mph)
LINESPEEDS (km of track)						
Up to 35mph			19	19	19	19
40–75mph			319	319	319	319
80–105mph			296	296	296	296
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			633	633	633	633
GAUGE (km of route)						
W6A			472	472	472	472
W7			261	261	261	261
W8			171	171	171	171
W9			0	0	0	28
W10			0	0	0	28
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			119	119	119	119
24.2–25.4 tonnes			514	514	514	514
TOTAL			633	633	633	633

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
GREAT WESTERN ZONE				
Track	1.5	1.2	7.5	6.4
Structures	0.4	0.4	3.1	2.8
Signalling	0.1	0.2	3.7	0.5
Plant & Machinery	0.0	0.0	0.8	0.1
Telecoms	0.0	0.0	0.1	0.2
Stations	0.6	0.2	2.6	1.5
TOTAL	2.6	2.0	17.7	11.5

SOUTHERN ZONE

Track	0.5	7.9	9.4	9.6
Structures	1.2	2.8	11.9	11.9
Signalling	0.1	1.9	13.4	64.8
Electrification	0.0	1.6	2.9	12.5
Plant & Machinery	0.1	0.2	0.9	1.3
Telecoms	0.1	0.6	3.9	11.6
Stations	0.0	1.8	8.2	7.1
Depots	0.0	0.0	2.2	2.1
Other	0.0	0.2	1.0	1.0
TOTAL	2.0	17.0	53.8	121.9

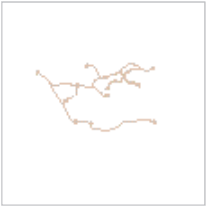
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	2.6	1.7	0.0	4.5	Various
SWT: car park and security improvements	2001/02	0.1	0.0	0.1	0.0	0.2	4
SWT: customer information system	2001/02	0.0	0.0	0.1	0.0	0.1	4
TOTAL		0.3	2.6	1.9	0.0	4.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	82.7	Various
TOTAL	82.7	

The sum of the expenditures may not match totals due to rounding



Connex South Central;
South West Trains; Thames Trains;
Virgin CrossCountry; EWS.

Committed schemes

- A Barnes Bridge: station improvements

Options for major improvements to capability

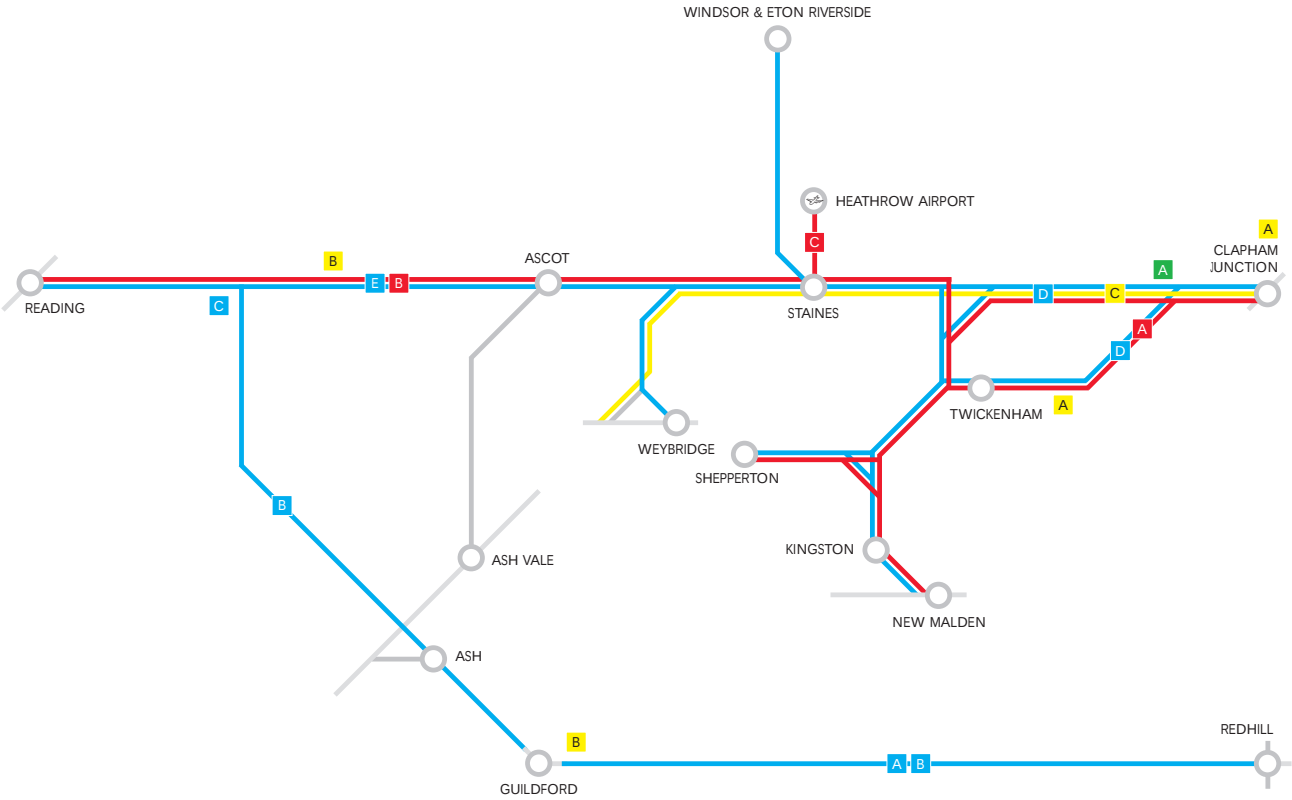
- A Waterloo–Twickenham–Kingston: capacity improvements
- B Twickenham–Reading: capacity improvements
- C Heathrow Airport–Staines: new rail link

IOS options

- A Reading–Redhill: journey-time improvements
- B Reading–Gatwick: additional capacity
- C Wokingham: improved operational flexibility
- D South west London suburban routes: journey-time improvements
- E Waterloo–Reading: additional capacity

Customer Reasonable Requirements and other development options

- A Clapham Junction and Richmond: station improvements
- B Park Barn and West Bracknell: new stations
- C Kew East Junction–Clapham Junction and Byfleet Junction: additional freight capability



Route characteristics

DESCRIPTION This route has two main elements. Firstly, the line from Waterloo–Reading via Staines which is primarily a suburban commuter route with little variation in stopping patterns and train speeds. Other lines branch off the core route at Barnes for the Hounslow Loop to Feltham Junction, at Twickenham for Kingston and Shepperton, at Staines for Windsor, at Virginia Water for Weybridge and at Ascot for Ash Vale.

Secondly, the North Downs Line connects Reading and Guildford with the Brighton Main Line at Redhill. This line, despite being less busy, has a greater variety of traffic including short-, medium- and long-distance passenger trains, and a small number of freight trains.

The route is predominantly two track; the only four-track section being between Clapham Junction and Barnes. There are short sections of single track on the approaches to Reading and between Frimley and Ash Vale.

The linespeed between Clapham Junction and Feltham and on some of the branch lines is 60mph. To the west of Feltham and on the North Downs Line the predominant speed is 70mph.

The route is electrified throughout, except for the Wokingham–Aldershot South Junction and Shalford Junction–Reigate sections of the North Downs Line.

KEY CAPACITY CONSTRAINTS During peak periods the route between Twickenham and Waterloo is operating at or near capacity and this reduces short-term options to relieve overcrowding. The route is composed almost entirely of two tracks without loops for trains to overtake. This reduces the ability to operate faster services, particularly on the Waterloo–Reading Line.

At Reading, only two platforms are available for electric trains and diesel trains requiring access to other platforms must cross the Great Western Main Line, where capacity is also constrained. There is also a short section of single track at the entrance to the electrified platforms.

Between Wokingham and North Camp, capacity is restricted by the signalling headway. Although adequate for the current level of service, a significant increase in train movements could not be accommodated.

Route vision

Recent years have seen a rapid growth in the number of passengers travelling through Waterloo in peak times and this has created severe overcrowding on many services. Our forecasts indicate that further significant growth can be expected during the next ten years.

Provision of capacity to accommodate this level of growth is therefore central to our vision. We have completed an examination of a number of potential solutions and concluded that increasing seating capacity by providing a suburban network capable of operating longer or double-decker trains is likely to be the most viable solution. The conclusions of our study are presented in more detail under Route 21.

The proximity of Heathrow Airport to the route provides a major opportunity. The new bus/rail interchange at Feltham Gateway opened in 1999

and has increased the accessibility of Heathrow by public transport. In the longer term, the 'Airtrack' proposal to build a new rail link between Staines and Heathrow will provide many new journey opportunities to the airport and beyond, significantly increasing rail's share of the airport market.

The orbital North Downs Line is a key strategic link for Thames Trains' services between Oxford, Reading and Gatwick Airport and for Virgin CrossCountry services between the North of England, the Midlands and Portsmouth. Our vision is to improve the attractiveness of this line to encourage an increase in rail's share of the market from the Reading–Guildford corridor to Gatwick Airport. We also expect continued growth in passenger numbers on commuter services into Reading and Guildford over the next ten years.

Committed development plans

We will continue with the Station Regeneration Programme throughout the year, with a further 21 stations, including a multimillion-pound scheme to reconstruct the platforms at Barnes Bridge, due to be completed during the year.

Options for development

CAPACITY ENHANCEMENT If passenger growth continues, a major upgrade of capacity on the routes approaching Waterloo will be essential if overcrowding is to be resolved. The introduction of Class 458 rolling stock on the Waterloo–Reading Route will enable SWT to achieve better compliance with its Franchise Agreement overcrowding targets in the short term, because of the higher standing capacity. However, in the longer term, further solutions are required and we have completed a study which has examined a variety of options to increase capacity on suburban lines, by either providing more train paths or by increasing seating capacity within the existing number of trains.

The South West London suburban network and the Waterloo–Reading Line can only accommodate eight-vehicle trains at present. Our study examined a proposal to increase platform lengths within the area bounded by Dorking, Hampton Court, Kingston and Twickenham to cater for longer trains. This would provide a 50% increase in capacity on trains within the project area at a cost of approximately £400M. A significant portion of this sum is for work at Waterloo where major work will be needed to accommodate longer trains.

We have also considered clearing routes within the same area for double-decker trains. Although the cost is similar, less additional capacity would be provided and the disruption caused by the rebuilding of numerous bridges and other structures would be significant. Further details of the other options examined can be found in Route 21.

During 2000, we will be expanding the study to examine options to accommodate anticipated growth in the outer suburban area (Twickenham–Reading). Options to be considered will include provision of additional infrastructure to provide more train paths, increasing platform lengths to allow longer trains to operate and route clearance for double-decker trains. The study will also consider the optimum means of integrating the proposed Airtrack services (see below) with the existing services and will reflect the anticipated growth in freight traffic.

The increase in passenger numbers expected over the next ten years will put pressure on a number of stations and, together with our customers, we will develop proposals for a programme of improvements. These will create stations which are equipped to accommodate the number of passengers forecast, and provide facilities and information systems appropriate for the next 25 years. We regard Vauxhall, Clapham Junction and Richmond as our immediate priorities.

Airtrack The Airtrack scheme provides an exciting proposal to develop rail services to and via Heathrow Airport. The proposed new southern link to Heathrow would run from a point between Staines and Wrybury via the proposed Heathrow Terminal 5 to connect with BAA's existing route at Heathrow Central.

A new station at Staines high street is also proposed to create better access to Staines town centre and a new chord will enable trains to run between Heathrow and the Virginia Water Line without reversing. The project

will create many new opportunities for rail travel to Heathrow and we are currently evaluating potential services from London (Victoria or Waterloo), Reading, Farnham, Basingstoke, Guildford, Southampton and Portsmouth to Heathrow and possibly beyond. This exercise will identify the optimum service frequency and the infrastructure requirements for each route.

SSRA Incremental Output Statements We have undertaken an initial examination of potential journey times on the Reading–Gatwick Airport Route and have demonstrated that the aspiration of a 60-minute journey time cannot be achieved with the current rolling stock and stopping pattern. A further exercise will seek a journey-time reduction of five minutes. Other aspirations include:

- Provision of infrastructure to enable the train frequency between Reading and Gatwick Airport to be improved to half hourly.
- Provision of infrastructure to enable trains to terminate at Wokingham and start back towards Reading, London and Guildford.
- Provision of infrastructure and timetable to enable the minor journey-time improvements in the southwest London suburban area, assuming Class 455 rolling stock.
- Provision of an additional hourly path between Waterloo and Reading on Sundays.

Customer Reasonable Requirements Journey times on the Waterloo–Reading Route are slow, as a result of infrastructure constraints, rolling stock characteristics and stopping patterns. During 2000, we will examine how we can capitalise on the improved running times of South West Trains' new Class 458 rolling stock to reduce the journey times from the Staines–Reading corridor to London. We will target a four-minute reduction off the fastest peak-period trains and seven minutes outside the peaks.

Our freight customers have identified a number of requirements and we will carry out cost and feasibility investigations during the year. These include route clearance for W10w and W11 gauge trains between Kew East Junction and Clapham Junction and gauge clearance for Class 325 units between Clapham Junction and Eastleigh via various routes.

STATIONS

At Richmond, we are planning a mixed-use town centre development incorporating new station facilities. In conjunction with SWT and Wokingham Borough Council, we are developing a strategy to deliver a new station and interchange facilities at Wokingham.

New stations at Park Barn (near Guildford) and West Bracknell have been proposed. We will continue to work with local authorities and our customers to identify the impact these proposals would have on the existing network.

Progress on the 1999 NMS

During 1999, station regeneration work was completed at Ash, Addlestone, Brentford, Hampton, Hounslow, Kew Bridge, Shepperton and Strawberry Hill.

The renewal of signalling equipment in the Barnes area was completed in December 1999.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Barnes Bridge	Rebuild station platforms	Improved passenger environment and facilities	2000	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Suburban area	Platform lengthening or double-decker train clearance	Additional capacity	2006–12	A
Twickenham–Reading	Study examining increased platform lengths, infrastructure enabling more trains and route clearance for double-decker trains	Increased capacity	2006–12	B
Staines	Proposed new southern link to Heathrow	New services to Heathrow	2007	C
IOS(J): Reading–Redhill	Railtrack proposes to offer sSRA an alternative output	Improved journey time by 5min including through higher linespeeds	2004	A
IOS(C): Reading–Gatwick via Guildford	Railtrack proposes to offer sSRA an alternative output	Half-hourly interval service, everyday	2006	B
IOS(O): Wokingham	Detailed scheme being prepared	Provide for passenger trains from London, Reading and Guildford to arrive and turnback in the same platform	2004	C
IOS(J): South west London suburban routes	Railtrack proposes to offer sSRA an alternative output	Target reductions on key flows of 1–2min	2006	D
IOS(C): Waterloo–Reading	Detailed scheme being prepared	Additional Sunday path each hour, from 0700 to 2300	2004	E
Clapham Junction and Richmond Stations	Programme of improvements to accommodate increased passenger numbers	Improved passenger facilities	2006–10	A
Park Barn (near Guildford) and West Bracknell	New stations	New stations	2006	B
Kew East Junction–Clapham Junction and Byfleet Junction	Study of route gauge clearance	Increased freight tonnage and flexibility	2005/06	C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Waterloo–Reading	70	10	1hr 11min (37mph)	1hr 11min (37mph)	1hr 11min (37mph)	1hr 7min (39mph)
Reading–Gatwick Airport	81	7	1hr 15min (40mph)	1hr 15min (40mph)	1hr 15min (40mph)	1hr 10min (43mph)
LINESPEEDS (km of track)						
Up to 35mph			28	28	28	28
40–75mph			388	388	388	388
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			416	416	416	416
GAUGE (km of route)						
W6A			202	202	202	202
W7			43	43	43	43
W8			33	33	33	33
W9			10	10	10	10
W10			0	0	0	10
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			44	44	44	44
24.2–25.4 tonnes			372	372	372	372
TOTAL			416	416	416	416

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.0	8.1	19.9	20.5
Structures	0.1	3.0	16.1	14.1
Signalling	0.3	0.7	3.6	19.7
Electrification	0.0	1.6	4.2	11.4
Plant & Machinery	0.1	0.2	0.6	0.7
Telecoms	0.2	2.0	1.8	5.1
Stations	6.4	4.1	7.7	6.0
Other	0.0	0.1	0.4	0.4
TOTAL	8.1	19.8	54.3	78.0

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	0.2	0.0	0.0	0.4	Various
SWT: car park and security improvements	2001/02	0.1	0.0	0.1	0.0	0.2	4
SWT: customer information system	2001/02	0.0	0.0	0.2	0.0	0.2	4
TOTAL		0.3	0.2	0.3	0.0	0.8	

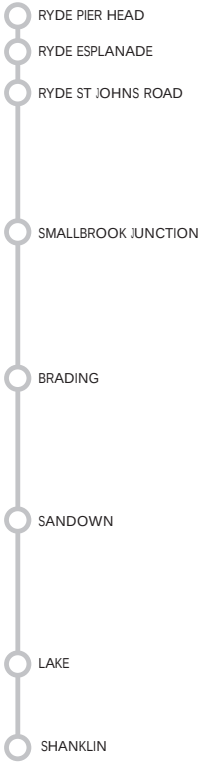
OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
London commuter area capacity: South Western	800.0	1
Southern link to Heathrow	180.0	1
Other schemes	98.3	Various
TOTAL	1078.3	

The sum of the expenditures may not match totals due to rounding



Island Line



Route characteristics

DESCRIPTION The railway infrastructure on the island is leased from Railtrack by Island Line plc. Train operations are run under franchise from Island Line plc by Stagecoach Holdings. These arrangements make the organisation of rail services on the island different from those on the mainland.

The route is double track from Ryde Pier Head to Smallbrook Junction and single track between Smallbrook Junction and Shanklin. There is a passing loop at Sandown.

KEY CAPACITY CONSTRAINTS The single-line sections prevent the operation of a more frequent service and the single passing loop prevents a regular half-hourly service from being operated.

Route vision

Our vision for the Island Line is to increase service frequency and further improve reliability. To achieve this, the present passing loop at Sandown would have to be moved to Brading. However, the cost of this currently outweighs the benefits.

The existing franchise expires in October 2001. This provides the opportunity for all stakeholders to consider how rail transport on the Isle of Wight can be structured and funded in the future.

Options for development

We recognise the important part the route plays in providing public transport on the island and we welcome the opportunity to discuss the future of the rail link with Island Line, Stagecoach, the sSRA and Isle of Wight Council.

The rolling stock currently in use on the line is reaching the end of its life and this provides the opportunity to consider a range of options for the future of the route. These may include enhancing the existing route, expanding the network to serve other parts of the island and creating a light rail network.

Progress on the 1999 NMS

The programme of signalling renewals and work to improve the ride quality on Rowborough Bank has been completed.

The introduction of train-stop equipment to reduce the risk of SPADs will be completed this year.

Station Regeneration work at Ryde Esplanade, Ryde St Johns and Brading has been completed.

Route capability

CAPABILITY CHANGES						
JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Ryde Pier Head–Shanklin	13	5	21min (23mph)	21min (23mph)	21min (23mph)	21min (23mph)
LINESPEEDS (km of track)						
Up to 35mph			3	3	3	3
40–75mph			15	15	15	15
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			18	18	18	18
GAUGE (km of route)						
W6A			13	13	13	13
W7			0	0	0	0
W8			0	0	0	0
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			18	18	18	18
20.4–24.1 tonnes			0	0	0	0
24.2–25.4 tonnes			0	0	0	0
TOTAL			18	18	18	18

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS				
PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Structures	0.0	0.3	0.1	0.1
Electrification	0.0	0.0	0.9	0.0
Stations	0.0	0.9	0.6	0.4
TOTAL	0.0	1.2	1.7	0.6

The sum of the expenditures may not match totals due to rounding



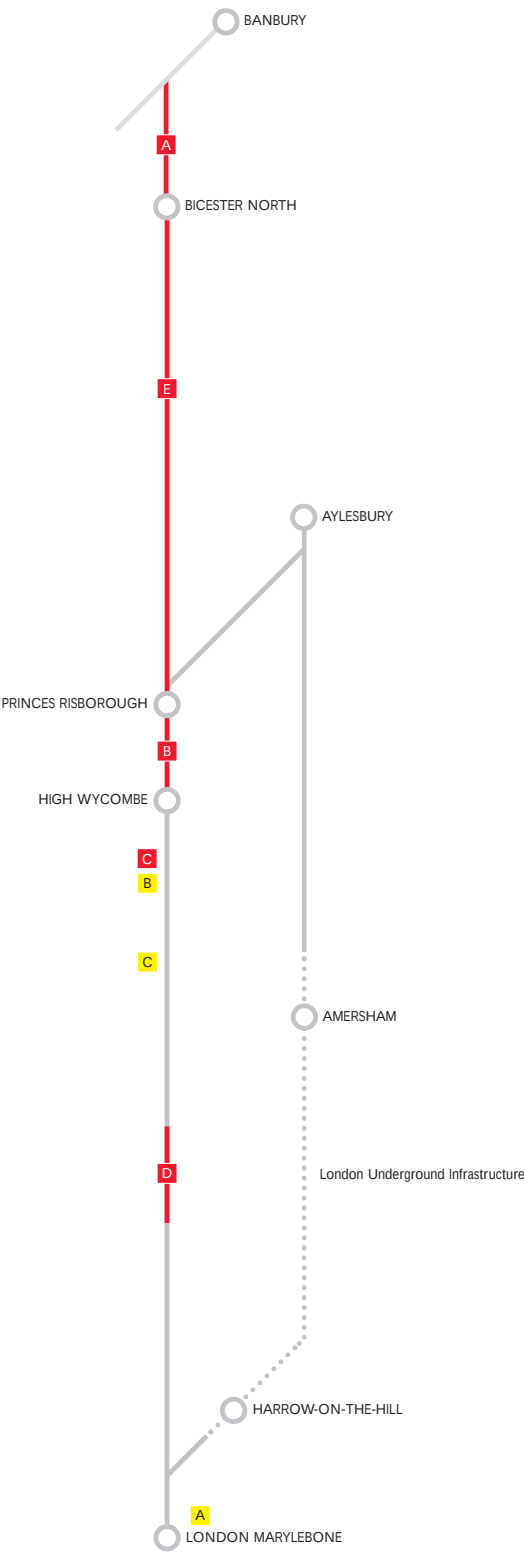
Chiltern Railways;
London Underground; EWS.

Options for major improvements to capability

- A Aynho Junction–Bicester: additional capacity
- B Princes Risborough–High Wycombe: additional capacity
- C Beaconsfield: additional capacity
- D West Ruislip–Northolt Junction: additional capacity
- E Bicester North–Princes Risborough: additional capacity

Customer Reasonable Requirements
and other development options

- A Marylebone: electrical systems improvement
- B Chiltern Lines: improved car parking at 12 stations
- C Gerrards Cross: improved station facilities



Route characteristics

DESCRIPTION This route was renovated in 1989–91 under British Rail's Total Route Modernisation programme to cater for the London commuter traffic then envisaged. Since that time, the service pattern catering for the growth in passenger numbers and the requirements for train paths have changed considerably. A first step in addressing this was taken during 1997–98 with the doubling of 29km of single track between Princes Risborough and Bicester North, and the raising of the linespeed of that section to 90–100mph (elsewhere the route is 75mph).

Single-track sections remain between Bicester North and Aynho Junction (14km), and between Princes Risborough and Aylesbury (11km).

Freight use is limited with the route capability allowing for RA7/8 axle loads.

Chiltern services have experienced rapid growth in passengers over the three years of the franchise, and the present operator envisages further route and service development to cater for continued growth in demand. This includes the service to Birmingham, which operates partially over Route 25 to Aynho Junction, and partially over Route 7 (north-west of Aynho Junction).

London Underground owns and operates the 22km of route between Amersham and Harrow-on-the-Hill.

KEY CAPACITY CONSTRAINTS

High Wycombe–Aynho Junction The existing signalling constrains headways to between seven and 11 minutes over this 58km section, limiting the growth in services to the northwest of High Wycombe. The lack of passing loops and the single-line section between Bicester North and Aynho Junction also constrain line capacity, since timetables cannot be optimised to use existing capacity fully.

Beaconsfield Station The present frequency of service through the station cannot be increased due to the restriction imposed by stopping trains, in the absence of through (fast) lines.

Ruislip The stopping patterns and pathing requirements of different services through this area create conflicts, which in peak times lead to excessive performance delays.

Marylebone Station With continued service expansion, platform requirements at Marylebone would exceed current capacities.

Route vision

The vision is to make the Chiltern Line a highly reliable commuting service into London Marylebone, successfully combined with a long-distance interurban service connecting London to Birmingham. This will be achieved through a continuing programme of capacity and signalling enhancement, capitalising on the recent capacity increases. The emphasis will be on robust and continually improving performance to ensure delivery of the established timetable, thereby

encouraging further market growth and expanded customer loyalty.

Improvements to linespeed will continue to be sought to gain full benefit from new rolling stock. The target is to achieve a journey time of under two hours for London to Birmingham. This relies heavily on the interface with Route 7 and solutions to capacity constraints in the Birmingham area.

Options for development

MAJOR CAPACITY UPGRADES We are developing with our industry partners a comprehensive upgrade of the route to meet future market needs:

Princes Risborough–High Wycombe resignalling The current minimum headway of seven minutes on this section compares with four minutes towards London. The proposal is to resignal to a three-minute minimum headway.

Aynho Junction–Bicester track doubling The pathing of services to Banbury/Birmingham through this existing 14km section of single track, in conjunction with services on Route 7 west and south of Aynho Junction, is the dominant constraint on timetable development for all Chiltern services. Track doubling would remove this constraint, creating the opportunity for optimisation of service patterns throughout Route 25, as well as enhancing performance levels. This work includes resignalling to a five-minute minimum headway.

Beaconsfield fast lines reinstatement This work allows stopping services to be passed by fast services, giving opportunity to create more fast services at Princes Risborough and High Wycombe, much improved timetabling and reduced risk of performance delays. The option will also exist to terminate services at Beaconsfield.

West Ruislip–Northolt Junction four tracking The reinstatement of 3km of four track will give similar benefits. In particular, the opportunity will be created to introduce more stopping services at London local stations.

Bicester North to Princes Risborough resignalling The proposal is to resignal from the current minimum headway of 11 minutes on this section to a general five-minute minimum headway between Princes Risborough and Aynho Junction.

Princes Risborough layout Layout improvements would accommodate terminating services and give access to the Aylesbury Line without compromising the London to Birmingham service patterns.

Gerrards Cross–High Wycombe resignalling The current minimum headway of four minutes on this section compares with three minutes towards London. The proposal is to resignal to a three-minute minimum headway.

CrossRail We will work with industry partners in the development of the CrossRail Scheme which includes proposals that could serve High Wycombe or Aylesbury.

Customer Reasonable Requirements A number of CRRs for this route have been submitted by Chiltern Railways and several have already been completed. Feasibility work and detailed discussions continue for the remaining CRRs.

Local Transport Plans Buckinghamshire County Council and Northamptonshire County Council both recognise the importance of the rail network and the benefits offered by enhanced capacity and greater integration with other transport modes and are broadly supportive of a number of initiatives.

Their specific aspirations are:

- The reintroduction of passenger services on the Oxford and Aylesbury–Bletchley lines
- The proposed East–West Rail Route, of which the Oxford–Bletchley Route is an integral part
- Safeguarding a number of disused railway alignments for possible future reopening. Conversion of the former High Wycombe–Bourne End branch to a busway, including a purpose-built multimodal interchange at High Wycombe, is being developed
- Improvements to Aylesbury/High Wycombe–London services, including development of the CrossRail proposal
- A policy of encouraging improved access to the rail network and better information about services.

Progress on the 1999 NMS

The concourse retail development of the London terminal at Marylebone has recently been successfully completed and, enhanced car parks are fully operational at Haddenham and Thame and Denham Stations.

In addition, the Station Regeneration Programme has successfully completed roof and platform canopy works at Marylebone station.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Aynho Junction–Bicester	Track doubling	Additional capacity	2001/02	A
Princes Risborough–High Wycombe	Signalling headway reductions	Additional capacity	2001/02	B
Beaconsfield	Reinstatement of fast lines	Additional capacity	2001/02	C
West Ruislip–Northolt Junction	Reinstatement of four track	Additional capacity	2001/02	D
Bicester North–Princes Risborough	Signalling headway reduction	Additional capacity	2001/02	E
Marylebone	Shore supply batteries	Improved electrical systems	2000/01	A
Chiltern Lines – 12 locations	Secured car parks	Improved facilities	2000/01	B
Gerrards Cross	Passenger lift	Improved facilities	2000/01	C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
London Marylebone–Aylesbury	61	3	49min (47mph)	49min (47mph)	49min (47mph)	49min (47mph)
London Marylebone–Princes Risborough	58	1	40min (54mph)	40min (54mph)	40min (54mph)	37min (58mph)
London Marylebone–Banbury	109	0	1hr 6min (62mph)	1hr 6min (62mph)	1hr 6min (62mph)	60min (68mph)
Princes Risborough–Aylesbury	12	0	13min (35mph)	13min (35mph)	13min (35mph)	13min (35mph)
LINESPEEDS (km of track)						
Up to 35mph			15	15	15	15
40–75mph			247	247	247	242
80–105mph			60	60	60	86
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			322	322	322	343
GAUGE (km of route)						
W6A			168	168	168	168
W7			107	107	107	107
W8			107	107	107	107
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	21
20.4–24.1 tonnes			62	62	62	62
24.2–25.4 tonnes			260	260	260	260
TOTAL			322	322	322	343

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.8	3.0	3.8	6.2
Structures	2.6	2.4	5.6	6.7
Signalling	0.3	1.4	0.6	5.4
Plant & Machinery	0.0	0.0	2.3	1.5
Telecoms	0.2	0.0	1.2	0.9
Stations	0.2	0.2	4.9	3.1
Other	0.1	0.4	0.1	0.1
TOTAL	6.2	7.4	18.6	23.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	1.8	0.0	2.3	0.0	4.1	Various
TOTAL		1.8	0.0	2.3	0.0	4.1	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Chiltern upgrade	120.1	2
Other schemes	0.4	Various
TOTAL	120.5	

The sum of the expenditures may not match totals due to rounding



Silverlink; EWS; Freightliner.

Committed schemes

- A Willesden: electrify City Goods Lines

Options for major improvements to capability

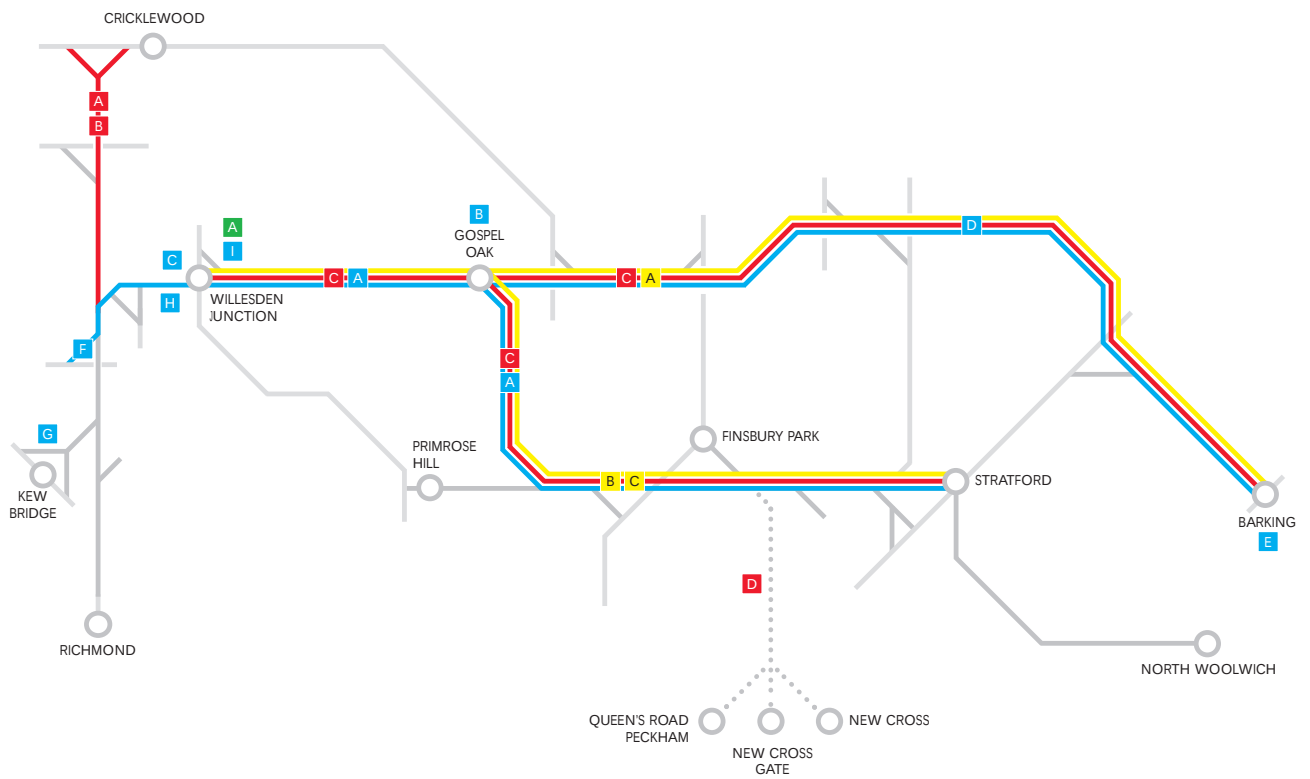
- A Dudding Hill Branch: upgrade for link to Heathrow Airport
- B Dudding Hill Branch: increase gauge clearance
- C Willesden–Stratford and Gospel Oak–Barking: gauge enhancement
- D East London Line: extension

IOS options

- A Willesden–Stratford: capacity enhancement
- B Gospel Oak: remodel station
- C Willesden High Level: turnback
- D Gospel Oak–Barking: journey-time reduction
- E Barking: operational flexibility
- F West London Line–Acton Wells–Acton Yard: operational flexibility
- G Kew East: operational flexibility
- H West London Line – southwest sidings: operational flexibility
- I City Goods Line: operational flexibility

Customer Reasonable Requirements and other development options

- A Gospel Oak–Barking: electrification and route clearance for Class 92 trains
- B Stratford–Willesden and Mitre Bridge Junction: route clearance for Class 325 trains
- C Wembley–Stratford: route clearance for Class 92 trains



Route characteristics

DESCRIPTION The North London Line Route comprises the Richmond–North Woolwich Line, the Gospel Oak–Barking Line, the Dudding Hill Lines (between Cricklewood and Acton Wells Junction) and associated connections. These are two-track lines with a maximum speed of 50mph, except for Camden–Dalston which has three- and four-track sections, and the line between Custom House and North Woolwich which is single track.

The core route from Richmond to North Woolwich is electrified, as are the connections to the Great Eastern Main Line and West Anglia Main Line.

The North London Line is a vital part of London's orbital transport infrastructure and a major strategic link between the key radial routes to and

from the capital. It is an important freight route and provides a key passenger service around London enabling trains to connect from one main line to another.

KEY CAPACITY CONSTRAINTS Capacity is significantly constrained throughout the route. The mix of stopping passenger services and non-stop freight services at different speeds means that a high proportion of available capacity is consumed. Options for improvement are limited by the flat junctions and the heavily built-up areas that the route passes through.

Route vision

We now have options to accommodate demand for intra-London journeys and provide exciting new travel opportunities for the capital, including services using part of the route to enable new direct journeys between key locations. We have also assessed how best to improve the interchange at the large number of intersections, both with rail and other forms of transport.

A number of major projects, including Thameslink 2000, West Coast Main Line upgrade and Heathrow–St Pancras, which is being jointly developed with

BAA plc, will further reinforce the importance of this route. The North London Line is also likely to feature in bids for train paths to new destinations by different operators following the relaxation of Moderation of Competition rules. This will generate complex capacity management issues if all aspirations are to be met.

We are working with other industry partners and funders to provide station facilities, which will improve integration, accessibility, and safety.

Committed development plans

We are currently completing electrification of the City Goods Lines at Willesden.

Options for development

Working with our industry partners, we have undertaken a detailed appraisal of the development options for sections of the route. This has highlighted the key options which will be supported by further demand studies and timetable modelling this year.

Capacity on the North London Line could be released by the diversion of Felixstowe to West Coast Main Line freight services to run cross-country via Peterborough and Nuneaton (Route 9).

Other enhancements being examined include increasing gauge size to permit a wider range of freight traffic to operate on the route, and an upgrade to the signalling on the North London Line after 2006.

The four-train-per-hour passenger service, introduced last year, has been successful and we expect to provide sufficient passenger capacity in the future by extending platforms to accommodate longer trains.

We are developing proposals to extend LUL's East London Line and link this to the North London Line. This will improve journeys between north and south London, as well as providing much better access to the east side of the city. Improved links to Heathrow are also being evaluated.

Local authority aspirations focus upon opportunities for economic regeneration, particularly in the inner urban areas. The East London Line extension is strongly supported, including aspirations for a 'metro' type service and links to Willesden Junction and Finsbury Park. Another Thames rail crossing in the Woolwich area is also encouraged.

Progress on the 1999 NMS

FREIGHT CAPACITY We have doubled the capacity of the Gospel Oak–Barking Route this year for freight services by installing new signals between Woodgrange Park and South Tottenham. This provides an alternative route for freight trains, avoiding the Great Eastern Main Line between Forest Gate and Stratford.

SPEED RESTRICTIONS Our programme to remove speed restrictions is on target and we have now removed all but four.

STATION REGENERATION PROGRAMME We have completed nine stations in 1999/2000 and plan to finish the rest in 2000/01.

STATION IMPROVEMENTS We have provided 'Access for all' facilities at South Acton with further schemes under way at other stations.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Willesden	Electrify City Goods Line	Six trains per hour		A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Dudding Hill Branch	Track, signalling and electrification works	Improved links to Heathrow Airport		A
Dudding Hill Branch	Clear for W8 and Class 92 locos	Improved freight capability		B
Stratford–Willesden and Gospel Oak–Barking	Gauge clearance for W10w	Improved freight capability		C
East London Line	Integration of East London Line into Railtrack network through provision of new connections. Additional capacity works on North London Line and other routes	New cross-London route and journey opportunities		D
IOS(C): Stratford–Willesden	Railtrack proposes to offer sSRA an alternative output	Additional paths	2006	A
IOS(O): Barking–Clapham Junction	Detailed scheme being prepared	Ability to run through from Barking to Clapham Junction, calling at Gospel Oak	2004	B
IOS(O): Willesden High Level	Railtrack proposes to offer sSRA an alternative output	Improved ability to turn back passenger services	2006	C
IOS(I): Gospel Oak–Barking	Railtrack proposes to offer sSRA an alternative output	Journey-time reduction by 4min	2006	D
IOS(O): Barking	Signalling alterations	Ability to run two trains from Gospel Oak into one platform	2004	E
IOS(O): West London Line–Acton Wells–Acton Yard	Detailed scheme being prepared	Ability to change from diesel to electric traction in Acton Yard with 25kV electrification to Acton Wells	2006	F
IOS(O): Kew East	Railtrack proposes to offer sSRA an alternative output	Provide access from Clapham to NLL for electrically hauled freight trains	2006	G
IOS(O): West London Line – southwest sidings	Detailed scheme being prepared	Ability to allow parallel moves for access to GWML relief lines	2006	H
IOS(O): City Goods Line	Detailed scheme being prepared	Avoidance of electrically hauled freight trains conflicting with WCML	2004	I
Gospel Oak–Barking	Electrification and clearance for Class 92 locos	Improved route flexibility		A
Stratford–Willesden and Mitre Bridge Junction	Clear for Class 325 vehicles	Improved route flexibility		B
Wembley–Stratford	Clear for Class 92 locos	Improved route flexibility		C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Richmond–Stratford	28	22	56min (19mph)	56min (19mph)	56min (19mph)	56min (19mph)
Willesden–Stratford	19	17	40min (18mph)	40min (18mph)	40min (18mph)	40min (18mph)
Hampstead Heath–Stratford	13	11	26min (18mph)	26min (18mph)	26min (18mph)	26min (18mph)
Stratford–North Woolwich	8	5	14min (20mph)	14min (20mph)	14min (20mph)	14min (20mph)
Barking–Gospel Oak	19	11	34min (21mph)	34min (21mph)	34min (21mph)	30min (24mph)#
LINESPEEDS (km of track)						
Up to 35mph			28	28	28	28
40–75mph			90	90	90	90
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			118	118	118	118
GAUGE (km of route)						
W6A			65	65	65	65
W7			55	55	55	55
W8			51	51	51	51
W9			34	34	34	34
W10			0	0	0	34
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			7	7	7	7
20.4–24.1 tonnes			111	111	111	111
24.2–25.4 tonnes			0	0	0	0
TOTAL			118	118	118	118

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	4.7	4.1	23.6	20.0
Structures	4.3	3.3	30.6	17.1
Signalling	1.0	0.2	19.3	21.8
Electrification	0.0	0.1	0.6	4.0
Plant & Machinery	0.4	0.2	0.0	0.0
Telecoms	0.0	0.7	0.9	4.4
Stations	0.5	0.6	6.3	7.7
Depots	0.0	0.8	0.2	0.2
TOTAL	10.9	10.0	81.5	75.1

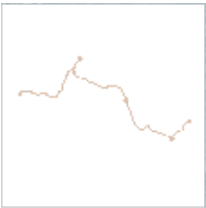
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.0	1.5	5.6	0.0	7.1	Various
TOTAL		0.0	0.5	5.6	0.0	7.1	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Freight: around London	75.0	1
Other schemes	68.5	Various
Heathrow–St Pancras: rail link	26.4	1
Freight: gauge enhancements	21.2	1
TOTAL	191.1	

The sum of the expenditures may not match totals due to rounding



Central Trains; First Great Western; Thames Trains; EWS; Wales & West.

Options for major improvements to capability

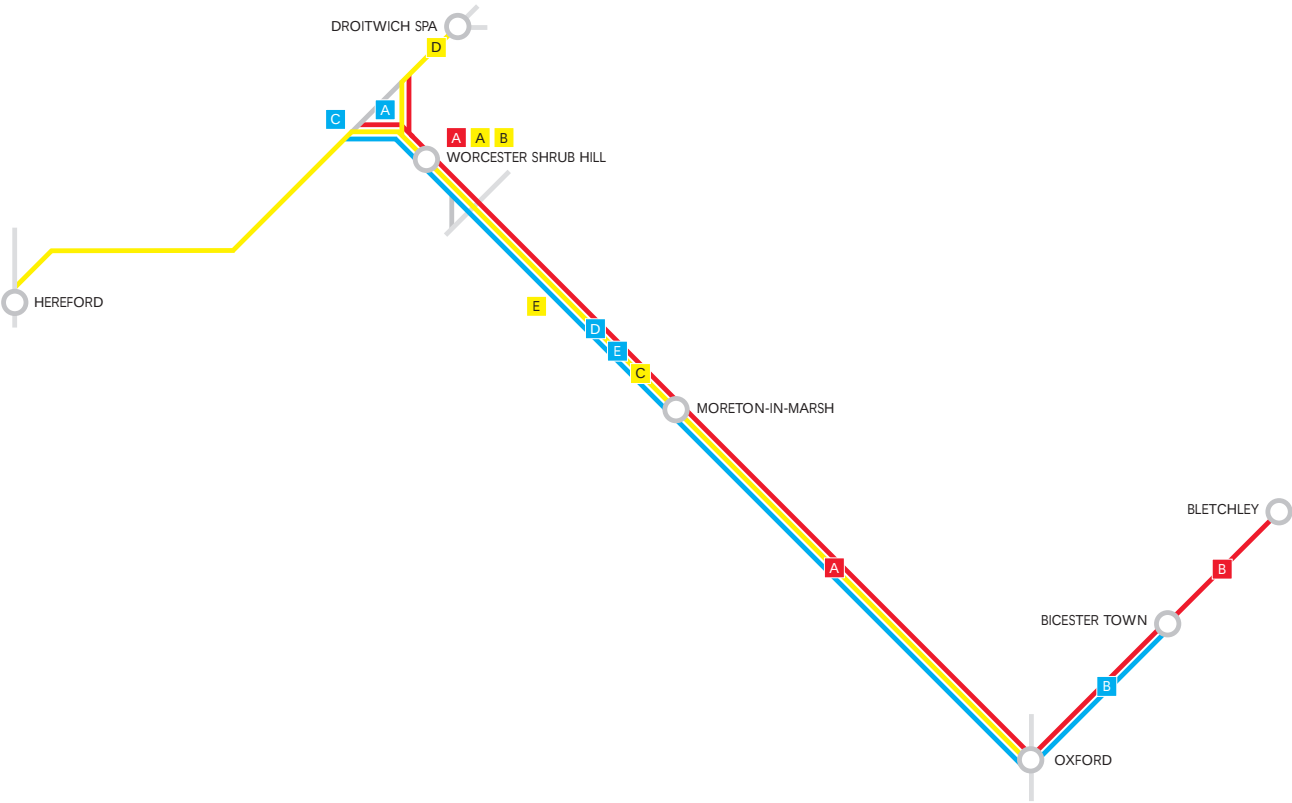
- A Worcester Shrub Hill–Oxford: redouble selected single-track sections and junctions
- B Oxford–Bletchley: proposed East–West Rail Link

IOS options

- A Worcester: operational flexibility
- B Oxford–Bicester Town: reduce journey time
- C Worcester Foregate Street: turnback
- D Oxford–Worcester Foregate Street: enable trains to crossover at additional locations
- E Oxford–Worcester Foregate Street: additional capacity

Customer Reasonable Requirements and other development options

- A Worcester Shrub Hill: car park extensions
- B Worcester Shrub Hill: improved station facilities
- C Oxford–Worcester–Hereford: gauge clearance for new rolling stock
- D Worcester–Droitwich: improved capability
- E Various stations: car park extensions



Route characteristics

DESCRIPTION The route is mainly single track, with double track between Ascott-under-Wychwood and Moreton-in-Marsh and between Worcester and Malvern. Linespeed is generally 80–100mph but some sections are restricted to 40–75mph.

KEY CAPACITY CONSTRAINTS There are a number of constraints on this route: The Oxford–Worcester section is constrained by

- Track layout at Wolvercote Junction
- Single-track sections

- Long signal sections
- Limited passing points with low speeds.

At Worcester, there is single track between Shrub Hill and Foregate Street and inflexible signalling at Foregate Street leading to unnecessary reversal moves via Henwick Junction.

The Worcester–Droitwich section has a long signal section which restricts timetable flexibility and capacity.

Route vision

Our vision is to provide a route that will meet and stimulate expanding demand. This will be achieved by providing for increased train service capacity and timetable flexibility, improved journey times and improved access and facilities at stations. We also envisage possible development of the East–West Link between Oxford and Cambridge through Bicester and Bletchley and possible reopening of the Cheltenham–Honeybourne–Stratford Route.

We are working with our industry partners, including the Cotswold Line

Promotion Group, through the Cotswolds and Malvern Transport Partnership. This group has established a forecast of future demand and potential service patterns. We are exploring proposals for various levels of service frequency in partnership with customers and local authorities. This work will establish which additional infrastructure and/or linespeed improvements are the best ways to increase line capacity in the medium term. The study will examine capacity from Worcester towards Birmingham as well as the Oxford/London direction.

Options for development

MAJOR CAPACITY UPGRADES There is an option of a major capacity upgrade between Oxford, Worcester and Hereford. This would involve redoubling some sections of the route, layout alterations at Worcester and Hereford and linespeed improvements. This route could also form part of an alternative Oxford–Birmingham via Honeybourne and Stratford route. This would provide additional capacity on this corridor as an alternative to the existing route via Banbury.

The East–West Rail Project links Cambridge, Bedford, Milton Keynes, Oxford and Bristol. This would make it possible to travel by rail between East Anglia, the Midlands and the South West without the need to travel into London. It would involve improving linespeeds and redoubling between Oxford and Bicester together with reopening of the line from Claydon to Bletchley. We are working with local authorities and other bodies to develop proposals for a phased development. The first phase would be Oxford–Bedford.

SSRA Incremental Output Statements There are five IOSs, covering options for track and signalling alterations to improve capacity and operational flexibility on the Oxford–Worcester–Hereford Route and also in the Worcester–Droitwich area to accommodate services between the Midlands and Cotswolds. A reduction in journey time is also sought on the Oxford–Bicester Route.

Customer Reasonable Requirements CRRs encompass options for linespeed improvements on the route from Oxford–Worcester/Hereford and Oxford–Bicester, platform lengthening at Ascott-under-Wychwood and Shipton,

performance improvements, increase in capacity between Oxford–Worcester–Hereford, and signalling alterations to allow reversals at Worcester Foregate Street. There is also a requirement to increase capacity and the axle weight to at least 30 tonnes between Worcester and Droitwich for freight traffic from South Wales to Wolverhampton.

Local Transport Plans Worcestershire County Council is interested in new stations at Henwick, Rushwick and St Peter.

The Cotswolds and Malvern Transport Partnership's aspirations for a station at Chipping Campden and the future of the Oxfordshire halts will be clarified during the final evaluation of the current study.

Working with Oxfordshire County Council, we are exploring ways of funding improvement of the Oxford–Bicester section. There is a feasibility study being undertaken to look into the possibility of a Guided Transit Express service which would include a route from Oxford to Kidlington.

In line with local authority aspirations we will preserve capacity for the East–West passenger service, alongside development of a new freight terminal at Oxford Banbury Road.

STATIONS In conjunction with local authorities and train operating companies, we are examining options to expand car parks at stations on the route, where viable, to meet growth in demand. The purchase of additional land and planning permission will be an important factor in taking this project forward.

Progress on the 1999 NMS

STATIONS Refurbishment work on stations at Ledbury, Malvern Link, Colwall, Worcester Foregate Street and Shrub Hill has been completed. This adds to the nine stations refurbished in 1998/99.

LIGHT MAINTENANCE DEPOTS Refurbishment of Worcester Depot has been completed.

PERFORMANCE AND CAPACITY IMPROVEMENT The Partnership study being undertaken with the Cotswolds and Malvern Transport Partnership will encompass infrastructure changes needed to improve performance as well as service levels.

OXFORD AREA GUIDED TRANSIT EXPRESS We continue to work with Oxfordshire County Council and other industry partners on proposals for a rapid transit system to run alongside the Oxford–Bicester Route and evaluating its fit with the East–West Rail project.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Oxford–Worcester	Additional track and resignalling	Additional capacity	2004	A
Oxford–Bletchley	New East–West Rail Link	New service opportunities		B
IOS(O): Worcester	Detailed scheme being prepared	Provide 4min headways between Droitwich and Worcester	2004	A
IOS(J): Oxford–Bicester Town	Detailed scheme being prepared	Reduced journey time by 3min	2006	B
IOS(O): Worcester Foregate Street	Detailed scheme being prepared	Ability to turnaround at Foregate Street a train from Shrub Hill and Birmingham	2004	C
IOS(O): Oxford–Worcester Foregate Street	Detailed scheme being prepared	Enable Up and Down Cotswold Line trains to cross on the sections Hanborough–Charlbury, Moreton–Evesham, Evesham–Norton Junction	2004	D
IOS(C): Oxford–Worcester Foregate Street	Railtrack proposes to offer sSRA an alternative output	Provide two trains per hour in the with-peak direction and one contra peak as through trains to/from Paddington	2006	E
Worcester Shrub Hill	Car park extension	Improved facilities	2002–04	A
Worcester Shrub Hill	New lifts	Improved facilities	2000/01	B
Oxford–Worcester–Hereford	FGW new rolling stock route clearance	Enhance service opportunities	2001	C
Worcester–Droitwich	Increase permitted axle weight to at least 30 tonnes	Additional capability	2005	D
Stations	Car park extension	Improved facilities	2002/03	E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Worcester Shrub Hill–Oxford (Thames Turbo)	92	7	1hr 7min (51mph)	1hr 7min (51mph)	1hr 7min (51mph)	1hr 2min (56mph)
Hereford–Worcester Foregate Street (CT)	46	4	38min (45mph)	38min (45mph)	38min (45mph)	38min (45mph)
Hereford–Oxford (Thames Turbo)	139	10	1hr 41min (52mph)	1hr 41min (52mph)	1hr 41min (52mph)	1hr 36min (54mph)
Droitwich Spa–Worcester Shrub Hill (CT)	9	0	7min (48mph)	7min (48mph)	7min (48mph)	7min (48mph)
Oxford–Bicester (Thames Turbo)	17	1	26min (25mph)	26min (25mph)	26min (25mph)	23min (28mph)
LINESPEEDS (km of track)						
Up to 35mph			23	23	23	34
40–75mph			145	145	145	121
80–105mph			69	69	69	93
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			236	236	236	247
GAUGE (km of route)						
W6A			160	160	160	160
W7			75	75	75	75
W8			16	16	16	16
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			187	187	187	199
24.2–25.4 tonnes			49	49	49	49
TOTAL			236	236	236	247

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.2	0.9	3.2	2.7
Structures	0.5	0.5	9.9	7.2
Signalling	0.5	0.0	6.0	0.1
Plant & Machinery	0.0	0.0	1.2	0.3
Telecoms	0.1	0.2	0.3	0.9
Stations	0.4	0.2	5.6	2.9
Depots	0.2	0.0	0.0	0.0
TOTAL	2.9	1.8	26.2	14.1

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.0	0.5	3.4	0.0	3.9	Various
TOTAL		0.0	0.5	3.4	0.0	3.9	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
East–West Rail Link	240	1
Cotswold line: additional capacity	50.0	0
Other schemes	4.6	Various
Thames Trains: car park improvements	0.5	0
TOTAL	105.6	

The sum of the expenditures may not match totals due to rounding



Cardiff Railway Company,
Wales & West; EWS.

Committed schemes

- A** Bargoed North: additional platforms
- B** Mountain Ash: new passing loop
- C** Cardiff Queen Street: additional signals to increase capacity

Options for major improvements to capability

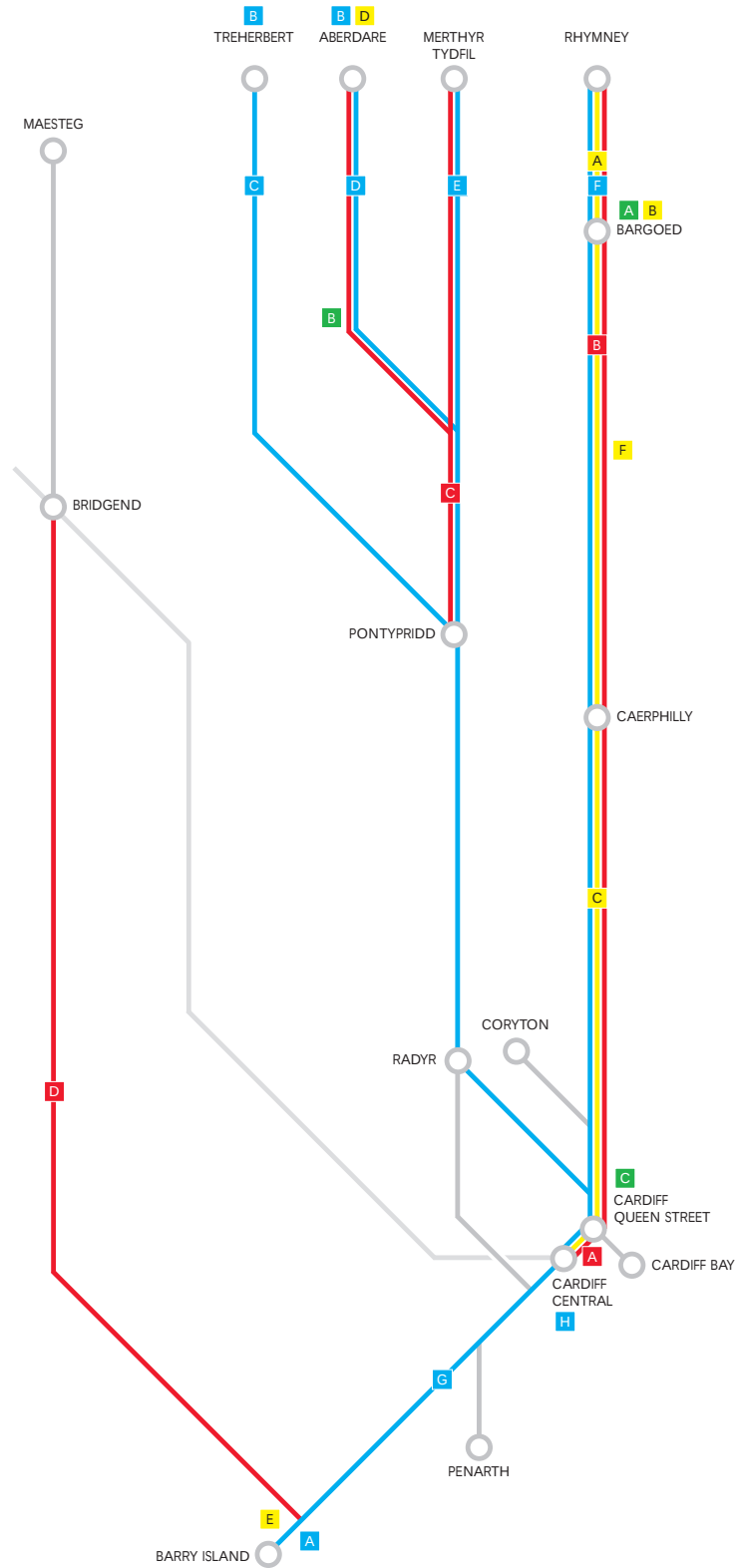
- A** Cardiff Queen Street–Central Corridor: track and signalling improvements to increase capacity
- B** Rhymney Valley Line: resignalling and track improvements to increase capacity
- C** Taff Vale North: track and signalling improvements to increase capacity
- D** Vale of Glamorgan Line: shorten signal sections and raise linespeed

IOS options

- A** Barry Town: terminate and restart from same platform
- B** Treherbert and Aberdare: replace ground frames
- C** Cardiff Central–Treherbert: improved journey times
- D** Cardiff Central–Aberdare: improved journey times
- E** Cardiff Central–Merthyr Tydfil: improved journey times
- F** Cardiff Central–Rhymney: improved journey times
- G** Cardiff Central–Barry Island: improved journey times
- H** Cardiff Central: faster approaches from west and east

Customer Reasonable Requirements and other development options

- A** Bargoed–Rhymney: loop
- B** Bargoed: improve bus–rail interchange
- C** Cardiff Central–Cwmbargoed: 25.5tonne axle weights
- D** Aberdare: car park extension
- E** Barry Central: new station
- F** Ystrad Mynach: car park extension



Route characteristics

DESCRIPTION The northern sections of the Valley routes are single track, with double track south of Porth, Abercynon and Bargoed. The Bay branch, the Coryton branch, Cogan Junction–Penarth and Barry Junction–Barry Island are also single track. Linespeeds are generally 40–55mph, with sections of 70mph at the southern end of the Valleys. Bridgend to Maesteg is single track with linespeeds of 30–50mph. There are 71 stations over a total of 150 route kilometres.

KEY CAPACITY CONSTRAINTS The Cardiff Central to Cardiff Queen Street section is restricted by the track layout and platform capacity at Queen Street. At the extremities of Valley lines there are several single-track sections which are used to capacity.

Route vision

The Cardiff Valleys rail network is a key component of the public transport network of South East Wales. Our vision is to maintain and enhance this position through improvements to capacity, journey time and stations. We will do this in partnership with South Wales Integrated Fast Transit (SWIFT), by meeting the needs of our customers for a reliable and frequent service, accommodating both passenger traffic and the considerable potential for growth in freight.

Our vision for the network is based on:

- Better journey times and frequency to and from the extremities of the network
- Developing a reliable and robust service and better security for passengers
- Creating a high-quality environment in Cardiff city centre.

Committed development plans

INFRASTRUCTURE We have a programme of linespeed raising on the Valleys network in 2000/01 with local authority funding. We are also committed, with local authority funding, to capacity improvements at Bargoed North in 2000/01 where an additional platform is to be built, and at Mountain Ash from 2000–02 where a new passing loop will be constructed as part of a land reclamation scheme. We plan to provide additional signals at Cardiff Queen Street to improve headways in 2000/01, following withdrawal of 'permissive working'.

STATIONS We will install customer information systems at all stations in 2000/01. We will construct a new footbridge at Pontypridd, relocate the ticket office and carry out various works to the canopy and drainage at the station in 2000/01. We are completing improvements to Caerphilly road–rail interchange facilities with local authority and WDA funding.

Options for development

Major Capacity Upgrades Further improvements to capacity in the Cardiff Queen Street–Cardiff Central corridor are under consideration for implementation in 2002–05, with possible local authority funding. Modernisation of track and signalling in the Rhymney Valley planned for 2001–03, would provide additional capacity. We will be submitting, in partnership with SWIFT, an application for EU Objective 1 funding for this. There is also an option to improve capacity between Pontypridd, Aberdare and Merthyr Tydfil (known as Taff Vale North resignalling) in 2001–04, and there is an option to improve the Vale of Glamorgan route in 2001–03 to accommodate the proposed passenger service.

Freight traffic continues to grow (eg coal from Cwmbargoed), and we will take cognisance of this traffic and future growth in proposals we develop for the route.

SSRA Incremental Output Statements There are seven IOSs covering options to improve journey time over most sections of the Valleys network and enhance capacity and operational flexibility at key locations.

Customer Reasonable Requirements CRRs cover options for capacity increases through installation of additional track and signalling (including passing loops), higher linespeed through track and signalling improvements, better performance through equipment modernisation and flood prevention, modernisation of stations and facilities including lengthening of platforms, extension of car parks, and improved freight capability in terms of axle weight to cater for the potential for additional traffic to Cwmbargoed.

Local Transport Plans There is strong interest from local authorities in options for providing greater capacity, increased service frequency, better journey times, improved road–rail interchanges, better passenger facilities and new stations to offer an attractive alternative to road, particularly in the congested A470 corridor north of Cardiff. The formation of the National Assembly for Wales has added further impetus to creating better public transport links in Wales. In conjunction with SWIFT, we will keep options open for accommodating a Cardiff LRT system, should this be required in the future.

There are options for a new station at Barry Central in 2000/01, with local authority funding, together with various projects to improve access and interchange.

Progress on the 1999 NMS

STATIONS We have completed the Station Regeneration Project on the Cardiff Valleys route. We have also completed the installation of improved facilities to ensure security of passengers at 31 Valleys stations with support from SWIFT. The major refurbishment of Pontypridd Station and improvements to the station forecourt will now include construction of a footbridge linking the town centre car park with the station (with partnership funding).

TRACK IMPROVEMENTS At various locations we have installed continuous welded rail to improve ride quality and raised linespeed to improve performance and allow scope for journey-time improvements.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Bargoed North	Additional platform to increase capacity	Additional capacity	2000/01	A
Mountain Ash	Land reclamation and construction of new passing loop	Operational flexibility	2000–02	B
Cardiff Queen Street	Additional signals to increase capacity	Additional capacity	2000/01	C
All stations	Installation of customer information systems	Improved station facilities	2000/01	
Cardiff Valleys	Track improvements to raise linespeed at various locations	Improved linespeed	2000/01	

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Cardiff Queen Street–Central Corridor	Track and signalling alterations to increase capacity on Cardiff Queen Street–Cardiff Central to accommodate proposed service increases. A significant portion of the work will be completed by 2002	Additional capacity	2002–05	A
Rhymney Valley Line	Increase capacity and linespeeds through resignalling and track improvements to accommodate proposed passenger and freight service increases	Additional capacity	2001–03	B
Taff Vale North	Track and signalling improvements to increase capacity between Pontypridd, Aberdare and Merthyr Tydfil	Additional capacity	2001–04	C
Vale of Glamorgan	Shorten signal sections and raise linespeed, subject to funding, to accommodate the proposed passenger service	Additional capacity	2001–03	D
IOS(O): Barry Town	Detailed scheme being prepared	Provide for trains from Cardiff to terminate and restart back from the same platform	2004	A
IOS(O): Treherbert and Aberdare,	Detailed scheme being prepared	Replace ground frames with signaller-controlled power operated points	2004	B
IOS(I): Treherbert–Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Reduced journey times – 3min	2006	C
IOS(I): Aberdare–Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Reduced journey times – 3min	2006	D
IOS(I): Merthyr–Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Reduced journey times – 3min	2006	E
IOS(I): Rhymney–Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Reduced journey times – 3min	2006	F
IOS(I): Barry Island–Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Reduced journey times – 2min	2006	G
IOS(O): Cardiff Central	Railtrack proposes to offer sSRA an alternative output	Faster (140mph or higher) approaches from west and east to/from Cardiff Central platforms	2006	
Bargoed–Rhymney	Install additional loop	Additional capacity	2005	A
Bargoed North	Improved bus–rail interchange	Improved station facilities	2001	B
Cardiff Central–Cwmbargoed	To be capable of accommodating 25.5 tonne axle weights	Additional capacity	2001	C
Aberdare	Car park extension	Improved station facilities	2000/01	D
Barry Central	New station	New station	2000/01	E
Ystrad Mynach	Car park extension	Improved station facilities	2003/04	F

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Cardiff Queen Street–Rhymney	37	14	53min (26mph)	53min (26mph)	53min (26mph)	50min (27mph)
Cardiff Queen Street–Merthyr Tydfil	37	11	49min (28mph)	49min (28mph)	49min (28mph)	46min (30mph)
Cardiff Queen Street–Treherbert	36	15	56min (23mph)	56min (23mph)	56min (23mph)	53min (24mph)
Cardiff Queen Street–Barry Island	16	8	30min (20mph)	30min (20mph)	30min (20mph)	29min (20mph)
Cardiff Queen Street–Penarth	7	3	15min (17mph)	15min (17mph)	15min (17mph)	15min (17mph)
Bridgend–Maesteg	13	5	22min (23mph)	22min (23mph)	22min (23mph)	22min (23mph)
LINESPEEDS (km of track)						
Up to 35mph			86	86	86	86
40–75mph			179	179	179	180
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			265	265	265	266
GAUGE (km of route)						
W6A			149	149	149	149
W7			137	137	137	137
W8			17	17	17	17
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			78	78	78	78
20.4–24.1 tonnes			133	133	133	133
24.2–25.4 tonnes			54	54	54	55
TOTAL			265	265	265	266

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.1	1.3	2.2	1.9
Structures	1.1	0.5	7.1	5.0
Signalling	0.8	0.8	9.0	0.5
Plant & Machinery	0.0	0.0	0.1	0.2
Telecoms	0.0	0.0	0.4	1.4
Stations	0.4	0.7	3.9	2.1
TOTAL	4.4	3.3	22.8	11.1

COMMITTED ENHANCEMENTS

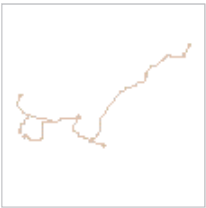
PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Cardiff Valley: customer information system	2000/01	0.0	1.0	0.0	8.9	9.9	5
Other committed schemes	Various	0.7	0.6	3.4	0.0	4.7	Various
Mountain Ash: land reclamation and new loop	2001/02	0.3	1.9	0.4	0.0	2.6	4/5
Cardiff Valley: journey-time improvement	2000/01	0.6	0.4	0.0	0.0	1.0	5
Bargoed North Station: enhancement	2000/01	0.2	0.7	0.0	0.0	0.9	5
TOTAL		1.8	4.6	3.8	8.9	19.1	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Cardiff Queen Street: capacity	20.0	1
Rhymney Valley: capacity	20.0	1
Taff Vale North: modernisation	5.6	0
Barry–Bridgend: route upgrade	5.5	1
TOTAL	45.6	

The sum of the expenditures may not match totals due to rounding

Footnote Information on the Newport–Ebbw Vale Line (Western Valley Line) can be found in Route 42 (Primary Freight Routes).



Wales & West; EWS;
First Great Western.

Options for major improvements to capability

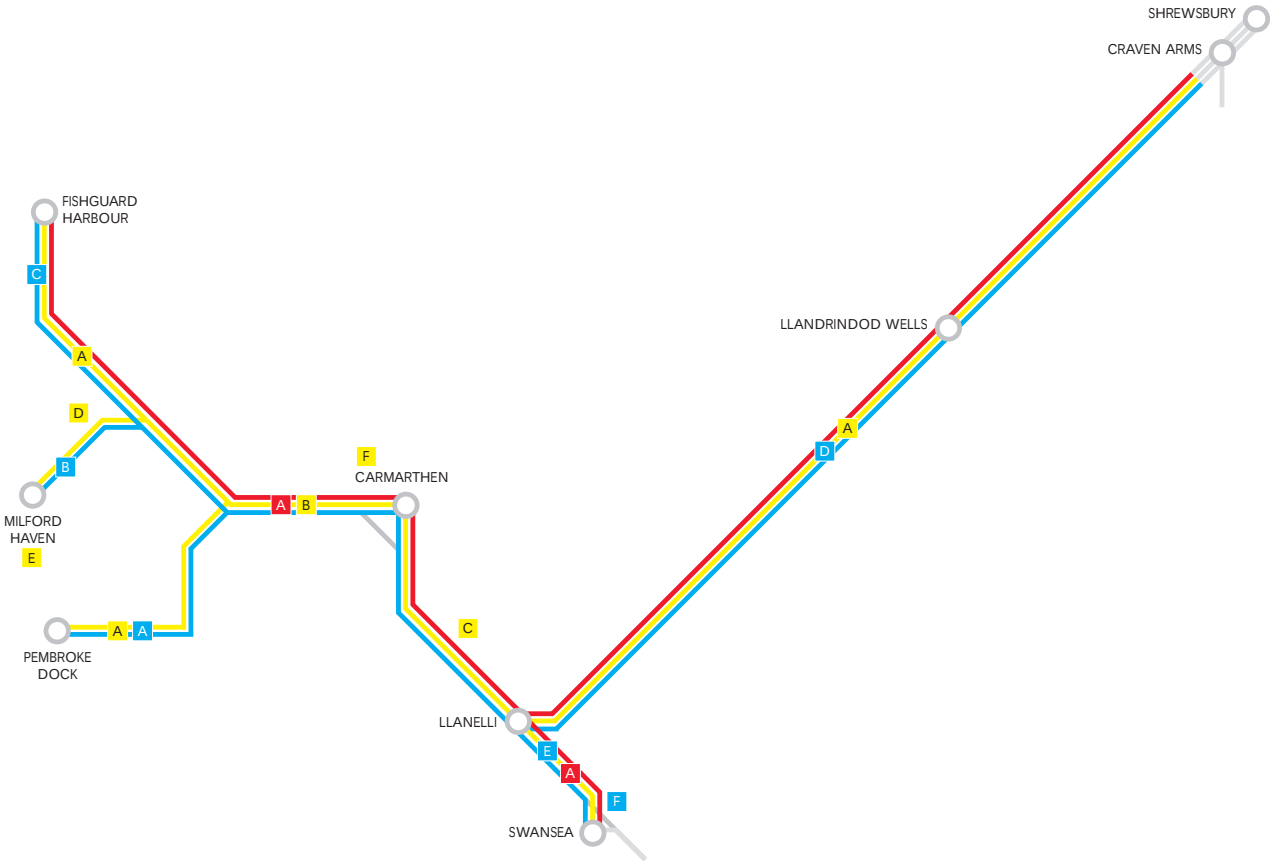
- A West Wales: journey-time improvements

IOS options

- A Swansea–Pembroke Dock: reduce journey time
- B Swansea–Milford Haven: reduce journey time
- C Swansea–Fishguard Harbour: reduce journey time
- D Shrewsbury–Llanelli: reduce journey time
- E Cockett–Duffryn West: increase capacity
- F Swansea Loop East: increase capacity

Customer Reasonable Requirements and other development options

- A Route clearance for new rolling stock
- B Swansea–Fishguard: provide W10w gauge
- C Pembrey: station forecourt improvement
- D Haverfordwest: station improvement
- E Milford Haven: station relocation
- F Carmarthen: passenger and freight interchange



Route characteristics

DESCRIPTION The route from Swansea–Clarbeston Road is primarily double track with a five-mile stretch of single track between Swansea and Llanelli and a single-lead junction at Swansea. The remainder of the lines are single track with passing places. Linespeeds on the route are in the range 40–75mph.

The present infrastructure is not used to capacity. The route forms an important link to Ireland via the ferry ports at Fishguard and Pembroke Dock. There are significant flows of freight traffic, in particular from the oil refineries at Milford Haven.

Route vision

The railways in West Wales have an important role in linking remote communities. Our vision for West Wales is to reduce its peripherality and to improve its integration with South Wales cities through a reduction in rail journey times, to sustain and where viable, increase capacity and capability for future

passenger and freight traffic, and to improve operational flexibility.

We will also work with our industry partners to develop the links to Ireland through Fishguard and Pembroke Dock.

Options for development

sSRA Incremental Output Statements There are six IOSs covering options to reduce journey time between Swansea and West Wales and on the Heart of Wales Line, as well as to improve timetable flexibility through doubling of single track between Swansea and Llanelli.

Customer Reasonable Requirements These cover options to double single track between Swansea and Llanelli, to improve level crossings, in order to reduce speed restrictions to enhance freight gauge from Swansea to Fishguard, and to install rail connection for steel coil at Pontarddulais.

Local Transport Plans The railways in West Wales have an important role in linking remote communities. We are working with the South West Wales Economic Forum, which has been formed by local authorities and train

operators to work with us to develop rail services in West Wales and to lobby for European and UK grant funding to improve infrastructure and deliver our vision.

We are investigating options for interchange improvements for Pembrey and Burry Port, Milford Haven, Haverfordwest and Carmarthen with the aim of including them in the EU Objective 1 bid.

STATIONS In conjunction with local authorities we are investigating options to upgrade station forecourt facilities and road–rail interchanges at Carmarthen, Pembrey & Burry Port and Haverfordwest and to relocate Milford Haven Station.

Progress on the 1999 NMS

RENEWALS We have continued to undertake a programme of routine renewals.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
West Wales	Track works and changes to protection arrangements at level crossings	Journey-time improvements Swansea–Llanelli 1min Swansea–Carmarthen 3min Swansea–Fishguard Harbour 10min Llanelli–Craven Arms 10min	2006	A
IOS(I): Pembroke Dock–Swansea	Detailed scheme being prepared	Reduced journey time by 8min	2006	A
IOS(I): Milford Haven–Swansea	Detailed scheme being prepared	Reduced journey time by 8min	2006	B
IOS(I): Fishguard Harbour–Swansea	Detailed scheme being prepared	Reduced journey time by 10min	2006	C
IOS(I): Shrewsbury via Central Wales–Llanelli	Detailed scheme being prepared	Reduced journey time by 10min	2006	D
IOS(O): Cockett–Duffryn West	Detailed scheme being prepared	Redouble and signal for four-minute headways	2006	E
IOS(O): Swansea West Loop	Detailed scheme being prepared	Provide for parallel arrivals and departures to and from West Wales between Swansea Loop East Junction and High Street Station, with 40mph through junctions and on to High Street		F
Route	FGW new rolling stock: route clearance	New service opportunities	2001	A
Swansea–Fishguard	Increase freight gauge to W10w	Enhanced capability	2005	B
Pembrey Station	New forecourt	Enhanced facilities	2002	C
Haverfordwest	Station forecourt improvement	Enhanced facilities	2002	D
Milford Haven	Station relocation	Station relocation	2002	E
Carmarthen	Passenger and freight interchange	Enhanced facilities	2002	F

CAPABILITY CHANGES

JOURNEY TIME (Class 153)	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Swansea–Llanelli	18	1	17min (40mph)	17min (40mph)	17min (40mph)	16min (42mph)
Swansea–Carmarthen (Class 158)	51	4	47min (41mph)	47min (41mph)	47min (41mph)	44min (43mph)
Swansea–Pembroke Dock	117	15	2hr 9min (34mph)	2hr 9min (34mph)	2hr 9min (34mph)	2hr 1min (36mph)
Swansea–Milford Haven	115	10	1hr 52min (38mph)	1hr 52min (38mph)	1hr 52min (38mph)	1hr 44min (41mph)
Swansea–Fishguard Harbour	118	2	1hr 34min (47mph)	1hr 34min (47mph)	1hr 34min (47mph)	1hr 24min (53mph)
Llanelli–Craven Arms	145	28	2hr 55min (31mph)	2hr 55min (31mph)	2hr 55min (31mph)	2hr 45min (33mph)
LINESPEEDS (km of track)						
Up to 35mph			111	111	109	109
40–75mph			407	407	409	365
80–105mph			0	0	0	44
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			518	518	518	518
GAUGE (km of route)						
W6A			327	327	327	327
W7			314	314	314	314
W8			110	110	110	110
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			303	303	303	303
24.2–25.4 tonnes			215	215	215	215
TOTAL			518	518	518	518

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.2	1.8	8.1	6.9
Structures	0.4	0.4	6.1	4.3
Signalling	0.2	0.1	7.3	35.8
Plant & Machinery	0.0	0.0	0.5	0.2
Telecoms	0.0	0.0	0.2	0.4
Stations	0.7	0.2	3.5	3.6
TOTAL	3.5	2.5	25.7	51.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.0	0.3	2.3	0.0	2.6	Various
TOTAL		0.0	0.3	2.3	0.0	2.6	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	20.2	Various
West Wales: journey-time improvements	10.0	0
TOTAL	30.2	

The sum of the expenditures may not match totals due to rounding



Central Trains; Chiltern Railways;
Thames Trains; EWS; Freightliner.

Committed schemes

- A Birmingham Snow Hill: Midland Metro enabling works
- B Lichfield City Station: improved facilities
- C Aston Station: improved facilities

Options for major improvements to capacity

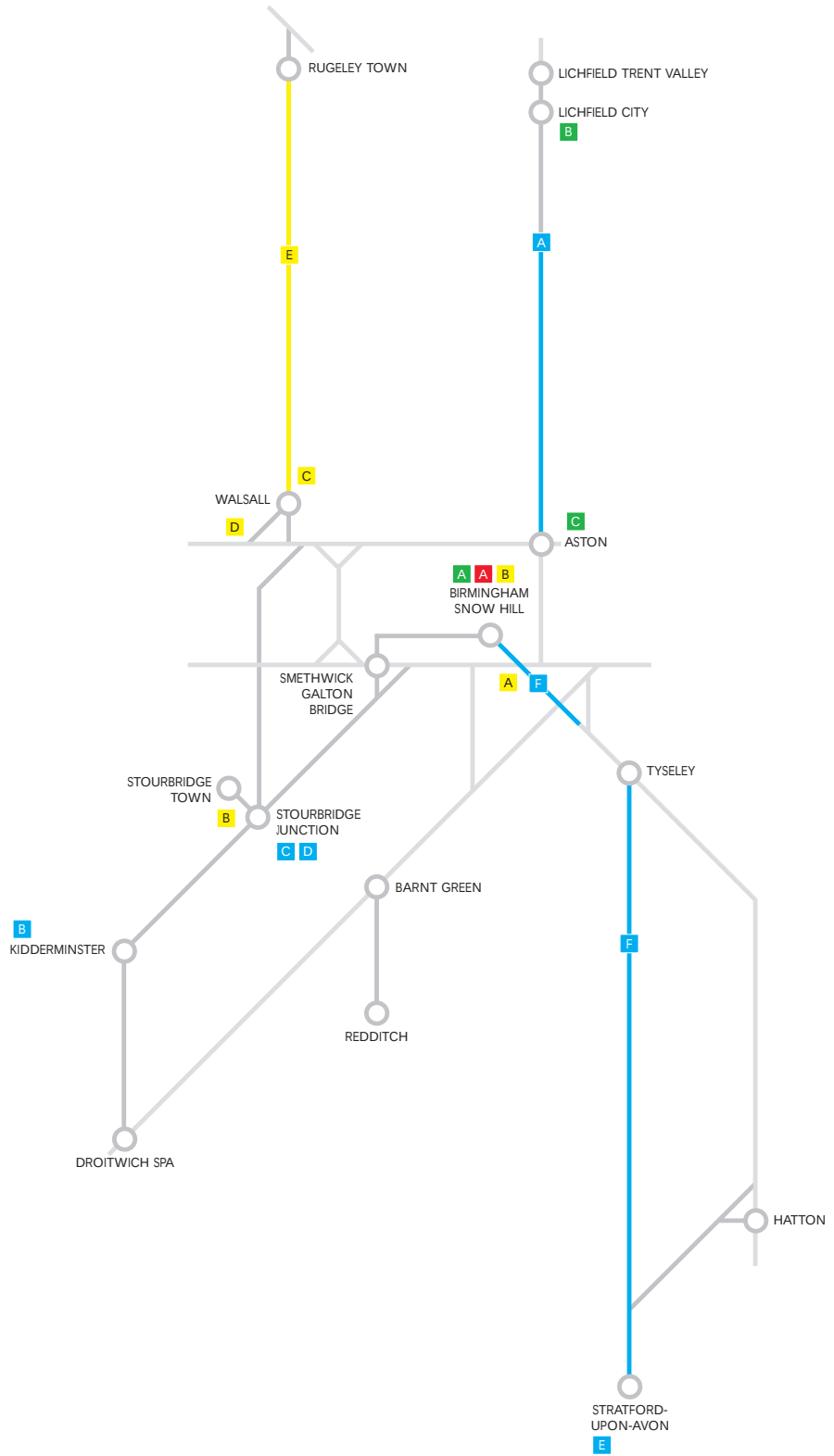
- A Birmingham Snow Hill and Moor Street: additional capacity

IOS options

- A Longbridge–Blake Street: additional capacity
- B Kidderminster: operational flexibility
- C Stourbridge Junction: operational flexibility
- D Stourbridge Junction: additional capacity
- E Stratford-upon-Avon: operational flexibility
- F Stratford-upon-Avon–Birmingham Snow Hill: improved journey time

Customer Reasonable Requirements and other development options

- A Bordesley: improve linespeed and journey time
- B Birmingham Snow Hill and Stourbridge: new stabling facilities
- C Nuneaton–Walsall: electrification
- D Water Orton and Darlaston Junction: increased capability
- E Walsall–Rugeley: electrification, improved linespeed and journey time



Route characteristics

DESCRIPTION This group of lines, together with sections of lines covered in other Route Strategies, is the network for local trains serving the West Midlands conurbation.

All lines have two tracks with the exception of Barnt Green to Redditch, the Stourbridge Town Branch, and Bearley Junction to Hatton Junction which are single track. Linespeeds are normally 50–75mph, with lower restrictions at junctions and through some stations.

The lines from Bescot Junction to Walsall, Aston to Lichfield Trent Valley, and Barnt Green to Redditch are electrified.

The line from Bescot Junction to Rugeley Town is controlled by mechanical signalling, the lines from Aston to Lichfield Trent Valley and Barnt Green to

Redditch are controlled by colour light signalling. All other lines are controlled by a mixture of mechanical and colour light signalling.

KEY CAPACITY CONSTRAINTS We are currently participating with Centro, ssRA, the Government Office for the West Midlands and Birmingham City Council in a strategic review of capacity in the West Midlands. The review is expected to be completed by April 2000. In consultation with passenger and freight customers, the study will identify potential key capacity constraints on all rail corridors.

Route vision

Our vision is to deliver high reliability and high-performing suburban and long-distance interurban services, exceeding performance targets, and to develop the infrastructure in conjunction with train operators and the PTE. We will continue to work with external stakeholders to make the case for further investment in the route seeking to maximise the socio-economic worth of Centro supported services through specific initiatives.

We wish to expand the current volume of freight through the operation of new services on certain parts of the route, arising from a concerted effort to search for new rail freight sites.

Committed development plans

STATIONS We are installing lifts at Aston Station to improve access for mobility-impaired passengers and undertaking enhancements to the car park at Lichfield City Station.

Options for development

WEST MIDLANDS STRATEGIC CAPACITY REVIEW We are participating with sSRA, Centro, Government Office for the West Midlands and Birmingham City Council in a strategic capacity review for the West Midlands area. We will use the conclusions of the review as a framework for the development of our strategy for the route and in the preparation of individual enhancement schemes.

On this route the key issue is capacity in central Birmingham. We are assessing options to create additional capacity through provision of two additional platforms at Moor Street Station and increasing Snow Hill Station to four platforms.

We will continue to work with industry partners, local authorities and outside developers to improve our stations. In particular, we will address the ease of interchange with other transport modes, provide better car parking, real-time passenger information systems and access for the disabled.

sSRA Incremental Output Statements On this particular route, the sSRA proposes improved journey times and regular interval services together with improved connections and operational flexibility.

Customer Reasonable Requirements Proposals for the Walsall–Rugeley Line combine electrification of the route with signalling and linespeed improvements to improve capacity. A contract for a pre-feasibility study was awarded in March 1999 and the results were delivered in May 1999. These results were shared with Centro and other interested local authorities. Work is now progressing to develop the scheme further and agree funding.

- Renewal of customer information systems at stations.
- New stabling facilities for Central Trains at various sites including Snow Hill, Wolverhampton, Leicester and Stourbridge.
- Increased capability to operate 775m trains and gauge enhancement up to W11 between Water Orton and Darlaston Junction.
- Electrification of the section of route between Nuneaton–Water Orton–Walsall.

Local Transport Plans We have consulted the Councils affected by the route and all see the increased use of light and heavy rail as a key part of their Transport Policy, together with the increased use of rail for freight services. The Councils are actively involved in developing and promoting the following:

West Midlands Councils

- Extension of the Midland Metro LRT system into Birmingham city centre and a loop around Wolverhampton town centre.
- Extension of Midland Metro from Wednesbury through Dudley to Merry Hill on the basis of shared running with possible future freight and heavy rail passenger services. Following the completion of a pre-feasibility study, work is progressing with Centro to develop a scope of work to enable light and heavy rail running and to consider funding options.

- Further expansion of the light rail network either along new lines or, where appropriate, by means of further track sharing with the heavy rail network.
- Further development of the proposal to reintroduce heavy rail passenger services between Stourbridge Junction and Walsall via Dudley.
- Further development towards reopening of the closed line between Walsall and Lichfield, including a new station at Brownhills.
- A new station at Aldridge.

Staffordshire County Council

- Improvements in interchange and information facilities at stations, particularly Lichfield Trent Valley.
- Service improvements and reduced journey times on the Walsall–Rugeley route, including possible electrification of the line.
- In addition, Cannock Chase District Council, with the support of the County, is promoting the construction of a new park and ride station at Churchbridge, on the Walsall–Rugeley Line south of Cannock.

Warwickshire County Council

- Infrastructure improvements to allow more frequent services between Stratford-upon-Avon and Birmingham during the day, and the introduction of later evening services.
- More frequent services between Stratford and Leamington.
- Development of rail services to cater for the considerable tourist and leisure market around Stratford, including regular steam or diesel-hauled tourist services to and from Birmingham, and additional direct services to and from London.
- As part of the above proposal, development of a servicing facility at Stratford for privately owned steam or diesel locomotives and rolling stock.
- Further investigations into the feasibility of reopening the direct Stratford–Cheltenham Line.
- Improvements to passenger and information facilities at Stratford, Wilmcote, Bearley, Claverdon, Wootton Waven, Henley-in-Arden, Danzey, Wood End, The Lakes and Earlswood stations.

Worcestershire County Council

- Improved interchange facilities at stations.
- Investigations into the case for a possible park and ride facility north of Kidderminster.
- Capacity and linespeed improvements between Droitwich and Stourbridge.

Progress on the 1999 NMS

Walsall-Area Resignalling Renewals A contract has now been awarded for the renewal of signalling cable between Walsall and Ryecroft Junction and is expected to be complete in 2001.

Station Regeneration Works have been completed at the following stations: Erdington, Perry Barr, Wylde Green, Chester Road, Duddeston, Blake Street, Gravelly Hill, Aston, Butlers Lane, Yardley Wood, Lye, Walsall, Claverdon, Tame Bridge, Bearley, Hartlebury and Whitlock's End.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Birmingham Snow Hill	Midland Metro enabling works	Works to allow tram system to operate in proximity to heavy rail	2000/01	A
Lichfield City Station	Car park enhancements	Improved facilities	1999/2000	B
Aston Station	Provision of lifts	Improved access for mobility impaired	2000/01	C

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Major capacity enhancement: Birmingham Snow Hill and Moor Street Stations	Additional platforms	Increased capacity	2006	A
IOS(C): Longbridge–Blake Street	Detailed scheme being prepared	Increase the Birmingham CrossCity service to six trains per hour on the core section	2004	A
IOS(O): Kidderminster	Detailed scheme being prepared	Ability to turn around on arrival from Birmingham in both westbound and eastbound platforms	2004	B
IOS(O): Stourbridge Junction	Detailed scheme being prepared	Provide route from Birmingham into platform two for reversal	2004	C
IOS(C): Stourbridge Junction	Detailed scheme being prepared	Provide for six trains per hour from Snow Hill terminating in a new four-vehicle bay platform	2006	D
IOS(O): Stratford-upon-Avon	Detailed scheme being prepared	Ability for passenger trains to arrive and depart from the second platform	2004	E
IOS(J): Stratford-upon-Avon–Birmingham Snow Hill	Detailed scheme being prepared	Reduction in journey times by 2min	2006	F
Bordesley	Provision of crossover	Improved journey times and linespeeds	2001/02	A
Snow Hill and Stourbridge	New stabling facilities	Improved operational flexibility	2000/01	B
Nuneaton–Water Orton–Sutton Park Line–Walsall and Water Orton–Proof House Junction	Electrification scheme	Ability to operate new services	2004/05	C
West Midlands area	CIS replacement	Improved facilities	2000/01	D
Water Orton and Darlaston Junction	Increase capability to operate 775m freight trains and gauge enhancement up to W11	Increased capability and gauge enhancement	2009/10	E
Walsall–Rugeley	Electrification and improved linespeed	Electrification and reduced journey time	2005/06	F

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Walsall–Rugeley Trent Valley	22	6	33min (25mph)	33min (25mph)	26min (32mph)	26min (32mph)
Aston–Lichfield Trent Valley	26	7	29min (33mph)	29min (33mph)	29min (33mph)	29min (33mph)
Birmingham–Stratford-upon-Avon	41	14	47min (32mph)	47min (32mph)	47min (32mph)	45min (34mph)
Birmingham–Redditch	23	9	33min (27mph)	33min (27mph)	33min (27mph)	33min (27mph)
Birmingham–Droitwich Spa via Stourbridge	45	7	44min (38mph)	44min (38mph)	44min (38mph)	44min (38mph)
LINESPEEDS (km of track)						
Up to 35mph			20	20	20	20
40–75mph			298	298	298	298
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			318	318	318	318
GAUGE (km of route)						
W6A			167	167	167	167
W7			83	83	83	83
W8			38	38	38	38
W9			0	0	0	5
W10			0	0	0	5
W11			0	0	0	5
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			318	318	318	318
24.2–25.4 tonnes			0	0	0	0
TOTAL			318	318	318	318

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	6.6	7.0	8.8	14.4
Structures	1.2	1.5	5.6	6.6
Signalling	5.6	3.1	14.1	12.8
Electrification	0.1	0.0	0.1	0.0
Plant & Machinery	0.0	0.1	2.3	1.5
Telecoms	0.5	0.0	0.1	0.9
Stations	2.9	0.7	12.4	7.7
Other	0.1	0.4	0.2	0.3
TOTAL	17.0	12.8	43.7	44.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	1.7	1.3	0.6	0.0	3.6	Various
Aston: lifts	2001	0.0	0.2	0.0	0.0	0.2	Various
TOTAL		1.7	1.5	0.6	0.0	3.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	34.4	Various
Birmingham–Water Orton: capacity	34.2	0
TOTAL	68.6	

The sum of the expenditures may not match totals due to rounding



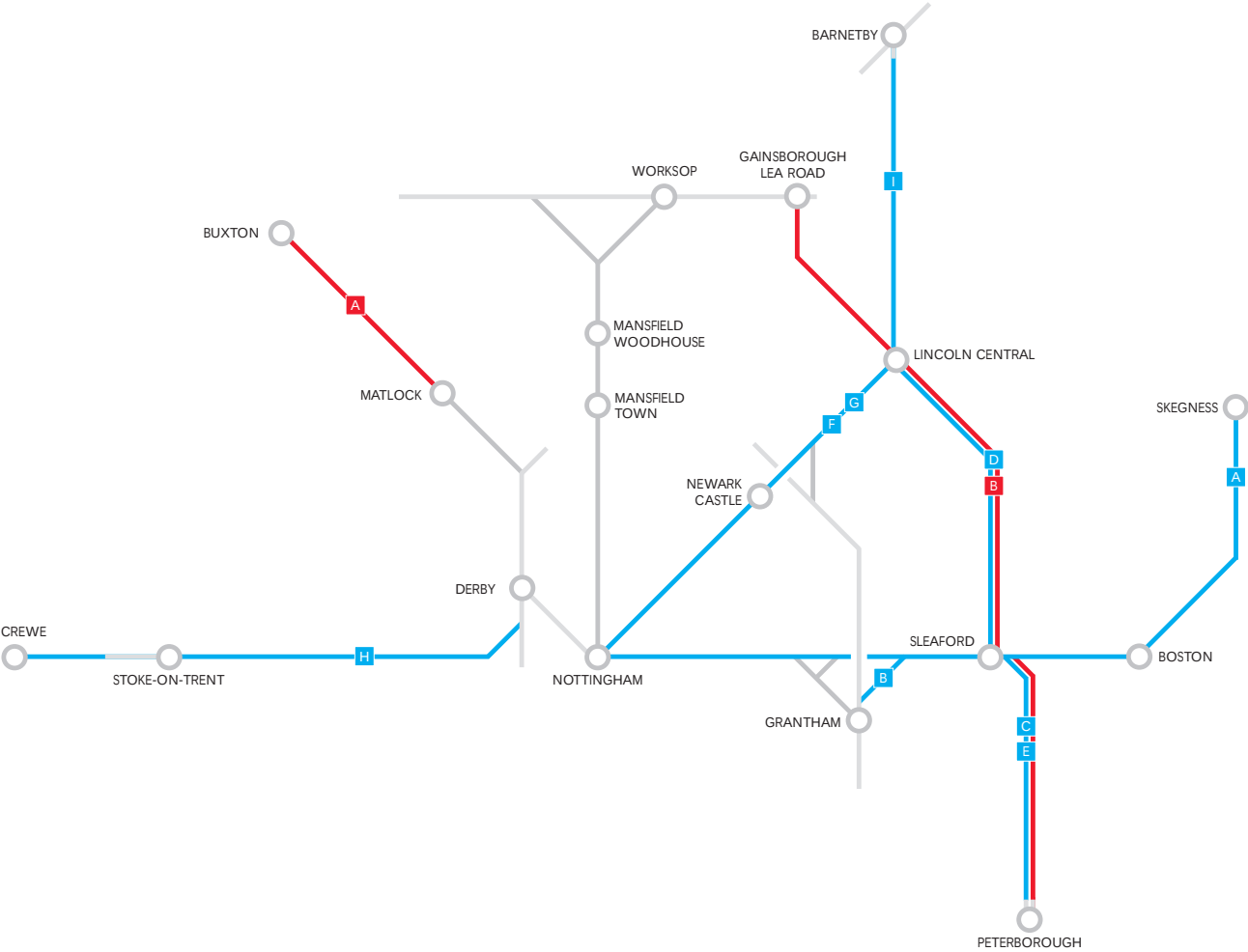
Central Trains; Northern Spirit; EWS.

Options for major improvements to capability

- A Matlock-Buxton: reinstatement of line
- B East Coast: Primary Freight Route

IOS options

- A Nottingham-Skegness: additional capacity
- B Grantham-Skegness: increased platform length
- C Peterborough-Lincoln: additional capacity
- D Sleaford-Lincoln: additional capacity
- E Peterborough-Lincoln: improved journey time
- F Nottingham-Lincoln: additional capacity
- G Nottingham-Lincoln: improved journey time
- H Crewe-Nottingham: improved journey time
- I Lincoln-Grimsby: improved journey time



Route characteristics

DESCRIPTION This route is used by regional and local passenger services centred on the East Midlands and also carries a significant volume of freight trains, especially to and from Humber ports.

The route is mainly two track but with single-track sections from Ambergate to Matlock, Newstead to Kirkby in Ashfield, Hubbert's Bridge to Boston and Sleaford to Heckington. Linespeed varies between 60 and 75mph,

with lower speeds at many junctions and stations.

Various freight services are operated over this route including coal and oil trains together with growing international, intermodal and parcel sectors. There are a number of freight terminal facilities on this route. Overall, we expect freight traffic to remain an important feature of this route.

Route vision

Our vision for this route is to increase its relevance to local communities. This is to be achieved by continuing to work with local authorities and making the case for further socio-economic investment to improve public transport access to Nottingham, other East Midlands' centres and rural areas.

We envisage the importance of freight traffic increasing on this route, particularly on the Peterborough–Lincoln–Doncaster corridor as an alternative to the ECML.

Options for development

INFRASTRUCTURE

Peterborough–Gainsborough We propose to upgrade the route between Peterborough and Gainsborough to form part of a Primary Freight Route for the ECML (see Route 2). We also envisage an improved passenger service to be provided through higher linespeeds and improved capability, including grade-separated junctions at Peterborough which will improve timetable flexibility.

Matlock–Buxton In partnership with Derbyshire County Council and in conjunction with industry partners, we are developing a proposal for the reopening of the line between Matlock and Buxton to improve access to the Peak District National Park and create new long-distance services between the East Midlands and the North West. A significant element of this development work will consider the environmental sensitivities of constructing a new railway through a national park. If the benefits, both social and economic, can be realised, we will work towards making a Transport and Works Application during 2001.

Freight Part of this route, from Derby to Crewe, is also being considered as part of the Third Anglo-Scottish Primary Freight Route to evaluate the potential of providing freight capacity as an alternative to the West Coast Main Line.

ssRA Incremental Output Statements Proposals on this route are to provide increased frequency and reduce journey time particularly between Nottingham and Crewe. Any constraints to increased frequency are likely to be caused off this route and are addressed elsewhere, principally on Route 5.

Customer Reasonable Requirements During 2000/01 we will devise a solution to improve the platform at Carlton.

We will consider the feasibility of increasing the platform lengths on the Grantham–Skegness Line to allow three vehicle trains to call.

Local Transport Plans All local authorities associated with this route see rail as an important part of their local plans. All encourage the use of a fair and efficient transport system, balancing social and economic needs.

Leicestershire County Council supports and promotes the proposal for the completion of the 'Ivanhoe Line' between Leicester and Burton-upon-Trent.

Derbyshire County Council supports:

- Reopening of the closed Matlock–Buxton and Manchester Main Line.
- New stations at Ilkeston (on Route 5).
- Interchange and information facility improvements at rail stations.

Lincolnshire County Council supports:

- Introduction of regular direct Lincoln–London services.
- Electrification of the Newark–Lincoln Line as a means of providing these direct Lincoln–London services.
- New stations at Donington, Pinchbeck, Sibsey and Washingborough or Heighington.
- Expansion of the 'InterConnect' bus network, including co-ordination between bus and rail timetables, through ticketing and improved access between modes at interchange points.
- Improved integration between modes of transport generally.

Nottinghamshire County Council supports:

- Development of a new Nottingham suburban network, including new stations on existing routes, commencing with Ilkeston, the reopening of freight branches to passenger services and substantial improvements to existing stations and interchanges.
- Infrastructure improvements on the Robin Hood Line to improve reliability and frequency, journey times and to accommodate the Nottingham Express Transit scheme.
- Capacity improvements at Nottingham Station to improve reliability and allow the introduction of additional services.
- Interchange and other facility improvements at stations, including the provision of information.

Nottingham City Council supports:

- Improved reliability
- Improvements to passenger facilities and interchange opportunities.

Leicester City Council supports:

- Facilities at Leicester Station, improve interchange and information systems.
- The Ivanhoe Line project.
- Increased service frequencies on routes radiating from Leicester.

City of Stoke-on-Trent supports:

- Improved passenger and information facilities at stations, particularly improved ease of interchange between modes.
- Faster and more frequent services on the Crewe–Stoke–Derby Line.

Staffordshire County Council supports:

- Improvements in interchange and information facilities at stations, particularly Uttoxeter.
- Creation of Quality Partnerships to secure better facilities for passengers.

Progress on the 1999 NMS

STATION REGENERATION Works have been completed at Fiskerton, Bleasby, Rauceby, Heckington, Swineshead, Metherringham, Sleaford, Thorpe Culvert, Wainfleet, Havenhouse and Etruria.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Matlock–Buxton	Reopening	Additional capacity	2003/04	A
Peterborough–Gainsborough	Upgrade of ECML parallel route via Lincoln	Additional capacity for freight operators	2005	B
IOS(C): Nottingham–Grantham–Skegness	Railtrack proposes to offer sSRA an alternative output	Ability to run two trains per hour evenly spaced in each direction	2006	A
IOS(C): Grantham–Skegness	Detailed scheme being prepared	All stations to be able to accommodate at least 3x23m vehicles	2006	B
IOS(C): Peterborough–Lincoln via Joint Line	Detailed scheme being prepared	Ability to run passenger trains for a longer operating day, starting from Lincoln southwards and Peterborough northwards	2004	C
IOS(C): Sleaford–Lincoln	Railtrack proposes to offer sSRA an alternative output	Ability to run two trains per hour	2006	D
IOS(J): Peterborough–Lincoln via Joint Line	Detailed scheme being prepared	Improved journey times by 5min	2006	E
IOS(C): Nottingham–Lincoln	Railtrack proposes to offer sSRA an alternative output	Ability to run two trains per hour evenly spaced in each direction	2006	F
IOS(J): Nottingham–Lincoln	Detailed scheme being prepared	Improved journey times by 5min	2006	G
IOS(J): Crewe–Nottingham	Detailed scheme being prepared	Reduced journey times by 5min	2006	H
IOS(J): Lincoln–Grimsby	Detailed scheme being prepared	Improved journey times by 3min	2006	I

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Nottingham–Skegness	126	6	1hr 45min (45mph)	1hr 45min (45mph)	1hr 45min (45mph)	1hr 45min (45mph)
Peterborough–Gainsborough	116	6	1hr 48min (39mph)	1hr 48min (39mph)	1hr 48min (39mph)	1hr 43min (43mph)
Nottingham–Barnetby	100	3	1hr 19min (47mph)	1hr 19min (47mph)	1hr 19min (47mph)	1hr 14min (50mph)
Nottingham–Worksop	51	11	1hr 47min (28mph)	1hr 47min (28mph)	1hr 47min (28mph)	1hr 47min (28mph)
Derby–Crewe	82	6	1hr 9min (44mph)	1hr 9min (44mph)	1hr 9min (44mph)	1hr 4min (48mph)
LINESPEEDS (km of track)						
Up to 35mph			31	31	31	31
40–75mph			778	778	778	826
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			809	809	809	857
GAUGE (km of route)						
W6A			427	427	427	427
W7			320	320	320	320
W8			272	272	272	320
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			12	12	12	12
20.4–24.1 tonnes			797	797	797	845
24.2–25.4 tonnes			0	0	0	0
TOTAL			809	809	809	857

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	4.4	4.8	6.0	9.9
Structures	1.8	2.1	13.7	16.1
Signalling	2.8	5.4	6.9	51.5
Plant & Machinery	0.0	0.0	2.3	1.5
Telecoms	0.1	0.0	0.1	0.9
Stations	2.2	0.5	11.6	7.2
Other	0.1	0.4	0.2	0.3
TOTAL	11.4	13.2	40.8	87.4

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.8	0.0	8.6	0.0	9.4	Various
Total		13.4	0.9	2.4	0.0	16.7	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Buxton–Matlock route: reopening	100.0	0
Other schemes	55.1	Various
Cross-country journey-time and frequency improvements	11.4	2
TOTAL	166.5	

The sum of the expenditures may not match totals due to rounding



FNW; Merseyrail Electrics;
Virgin West Coast;
Virgin CrossCountry; EWS.

Committed schemes

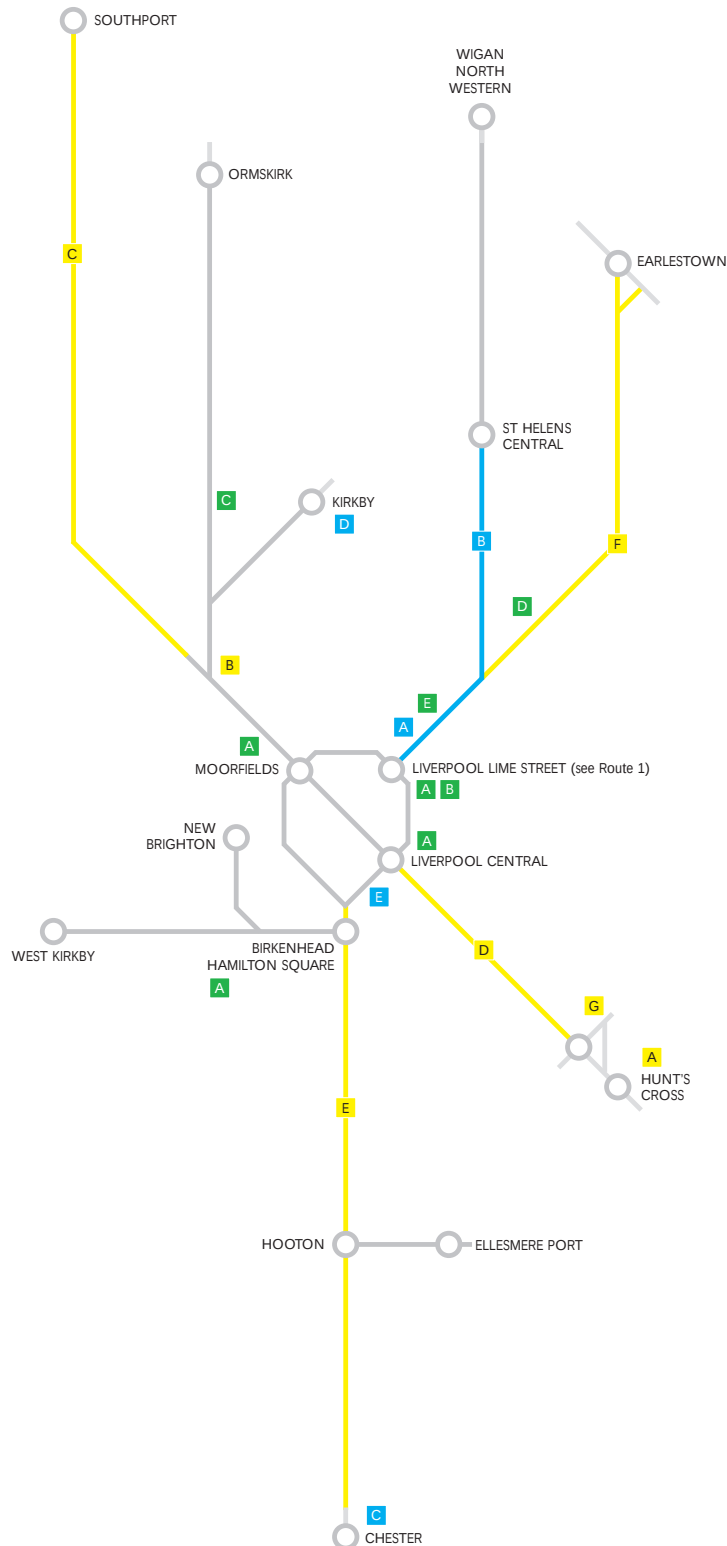
- A** Underground stations' refurbishment
- B** Liverpool Lime Street: improved facilities
- C** Aintree: multimodal interchange
- D** Lea Green: new station
- E** Wavertree Technology Park: new station

IOS options

- A** Olive Mount Chord: operational flexibility
- B** Liverpool Lime Street–St Helens: capacity upgrade
- C** Chester: additional electrified platform
- D** Kirby–Headbolt Lane: electrification extension
- E** James Street: turnback facility

Customer Reasonable Requirements and other development options

- A** Hunt's Cross: operational flexibility
- B** Sandhills Junction: operational flexibility
- C** Southport Line: capacity and linespeed improvement
- D** Garston Line: capacity improvement
- E** Chester Line: capacity and linespeed improvement
- F** Chat Moss Line: freight gauge enhancement to W10w
- G** Allerton–Garston: interchange development



Route characteristics

DESCRIPTION These lines form a high-capacity suburban passenger railway which plays a central role in Merseyside. As part of the area's integrated public transport network, it enables the local population to commute to work quickly, efficiently and with minimal environmental impact. It also attracts considerable numbers of users off-peak, supporting the area's shopping and tourist markets.

This route extends throughout Merseyside, including the Sefton Coast, St Helens, the Wirral, and beyond the Merseyside boundary to the neighbouring towns of Ormskirk, Wigan, Ellesmere Port and Chester. Freight traffic is carried along the lines from Wigan and Earlestown to Edge Hill. The majority of the signalling is controlled from the Sandhills Integrated Electronic Control Centre and with a predominance of 750V DC third-rail electrification. The line from Liverpool Lime Street is electrified with 25kV OHLE as far as Edge Hill from where the electrified WCML diverges to Crewe.

KEY CAPACITY CONSTRAINTS The Northern Line operation is limited by constraints at Hunt's Cross where junction conflicts exist with the Liverpool–Manchester services on the main line and at Sandhills Junction where the two-track railway between Liverpool Central and Sandhills diverges to form the lines to Southport, Kirkby and Ormskirk. Signalling headways further limit the train capacity on the Northern Line to Southport and to Garston.

Junction conflicts at Bidston and Hooton restrict capacity on the Wirral Line services.

Constraints on neighbouring Routes 1 and 8 between Lime Street and Edge Hill affect this route.

Route vision

By building on the existing strengths of the rail network, we want to see its role maintained and expanded as rail continues to offer an attractive alternative to private transport. This will require us to continue to invest in improving the reliability of the rail infrastructure.

In working towards these aspirations we have a strong partner in

Merseytravel. Together, we are particularly interested in exploring the case for new stations and developing better transfer facilities between public transport modes, and between rail and the private car. We will continue to investigate and fully evaluate locations where there is scope to reduce journey times or increase capacity.

Committed development plans

STATIONS We are comprehensively renewing the electrical and mechanical services on all five underground stations covering lighting, emergency lighting, heating and ventilation. This work will be complete by December 2000.

Support from MPTE and ERDF sources is funding the construction of two new stations on the City Lines. At Wavertree Technology Park, the station will be key in the economic development of this part of the City and at Lea Green, the new station will benefit local commuters.

Refurbishment works will be carried out on the two Merseyrail Electrics Train Maintenance Depots during 2000/01.

At Lime Street we are significantly improving the environment for the passenger. This year we will renew the station roof with new glazing, cladding, and feature lighting to lift the comfort and visual impact of this important gateway station. The Gateway project seeks to improve links between station

and city centre. Other major schemes are also under way including the buffer stops and the customer information system (see also Route 1).

A major interchange is being developed at Aintree involving a partnership approach between us, the local authority and Merseytravel. This will provide a bus interchange, improved car parking and increased passenger access for the racecourse, funded by Sefton MBC and Railtrack.

All station regeneration works on Merseyrail Electrics' stations will be completed by March 2001. This intense programme has covered over 40 stations and has been well received.

Major station revitalisation is taking place at Kirkdale and Old Roan, with funding from Merseytravel, which will include the provision of disabled access to the stations.

Options for development

ssRA Incremental Output Statements Railtrack is working with the ssRA to evaluate a series of options for the development of this route. These include:

- Reinstatement of Olive Mount Chord. This would provide direct access to Seaforth and Liverpool Docks for freight trains from the WCML via Earlestown and the Trans-Pennine routes
- At Chester an additional electrified platform has been assessed involving an additional mid-platform crossover which would significantly increase flexibility and capacity at this location
- Network extension to a new station at Headbolt Lane east of Kirkby for the Merseyrail DC system
- St Helens Central capacity increases where a turnback facility has been requested to allow four trains per hour from Liverpool to terminate at St Helens, in addition to two trains per hour from Liverpool which continue to Wigan
- At James Street additional infrastructure has been assessed which, during disruption, would allow trains presently terminating in Birkenhead access to central Liverpool.

Customer Reasonable Requirements More than 150 CRRs have been put forward by MPTE, MEL and EWS affecting this route. These cover operational issues, monitoring, infrastructure development, service standards and a wide range of issues. The following key enhancements have been addressed as part of a continuing process.

Capacity constraints at Sandhills Junction were analysed, but prohibitive infrastructure costs associated with remodelling were identified. An alternative set of measures including timetabling, signalling and pathing constraints is being addressed instead.

Options to remodel Hunt's Cross Junction have been evaluated and are now being discussed with our industry partners.

Additional passenger services Modelling has indicated that the introduction of an additional semi-fast service to Chester would be commercially viable. This and possible increases to Garston (associated with Allerton Interchange development) and Southport are currently being evaluated.

Freight Access to the Trans-Pennine Route via Olive Mount Chord and Edge Hill has been assessed and linked to the potential for new freight and passenger charter services along the Bootle Branch to Seaforth and the North Mersey Branch to Aintree. The results of CRR evaluation have been fed into the Merseyside Freight Strategy.

We are working with EWS to assess gauge and clearance issues associated with potential service enhancements from the WCML and Trans-Pennine routes to Seaforth. These include W10w, W11 and clearance for Class 92 (this latter would require electrification of this route) and the operation of 775m trains.

Local Transport Plans The Merseyside LTP covers the whole of this route and we will continue to work with Merseytravel and the relevant local authorities in order to develop the aspirations as laid out in the plan. In particular:

- Service development – including semi-fast services on the most heavily used lines
- Infrastructure enhancements – additional capacity at Lime Street main station and the development of a major gateway initiative – remodelling of key junction conflicts eg Hunt's Cross
- Network extension – incorporating the development of an interchange at Allerton – extensions to Woodchurch on the Wirral and to Headbolt Lane to the east of Kirkby
- Mersey Belt Linkages – a series of proposals that will lead to a more co-ordinated and cohesive transportation network between Liverpool and Manchester.

In addition, the LTP incorporates a wide range of aspirations for this network including service standards, extended CCTV coverage and interchange developments.

STATIONS A major interchange at Allerton is proposed by Merseytravel. This would involve linking Garston on the DC network with Allerton on Route 1 and the creation of a park and ride and multimodal interchange facility.

Progress on the 1999 NMS

STATIONS A major £30M renewal of electrical and mechanical services on all five underground stations is ongoing with works already complete at Lime Street and James Street.

The renewal of Liverpool Lime Street Station roof is ongoing with this £17M scheme due for completion in 2000.

Significant station refurbishment works at Bootle New Strand and Brunswick with a combined cost in excess of £6M have been completed this year together with major car-park developments at St Helens Junction and Maghull.

Implementation has commenced on the construction of a new £2.2M station at Lea Green while work has started on site for the new station at Wavertree Technology Park where £2.7M is to be spent.

Station regeneration works are now under way on 50% of Merseyrail Electric stations with the remaining locations programmed for completion by March 2001. General works include attention to platform surfaces and painting, vegetation, fencing and drainage. Discussions are continuing with Merseytravel to provide enhanced facilities at the stations.

Work is on site now to install further axle-counters on the Merseyrail underground network.

FREIGHT Railtrack is working in partnership with Wirral Council, EWS, and Mersey Docks and Harbour Board to bring freight trains to Birkenhead Docks. The potential for this has moved a step nearer with an application being submitted for European Objective 1 grant funding. This scheme would involve the servicing of the existing port facilities and the projected developments with rail leading to a reduction in the numbers of lorries on the road network.

TRACK We have continued our investment in the existing infrastructure and have targeted our renewals at key strategic locations. During the year we have rerailed sections of the Wirral and Northern Underground Line. Work on the renewal of life expired conductor rail has continued with locations being targeted on the Northern Line at Aintree.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Underground stations	Station refurbishments	Improved facilities	2000/01	A
Liverpool Lime Street	New roof, lighting, CIS and buffer stops	Improved facilities	2000/01	B
Aintree Station	Interchange development	Improved facilities	2000/01	C
Lea Green	New station	New station	2001/02	D
Wavertree Technology Park	New station	New station	2001/02	E

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

IOS(O): Olive Mount Chord	Detailed scheme being prepared	Reopen for freight traffic	2006	A
IOS(C): Liverpool Lime Street–St Helens	Railtrack proposes to offer sSRA an alternative output	Provision of additional paths	2006	B
IOS(O): Chester	Detailed scheme being prepared	Ability to utilise additional electrified platform	2004	C
IOS(O): Kirkby–Headbolt Lane Junction	Detailed scheme being prepared	Extension of DC system	2006	D
IOS(O): James Street	Detailed scheme being prepared	Provide additional turnback facilities for use during disruption	2004	
Hunt's Cross	Remodel the layout	Operational flexibility		A
Sandhills	Remodel the layout	Operational flexibility		B
Hall Road–Southport	Capacity and linespeed, additional trains and journey-time reductions	Additional capacity		C
Liverpool–Garston	Capacity and linespeed, additional trains and journey-time reductions	Additional capacity		D
Liverpool–Chester	Capacity and linespeed and semi-fast service, additional trains and journey-time reductions	Additional capacity		E
Chat Moss Line	Gauge enhancement	W10w enhanced capability		F
Allerton–Garston	Interchange development, enhanced transfer	Enhanced facilities		G

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Liverpool Central–Chester	29	14	38min (29mph)	38min (29mph)	38min (29mph)	35min (31mph)
Liverpool Central–Southport	31	15	42min (27mph)	42min (27mph)	42min (27mph)	42min (27mph)
Liverpool Central–West Kirkby	20	11	29min (26mph)	29min (26mph)	29min (26mph)	29min (26mph)
Liverpool Central–Hunt's Cross	11	5	17min (26mph)	17min (26mph)	17min (26mph)	17min (26mph)
Lime Street–Earlestown	24	7	30min (29mph)	30min (29mph)	30min (29mph)	30min (29mph)
Lime Street–Wigan	32	10	38min (31mph)	38min (31mph)	38min (31mph)	38min (31mph)
LINESPEEDS (km of track)						
Up to 35mph			42	42	42	42
40–75mph			280	280	280	280
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			322	322	322	322
GAUGE (km of route)						
W6A			163	163	163	163
W7			56	56	56	56
W8			56	56	56	56
W9			0	0	24	24
W10			0	0	24	24
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			10	10	10	10
20.4–24.1 tonnes			312	312	312	312
24.2–25.4 tonnes			0	0	0	0
TOTAL			322	322	322	322

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	4.0	2.7	8.2	18.5
Structures	1.8	1.1	7.9	10.1
Signalling	0.4	0.8	2.3	3.5
Electrification	1.2	1.0	5.7	12.0
Telecoms	1.2	0.9	2.1	2.1
Stations	7.0	4.2	0.0	0.0
Depots	0.5	0.6	0.0	0.0
TOTAL	16.1	11.3	26.2	46.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	13.4	0.9	2.4	0.0	16.7	Various
TOTAL							

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Liverpool Underground: Phase II	15.8	5
Other schemes	15.0	Various
Allerton: interchange	10.0	2
North Trans-Pennine: gauge enhancement	2.0	1
TOTAL	42.8	

The sum of the expenditures may not match totals due to rounding



FNW; Northern Spirit;
Virgin CrossCountry; EWS.

Committed schemes

- A Knowsley: new freight terminal

Options for major improvements to capability

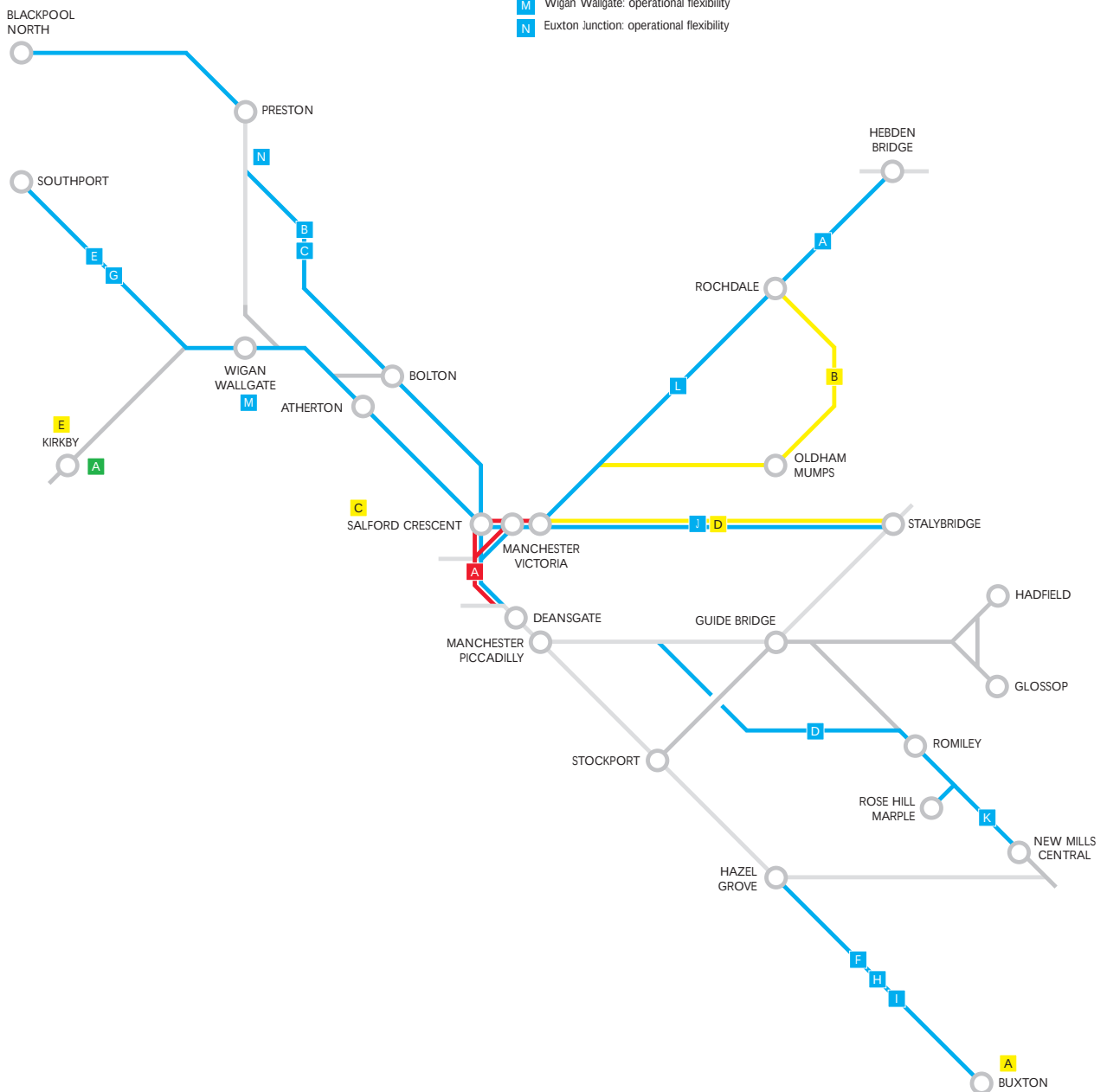
- A Manchester Hub scheme: additional capacity

IOS options

- A Bradford–Manchester Victoria: improved journey time
- B Manchester–Blackpool: improved journey time
- C Manchester–Blackpool: improved journey time
- D Manchester Piccadilly–Marple: improved journey time
- E Manchester Victoria–Southport: improved journey time
- F Stockport–Buxton: improved journey time
- G Manchester Victoria–Southport: route clearance
- H Manchester Piccadilly–Buxton: route clearance
- I Stockport–Buxton: capacity improvement
- J Manchester Victoria–Greenfield: additional capacity
- K Manchester Piccadilly–New Mills Central: improved journey time
- L Rochdale–Southport: improved journey time
- M Wigan Wallgate: operational flexibility
- N Euxton Junction: operational flexibility

Customer Reasonable Requirements and other development options

- A Buxton: operational flexibility
- B Oldham Loop: possible conversion to light rail
- C Salford Crescent: new lifts to improve passenger access
- D Trans-Pennine: freight gauge enhancement
- E Kirkby Headbolt Lane: new station



Route characteristics

DESCRIPTION This route supports the commuter market into Manchester from the northwest, northeast and southeast to Piccadilly and Victoria Stations. There is also a healthy leisure market serving the north west coastal resorts of Blackpool and Southport as well as the Peak District National Park through Buxton or Glossop.

This route incorporates the Manchester to Blackpool and Southport interurban lines, and the suburban network of east and north Manchester. The spine of the route, between Manchester and Preston, forms part of both the local and the long-distance passenger service network.

Freight traffic is also carried on this route, particularly on the lines to the east of Manchester.

The lines are predominantly two track, except in the Manchester Victoria area where there are four tracks, and on the Oldham loop and at Dinting where

there are significant single-line sections. The maximum speed is generally 75mph, except in east Manchester where it is usually 60mph. The line from Manchester to Hadfield and Glossop is electrified.

KEY CAPACITY CONSTRAINTS The rail network in Manchester represents a key hub on the national network, both as a destination and a crossroads for north-south and east-west services. The growth in services around Manchester, particularly those enabled by the West Coast Main Line and proposed Trans-Pennine upgrades, will lead to capacity constraints in central Manchester. These constraints are focused primarily on the southern approaches but could become more evident in the Preston-Bolton-Manchester corridor in the longer term.

Route vision

Our vision is for this route to develop into a high-capacity, high-quality network for both long- and short-distance services, contributing to the economic development of Manchester and as a key node of the rail network.

Recent analysis shows that there will be a steady growth in passenger volumes using these routes, particularly to Manchester Airport and outside the commuter travel period for leisure and conference travel to Blackpool, Buxton and Southport. To enable the route vision to be delivered we have been developing a strategy for Manchester's overall rail capacity. This will deliver major capacity enhancements to facilitate both short-distance train service growth and expansion of long-distance services as Manchester's nodal role develops.

We will contribute to Greater Manchester PTE's and train operators' plans to deliver improved levels of service quality by continuing to focus on improving the performance and reliability of the infrastructure.

We are committed to working with industry partners, the Highways Agency and others to better develop an integrated transport policy for the Preston to Manchester corridor which will be key in relieving congestion on the busy M61.

The Manchester-Hebden Bridge Line will be developed in conjunction with Route 8.

Committed development plans

INFRASTRUCTURE

Knowsley Freight Terminal A new open-access freight terminal is to be built to allow for the supply of wood and chipboard by rail from Scotland. The route from Wigan to Kirkby has already been cleared for W9 gauge to allow the larger freight vehicles to access the terminal.

STATIONS

Manchester Victoria Station regeneration work will take place at this Grade II listed building which will include renovation of roofs, buildings and platforms.

Ashton-under-Lyne Railtrack, First North Western and Greater Manchester PTE have developed plans to substantially improve passenger facilities at this station during 2000/01. This is part of the tripartite Raising the Standard Initiative to maximise the benefits of partnership to improve GMPTA area stations.

Station Regeneration Programme Work on the route to the south of Manchester (Buxton and New Mills Central) will start during 2000/01 and will be complete by March 2001.

Options for development

MAJOR CAPACITY UPGRADES The major bottleneck on the route is the congested Piccadilly–Oxford Road–Deansgate corridor. We have developed a number of potential solutions:

- The provision of additional platform capacity at Manchester Victoria and the construction of a new chord at Ordsall Lane would facilitate some services currently running into Manchester Piccadilly to be re-routed via Manchester Victoria. This would create additional capacity into Piccadilly from the south and east without affecting existing journey opportunities.
- The reinstatement of the former Midland Junction Curve would link Piccadilly and Victoria stations via the east of Manchester. This would facilitate the rerouting of some through-Manchester services to Piccadilly and then round to Victoria and free up capacity into Manchester from the south and east as well as vital paths on the Piccadilly–Oxford Road–Deansgate corridor. A flyover at Ordsall Lane and an additional platform at Victoria would be required for this option.
- The installation of two additional tracks from Ashburys to Manchester Piccadilly, with two additional platforms constructed on the east side of Piccadilly, would allow some additional capacity into Piccadilly from the south and east without requiring any existing services to be rerouted.

The optimum solution is likely to involve a combination of the infrastructure enhancements described above and some service rerouting. While work has indicated that the introduction of the Ordsall Lane chord may provide the lowest cost solution, discussions with stakeholders are necessary to consider the options and their consequences in detail.

sSRA Incremental Output Statements The sSRA has produced a number of options for the development of this route. These mainly consist of journey time improvements but also include potential capacity improvements. The journey time improvements affect almost all of the route sections on Route 33.

Customer Reasonable Requirements GMPTE has completed a study to help formulate its future rail investment strategy with Railtrack as an active partner. This incorporates a range of issues and has produced a series of options to be developed with industry partners, to provide for the transport needs for the area. This study includes an assessment of the needs for rail infrastructure enhancements such as new stations. We will look to work with GMPTE to understand the findings and to work in partnership to deliver its recommendations. As a result of the study, GMPTE has withdrawn certain CRRs included in last year's NMS. A new list will be produced once the findings are understood.

We are part-funding a study, along with East Lancashire Partnership and authorities, into the potential for rail freight in Lancashire.

There is a CRR for 775m freight trains over some sections.

Local Transport Plans We are examining park and ride opportunities in the Manchester area and are working with the Greater Manchester PTE to provide the most cost-effective solution for the future of the Oldham Loop and the associated Metrolink initiative.

Railtrack, Greater Manchester PTE, and Salford City Council have jointly commissioned a study to identify development opportunities at Salford Central.

We are examining further opportunities in partnership with other agencies, notably Lancashire County Council, Derbyshire County Council and Blackpool Borough Council all of whom are keen to look at the opportunities along this route for diverting traffic from road onto rail. Plans for a new station at Chorley Royal Ordnance Factory, in partnership with Lancashire County Council, are already progressing.

Progress on the 1999 NMS

TRACK During 1999/2000, renewal of 7km has been undertaken. In addition to targeting track quality, we have replaced 5.5km of rail, thereby reducing the risk of performance failure due to broken rails.

Horwich Parkway This new station wholly funded by GMPTE, Bolton MBC and the Retail Park developer was successfully completed on time and within budget, and opened in 1999. The station is now being used by a growing volume of passengers.

Station Regeneration Works have started at stations to the north of Manchester, including along routes to Southport, Kirkby, Bolton and Blackpool.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Knowsley	New freight terminal	Additional one train per day	2001	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Manchester Hub	Capacity improvement	Increased capacity to cater for known aspirations	2006–10	A
IOS(J): Bradford–Manchester Victoria	Detailed scheme being prepared	Improved journey time by 5min	2006	A
IOS(J): Manchester–Blackpool	Detailed scheme being prepared	Reduce journey time to 77min	2006	B
IOS(J): Manchester–Blackpool	Detailed scheme being prepared	Reduce journey time to 62min	2006	C
IOS(J): Manchester Piccadilly–Marple	Detailed scheme being prepared	Reduce journey time by 1min	2004	D
IOS(J): Manchester Victoria–Southport	Detailed scheme being prepared	Reduce journey time by 2min	2006	E
IOS(J): Stockport–Buxton	Detailed scheme being prepared	Reduce journey time by 2min	2004	F
IOS(O): Manchester Victoria–Southport	Route clearance	All types of Class 15x and 17x to be able to operate on route	2006	G
IOS(O): Manchester Piccadilly–Buxton	Railtrack proposes to offer sSRA an alternative output	All types of Class 15x and 17x to be able to operate on route	2006	H
IOS(C): Stockport–Buxton	Railtrack proposes to offer sSRA an alternative output	Additional paths	2006	I
IOS(C): Manchester Victoria–Greenfield	Railtrack proposes to offer sSRA an alternative output	Regular half-hour service	2006	J
IOS(J): Manchester Piccadilly–New Mills Central	Railtrack proposes to offer sSRA an alternative output	Improved journey times to 27min	2004	K
IOS(J): Rochdale–Southport via Atherton	Railtrack proposes to offer sSRA an alternative output	Improved journey times to 95min	2004	L
IOS(O): Wigan Wallgate	Railtrack proposes to offer sSRA an alternative output	Ability to turnback trains from Manchester direction without shunting from one platform	2006	M
IOS(O): Euxton Junction	Detailed scheme being prepared	Ability to undertake parallel moves on/off the Chorley Line	2006	N
Buxton	Operational flexibility	Extension of up reception siding		A
Oldham Loop	Sale of route	Conversion to light rail		B
Salford Crescent	Station access	Provide passenger lift		C
Stalybridge–Victoria and Stockport–Guide Bridge	Freight capability	Gauge enhancement		D
Kirkby Headbolt Lane	New station	Extension of DC service		E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Manchester Piccadilly–Blackpool North (via Chorley)	78	13	1hr 19min (37mph)	1hr 19min (37mph)	1hr 19min (37mph)	1hr 12min (38mph#)
Manchester Piccadilly–Blackpool North (via Chorley)	78	9	1hr 16min (38mph)	1hr 16min (38mph)	1hr 16min (38mph)	1hr 02min (46mph#)
Manchester Victoria–Southport via Atherton	58	15	1hr 11min (30mph)	1hr 11min (30mph)	1hr 11min (30mph)	1hr 09min (31mph#)
Bradford–Manchester Victoria	66	8	1hr 30min (27mph)	1hr 30min (27mph)	1hr 30min (27mph)	1hr 25min (29mph)
Buxton–Manchester Piccadilly	41	11	52min (29mph)	52min (29mph)	52min (29mph)	50min (31mph#)
Glossop–Manchester Piccadilly	21	9	31min (26mph)	31min (26mph)	31min (26mph)	31min (26mph)
New Mills Central–Manchester Piccadilly via Bredbury	21	6	31min (25mph)	31min (25mph)	31min (25mph)	27min (25mph#)
LINESPEEDS (km of track)						
Up to 35mph			43	43	41	41
40–75mph			550	550	464	464
80–105mph			0	0	55	55
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			592	592	560 ⁽¹⁾	560 ⁽¹⁾
GAUGE (km of route)						
W6A			296	296	277 ⁽¹⁾	277 ⁽¹⁾
W7			153	153	153	153
W8			32	32	33	33
W9			12	12	33	33
W10			0	0	21	21
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			592	592	559	559
24.2–25.4 tonnes			0	0	1	1
TOTAL			592	592	560 ⁽¹⁾	560 ⁽¹⁾

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

IOS proposals

⁽¹⁾ Reduction results from transfer of Oldham Loop to Metrolink

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	8.6	5.4	19.6	44.8
Structures	1.3	1.3	24.7	31.7
Signalling	2.5	1.3	13.1	18.9
Plant & Machinery	0.5	0.0	0.0	0.0
Telecoms	0.6	0.2	1.4	2.9
Stations	3.3	7.7	0.0	0.0
Depots	0.5	1.5	0.0	0.0
Other	0.9	0.0	0.0	0.0
TOTAL	18.2	17.4	58.8	98.2

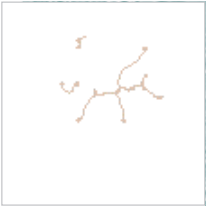
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.7	1.4	3.3	0.0	5.4	Various
Knowsley: proposed new freight terminal	2001/02	0.0	1.4	0.0	0.0	1.4	4
TOTAL		0.7	2.8	3.3	0.0	6.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Manchester Node Capacity Strategy	100.0	1
Other schemes	9.3	Various
North Trans-Pennine: gauge enhancement	4.0	1
TOTAL	113.3	

The sum of the expenditures may not match totals due to rounding



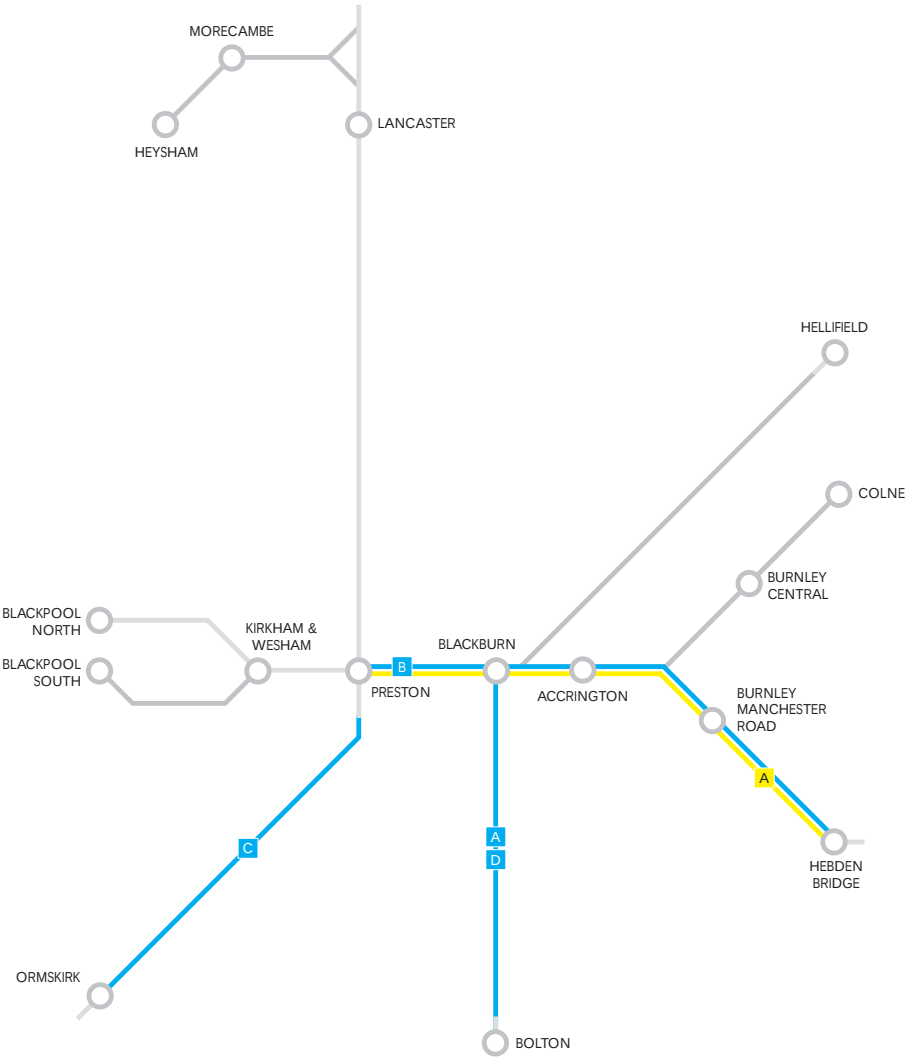
FNW; Northern Spirit; EWS.

IOS options

- A Blackburn–Manchester: capacity improvement
- B Preston–Leeds: capacity improvement
- C Preston–Ormskirk: capacity improvement
- D Blackburn–Manchester: journey time

Customer Reasonable Requirements and other development options

- A Preston–Hebden Bridge: journey-time reduction



Route characteristics

DESCRIPTION These lines serve local communities throughout Lancashire, and also have a key strategic role in linking the WCML and the Fylde Coast with West Yorkshire and beyond. The Preston–Leeds via Burnley route is a major Trans-Pennine route connecting Lancashire to the towns of West Yorkshire. The route from Kirkham and Wesham to Blackpool South conveys people visiting the coast for day trips or holidays, and also provides access to the main rail network for Lytham St Anne's. The line from Ormskirk to Preston carries students, commuters and shoppers, though this service currently operates less than hourly. The routes centred on Blackburn from Preston and Colne again serve mainly a mixture of commuters, shoppers and students. The line from Blackburn to Hellifield conveys longer-distance commuters, people visiting the East Lancashire area for walking and hiking, and visitors to the area around Clitheroe.

An increase in the service from Lancaster to Heysham Port to coincide with the Belfast–Heysham Seacat service, has been evaluated and FNN will be operating this service from summer 2000.

These lines are predominantly two track, although the branches are mainly single track. Many of the single-track branch lines operate near to capacity.

In general the linespeed is 70 or 75mph, although many sections have a lower linespeed; for example, that between Gannow Junction and Hall Royd Junction operates at 40mph for passenger traffic.

Some of these lines carry freight traffic, with the largest flow being between the West Coast Main Line and Hebden Bridge.

KEY CAPACITY CONSTRAINTS Capacity is constrained by the single-line sections on this route, such as Bolton–Blackburn and Ormskirk–Preston.

Route vision

Our vision is to continue development of this route to provide the communities and resorts it serves with improved access to the national rail network.

Freight continues to play an important role on this route. We are examining the potential for freight to use Heysham Port, as well as plans to transfer to rail the cement traffic from Clitheroe to Scotland.

Committed development plans

STATIONS The Station Regeneration Programme continues at stations along this route. The centrepiece is the innovative redevelopment of Blackburn Station, which includes a modern roof and station facilities. This major scheme has involved working with our industry partners, including grant aid from the

European Regional Development Fund made available through Blackburn with Darwen Borough Council. TPP funds from the Borough Council together with Lancashire County Council. The SRP project will see all remaining stations on this route refurbished by the end of March 2001.

Options for development

SSRA Incremental Output Statements The SSRA has identified several development options along this route. These include capacity improvements and a journey-time reduction between Manchester Victoria and Blackburn.

Local Transport Plans We are working with local authorities to develop further the opportunities for this route in relation to the aspirations contained within their Local Transport Plans. In particular, we have been working with Lancashire County Council, Blackburn with Darwen Borough Council and Blackpool Borough Council.

We are contributing to a Lancashire Freight study alongside Lancashire County Council, Blackburn with Darwen Borough Council and the East Lancs Partnership, in order to identify the potential for transfer of freight from road to rail.

We have been consulted about the RPP bid being progressed by the East Lancs Partnership.

Other options There are continuing passenger and freight movement studies between Manchester and Blackburn. These may lead to a request for the reinstatement of double track, linespeed improvements and other infrastructure works over the entire length of the line.

Part of this route from Hebden Bridge to Preston is also being considered as part of the Third Anglo-Scottish Freight Route.

Progress on the 1999 NMS

Customer Reasonable Requirements EWS' CRR of reinstatement of the connection at Springfields is complete.

STATIONS The SRP work at Blackburn has progressed with the removal of the old roof and other redundant facilities, ready for the installation of the new roof. A previously redundant platform has been brought back into use to assist in the operation of the station during the works. In the past year, 22 further stations have been refurbished and the remainder will be completed during the next year.

TRACK To continue our commitment to improving track quality and performance along this route, we have targeted key locations where the existing infrastructure condition and performance are subject to failure. During the current year, we have relaid over 4,000m of track, including 3,000m of rerailing to reduce the risks associated with broken rails.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(C): Blackburn–Manchester	Detailed scheme being prepared	Sunday service	2004	A
IOS(C): Preston–Leeds via Blackburn and Hebden Bridge	Detailed scheme being prepared	One additional express path per hour	2006	B
IOS(C): Preston–Ormskirk	Detailed scheme being prepared	To operate as nearly an hourly service as possible	2004	C
IOS(C): Manchester Victoria–Blackburn	Detailed scheme being prepared	Reduced journey time by 2min	2004	D
Preston–Hebden Bridge	Reduced journey time	4min saving with existing trains		A

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Hebden Bridge–Preston	60	3	56min (40mph)	56min (40mph)	56min (40mph)	52min (43mph)
Lancaster–Heysham Port	14	2	27min (19mph)	27min (19mph)	27min (19mph)	27min (19mph)
Colne–Preston	48	16	1hr 8min (26mph)	1hr 8min (26mph)	1hr 8min (26mph)	1hr 8min (26mph)
Clitheroe–Bolton	38	8	52min (27mph)	52min (27mph)	52min (27mph)	52min (27mph)
Preston–Ormskirk	24	3	28min (32mph)	28min (32mph)	28min (32mph)	28min (32mph)
Kirkham–Blackpool South	20	6	26min (28mph)	26min (28mph)	26min (28mph)	26min (28mph)

LINESPEEDS (km of track)

Up to 35mph	18	18	18	18
40–75mph	245	245	245	245
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	263	263	263	263

GAUGE (km of route)

W6A	178	178	178	178
W7	74	74	74	74
W8	68	68	68	68
W9	0	0	0	0
W10	0	0	0	0
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	0	0	0	0
20.4–24.1 tonnes	263	263	263	263
24.2–25.4 tonnes	0	0	0	0
TOTAL	263	263	263	263

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.8	2.1	5.8	14.0
Structures	1.0	0.9	2.0	2.5
Signalling	0.1	0.5	2.5	2.9
Telecoms	0.2	0.5	1.1	9.5
Stations	2.9	2.0	0.0	0.0
TOTAL	6.0	6.0	11.3	28.9

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.9	0.0	3.1	0.0	4.0	Various
TOTAL		0.9	0.0	3.1	0.0	4.0	

OPTIONAL ENHANCEMENTS

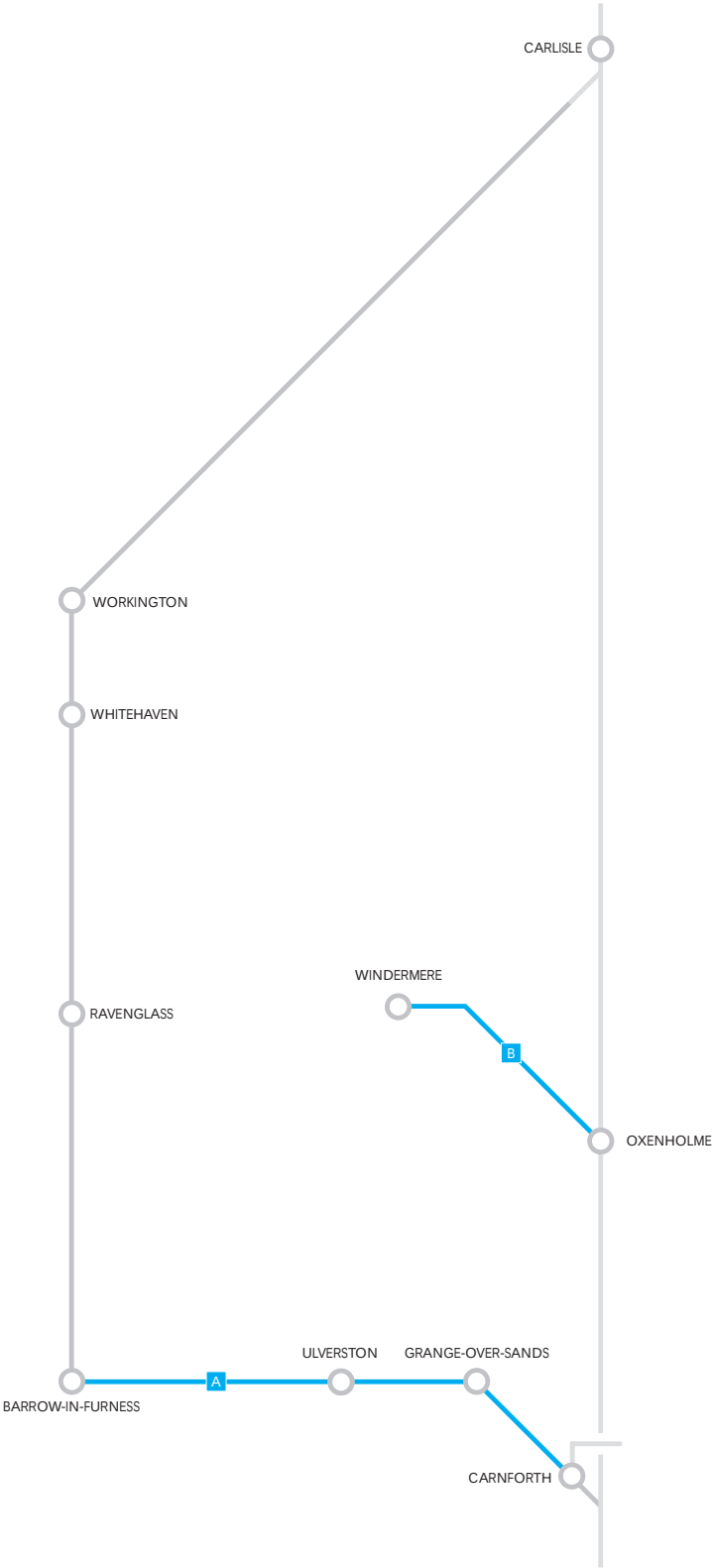
PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	0.3	Various
TOTAL	0.3	

The sum of the expenditures may not match totals due to rounding



FNW; DRS; EWS.

- IOS options**
- A** Carnforth–Barrow: journey time improvement
 - B** Oxenholme–Windermere: journey time improvements



Route characteristics

DESCRIPTION The network is crucial for Cumbria's internal communications and its links with the rest of Great Britain and Europe for passenger and freight. Windermere, and the Lake District in particular, are seen as key destinations for the region, the UK and internationally.

These routes support the local markets around the Lake District with commuter traffic into the main centres of employment at Carlisle, Whitehaven, Sellafield, Workington and Barrow-in-Furness. Passenger traffic on the Windermere branch is mainly seasonal with tourist traffic making up a large portion of the custom.

The coastal route is mainly two track but has some single-line sections. Much of the route forms the sea defences, and there are sections vulnerable to sea erosion. In addition there are two major viaducts spanning the Kent and Levens estuaries.

It carries significant freight traffic, with the heaviest flows, being concentrated between Carnforth and Sellafield, and Carlisle and Workington. Commodities carried are steel, timber, chemical and nuclear traffic.

The Windermere Line is single track, and the linespeed is generally 60mph. The line operates at capacity during most of the day.

Route vision

Rail will continue to play a role in supporting the economy of West Cumbria and we shall maintain and renew the infrastructure to ensure this.

We will continue to work with our customers and partners to secure growth in passenger and freight traffic.

Committed development plans

STATIONS A major refurbishment will be undertaken at Ulverston to restore the station. The SRP works to the remainder of the route stations have now been determined and all works necessary including Foxfield, Kendal and Arncliffe will be completed by March 2001. The scope of these remaining works is being built up in consultation with interested parties such as Cumbria County Council.

Options for development

sSRA Incremental Output Statements The sSRA has identified several development options on this route, involving journey-time reductions between Oxenholme and Windermere, and Barrow and Carnforth.

Customer Reasonable Requirements Freightliner has a request to run twice daily from Crewe to Corkickle. Initial indications show that this requirement can be accommodated within existing capacity constraints.

EWS has a CRR for gauge improvement between Carlisle and Workington to enable the development of intermodal traffic on the route. The work required to achieve this has been identified, with the costs to deliver this output currently under evaluation. DRS has requested the provision of a new loop at Salthouse which will avoid running round in Barrow and propelling into Ramsden Dock.

FNW is progressing the deployment of Class 175s on their interurban express services from Manchester Airport to Barrow and Windermere.

Local Transport Plans We are continuing to assist Cumbria County Council in its plans to ascertain which lines may benefit from enhancement in the future such as the Windermere Branch, which runs directly into the heart of the Lake District, where there is an aspiration to increase the operational capacity. The County Council is also seeking enhancements to the Furness Line and Cumbrian Coast Line. They have commissioned a study which it proposes will make recommendations about station facilities, service levels and rolling stock. We will continue to work with them, wherever possible, in the development of its aspirations as laid out in its Local Transport Plan.

STATIONS The Carnforth Station Trust has a proposal to renovate the station and is in the process of securing external funding. To assist this scheme we have agreed to delay the Station Regeneration Programme to integrate the works with the Trust's proposal. We will also support the scheme with additional funds.

Progress on the 1999 NMS

TRACK Renewal work has been targeted at improving track quality and performance, and ensuring the existing level of service is not disrupted. This has been targeted at the remaining existing sections of jointed track and replacing it with continuous welded rail. In addition to this, we have undertaken a process to strengthen existing jointed rail in order to mitigate the risk of rail breaks.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(I): Carnforth–Barrow	Detailed scheme being prepared	41min for two-stop journey with CI 175 trains	2006	A
IOS(I): Oxenholme–Windermere	Detailed scheme being prepared	13min for one-stop journey with CI 175 trains	2006	B
IOS(I): Oxenholme–Windermere	Detailed scheme being prepared	19min for three-stop journey with CI 175 trains	2004	B

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Windermere–Oxenholme	16	3	20min (30mph)	20min (30mph)	20min (30mph)	13min (46mph)
Carlisle–Workington	53	5	48min (41mph)	48min (41mph)	48min (41mph)	48min (41mph)
Workington–Whitehaven	11	2	18min (22mph)	18min (22mph)	18min (22mph)	18min (22mph)
Whitehaven–Barrow	74	15	1hr 25min (32mph)	1hr 25min (32mph)	1hr 25min (32mph)	1hr 25min (32mph)
Barrow–Carnforth (express)	46	3	45min (38mph)	45min (38mph)	45min (38mph)	45min (38mph)

LINESPEEDS (km of track)

Up to 35mph	32	32	32	32
40–75mph	333	333	333	333
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	364	364	364	364

GAUGE (km of route)

W6A	201	201	201	201
W7	183	183	183	183
W8	52	52	52	52
W9	0	0	0	0
W10	0	0	0	0
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	0	0	0	0
20.4–24.1 tonnes	364	364	364	364
24.2–25.4 tonnes	0	0	0	0
TOTAL	364	364	364	364

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.5	1.5	4.6	11.4
Structures	0.7	0.6	4.0	5.1
Signalling	1.2	1.5	3.8	4.0
Stations	0.1	5.0	0.0	0.0
Depots	0.1	0.1	0.0	0.0
TOTAL	3.6	8.7	12.4	20.4

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	0.0	1.8	0.0	2.0	Various
TOTAL		0.2	0.0	1.8	0.0	2.0	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	2.4	Various
TOTAL	2.4	

The sum of the expenditures may not match totals due to rounding



FNW; GNER; Midland Main Line;
Northern Spirit; Virgin CrossCountry;
EWS; Freightliner.

Committed schemes

- A** Wharfedale and Airedale: route clearance for Class 333 trains
- B** Halifax–Huddersfield: reopening of line

Options for major improvements to capacity

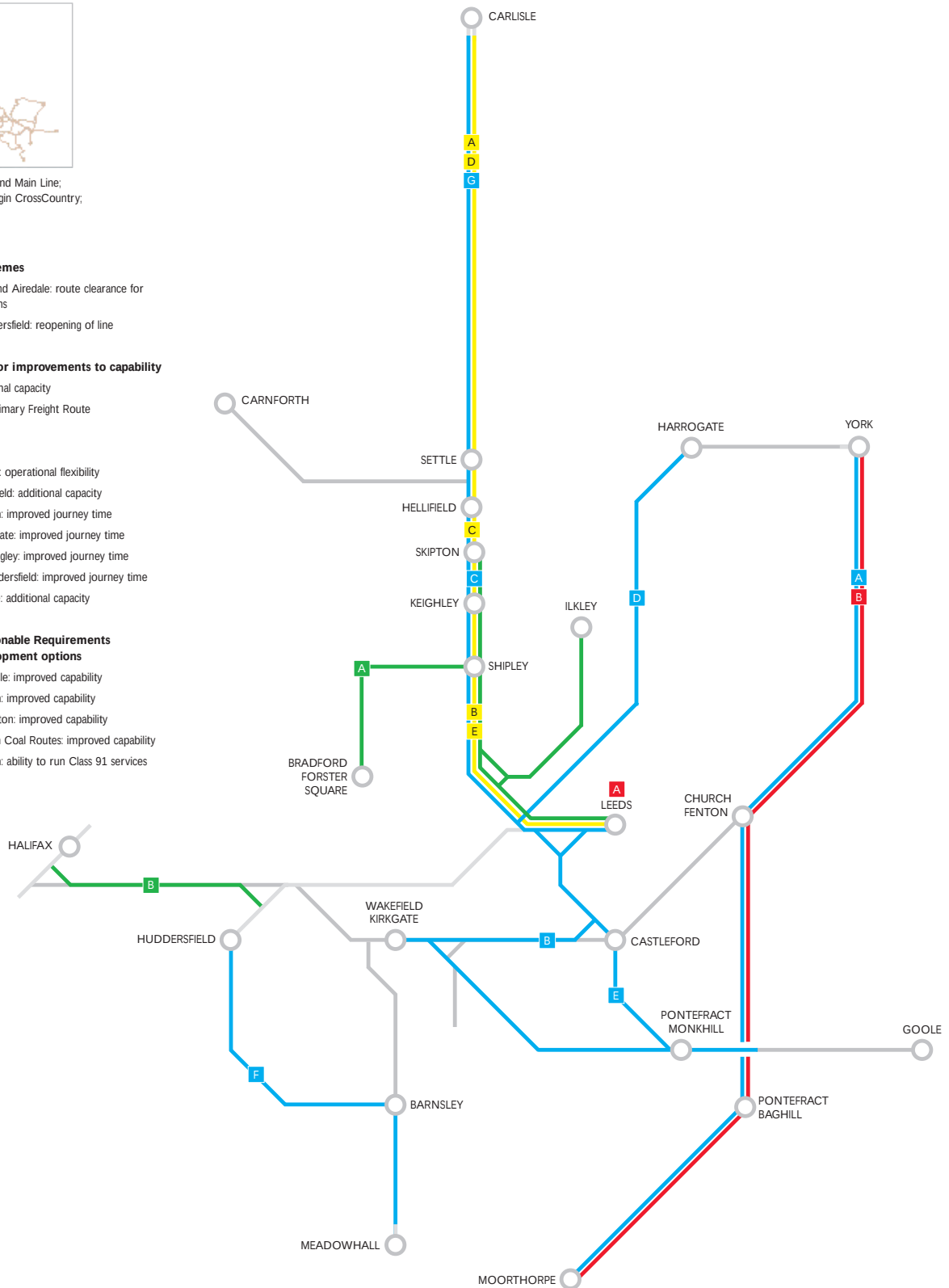
- A** Leeds: additional capacity
- B** East Coast: Primary Freight Route

IOS options

- A** Sheffield–York: operational flexibility
- B** Leeds–Wakefield: additional capacity
- C** Leeds–Skipton: improved journey time
- D** Leeds–Harrogate: improved journey time
- E** Leeds–Knottingley: improved journey time
- F** Barnsley–Huddersfield: improved journey time
- G** Leeds–Carlisle: additional capacity

Customer Reasonable Requirements and other development options

- A** Skipton–Carlisle: improved capability
- B** Leeds–Skipton: improved capability
- C** Hellifield–Skipton: improved capability
- D** Anglo-Scottish Coal Routes: improved capability
- E** Leeds–Skipton: ability to run Class 91 services



Route characteristics

DESCRIPTION This route serves the major cities and towns of Leeds, Bradford, Wakefield and Huddersfield. The Settle–Carlisle corridor provides a link to the WCML and Glasgow. The main demand for travel is to and from the central node at Leeds and along the route to Sheffield through Barnsley, although rural locations are also served.

The route is made up of a number of largely urban lines centred on Leeds which are mainly two track with linespeeds of up to 70mph. The Leeds and Bradford to Ilkley and Skipton section is an electrified two-track railway with a linespeed of 90mph. The Settle and Carlisle Line has a predominant linespeed of 60mph.

KEY CAPACITY CONSTRAINTS

Shipley The junction layout at Shipley forms a triangle linking Leeds to Bradford Forster Square, Ilkley and Skipton. Due to the high levels of current services and the constraint caused by all trains calling at Shipley Station, additional capacity cannot be easily created.

Milford Junction The capacity of the route at Milford Junction is reduced to seven trains per hour in each direction by the number of conflicting moves made across junctions and the number of shunting moves made around the freight Yard.

Leeds–Carlisle The current signalling system featuring long signal sections means available capacity is much restricted. Capacity is also affected by the routes' gradients and the mix of traffic.

Harrogate–York From Knaresborough to York the route capacity is constrained by two single-line sections and by the signalling system itself.

Route vision

Our vision is to develop the route to support the economic development of West Yorkshire as a network of high-quality routes serving the major node at Leeds; and as a key through-link to Carlisle and Scotland.

We are also examining the possibilities to increase the number of stations on the route to underpin the additional and more frequent services to the major cities and towns of North and West Yorkshire.

The Settle and Carlisle Line is a vital North–South artery for increasing levels of traffic, especially freight. We have commenced investment to sustain and grow this flow and we wish to enhance the capabilities of this route.

Committed development plans

INFRASTRUCTURE

New services May 2000 sees the opening of a new rail service between Halifax and Huddersfield and the completion of a new station at Brighouse, to benefit a community which is currently not served by rail.

Works are in progress to enable the introduction of new Class 333 electric trains by Northern Spirit in 2000. These include station improvements to extend the platforms at Bradford Forster Square and Ilkley. The Class 333 trains will replace existing trains on the Wharfedale and Airedale routes which will offer improved speed and reliability.

Settle and Carlisle On the Settle–Carlisle Line a major programme of track renewals has started with 27km in 1999/2000 and a further 50km planned for 2000/01. This will contribute to the line's long-term capacity to handle the projected traffic volumes. At stations we are developing plans in partnership with other parties or further improvements. The conclusion of this work will move to restore the line to its previous capabilities and provide a sound basis for journey-time improvements.

MAJOR STATIONS

Leeds The focus for the Leeds 1st Station development is to improve the accessibility of the platforms for all passengers, including the disabled and those with luggage or small children. The existing and four new platforms will be linked by a new overbridge, lifts and escalators. The platforms will be resurfaced, lighting renewed and a new customer information system and a concourse information facility will be installed. Additional customer facilities will also be introduced including new lounges and ticketing and information facilities. Improved access for all users, better waiting facilities and new retail sites will all contribute to putting Leeds City Station at the centre of an integrated transport network for the city.

Options for development

MAJOR CAPACITY UPGRADES

Leeds 1st With completion scheduled for late 2001/02, the £165 million Leeds 1st project represents the largest upgrade of the rail network in the city for 30 years. This major network enhancement involves remodelling and resignalling the layout (Route 8) to increase track capacity (four to six tracks at the west end) to reduce journey times and improve train punctuality. This will provide the capacity to meet the predicted growth in train services from 2002.

Freight Network evaluation is continuing to indicate the impact of predicted freight growth, especially between the section of the route from Hare Park Junction (near Wakefield) to Stourton (Leeds), Leeds–Settle–Carlisle (part of a potential third Anglo-Scottish route), Healey Mills and Thornhill (part of the proposed high-gauge route, see Route 8) and Moorthorpe to Church Fenton (see Route 2).

ssRA Incremental Output Statements These include options to combine and expand services for Sheffield, Pontefract, Wakefield and York. Further IOSs address journey-time aspirations, which will require trackwork and possible signalling alterations. Those around Leeds will be at least partially realised upon completion of Leeds 1st.

Leeds–Skipton Reduce journey time by two minutes.

Leeds–Harrogate Reduce journey time by two minutes.

Leeds–Knottingley Reduce journey time by two minutes.

Barnsley via Penistone–Huddersfield Reduce journey time by three minutes.

Customer Reasonable Requirements The possibility of new stations between Shipley and Leeds is being assessed.

Our freight customers have raised with us a number of aspirations which we are now considering how to take forward. These include increased axle loads, gauge enhancement and 775m train lengths.

We are also investigating both capacity and journey-time opportunities between Harrogate and York to address the aspirations of Northern Spirit.

Survey work is being undertaken to allow the introduction of electric GNER services between Skipton and London in October 2000.

Local Transport Plans The aspirations for new stations and service changes in the regional and Local Transport Plans over this route are being evaluated in conjunction with the relevant local authority and PTE prior to their final submission in July 2000.

Station opportunities have been identified including a further five new stations within West Yorkshire. We are working with WYPTE, City of York Council and others to consider 30 potential new stations on this route and the North Trans-Pennine Route (see Route 8).

We are actively supporting the South Yorkshire Centre of Excellence transport initiative through proposals to reduce journey times on the Leeds–Barnsley–Sheffield services. This support is in partnership with the South and West Yorkshire PTEs and Northern Spirit. The aim being to provide fast, frequent services every half hour between Sheffield and Leeds and reduce the journey time to 50 minutes. Partnership schemes for improvements of stations on the Settle and Carlisle Route are being implemented with further improvements planned.

We will continue to work with local authorities and PTEs to develop further the opportunities for this route in relation to the aspirations contained within their Local Transport Plans. Our early work with South Yorkshire PTE will involve feasibility studies on the initial batch of several new station sites, and potential passenger service enhancements. Where there is limited scope for rail network enhancement, we are working with the local authorities to promote better links to facilitate transport interchange(s) with the community and the existing railway, eg North Yorkshire, East Riding and Kingston-upon-Hull.

A study has been undertaken by Railtrack, Leeds Bradford Airport, West Yorkshire PTE and local authorities to investigate the opportunity for providing rail access to Leeds Bradford Airport.

MAJOR STATIONS

Leeds Options for development include a comprehensive CCTV installation, new first-class lounge, improved ticketing and travel centre facilities and an additional 600 space multistorey car park to be built on existing station car park land adjacent to the River Aire.

Feasibility work is continuing for these further possible phases of the station redevelopment, including:

- South concourse remodelling
- Integration of a Northern Spirit-sponsored scheme to install automatic ticket gates
- A new southern entrance to the station via vertical integration with the developed arches area below
- The provision of enhanced bus interchange facilities
- Remedial and renewal works to the bridge structures supporting New Station Street.

Progress on the 1999 NMS

Settle and Carlisle During the winter of 1999/2000 major renewal activity on the Settle–Carlisle Line took place to ensure that existing and future growth in traffic can operate effectively. After many years of low use and low investment this route has seen a major upturn in tonnage carried over the last two years. We have met the challenge here and started a multimillion-pound project to upgrade the track and structures on the route.

Leeds 1st The Leeds 1st scheme is substantially under way and on target for completion in 2001. Already a new electrical power connection has been installed to provide a more reliable and flexible power supply to both the station and the neighbouring Neville Hill depot. A new bridge has been installed at Globe Road to facilitate the critical six-track layout on the western approaches. On the station a new plasma screen customer information system has been installed on the main concourse. A new temporary station has been specially built at Leeds (Whitehall) in order to minimise the disruption to passengers using trains that will at certain times not be able to use the main station.

Work has started on a new control centre that forms a central part of the Leeds 1st project. This state-of-the-art control centre building will be completed in May 2000 and equipped with the latest signalling control technology by mid-2001.

Halifax–Huddersfield During the year we have carried out extensive work on the new Halifax–Huddersfield Line and for the new station at Brighouse. We have worked closely with WYPTE to produce the most cost-effective solution to meet local needs. We are now on course to enable services to start at Brighouse in May 2000. As well as meeting this specific need, the reopening of two disused lengths of railway and associated signalling works for the scheme, provides new capacity and routing for other potential traffic flows.

STATIONS Station enhancement and regeneration work at Halifax and Huddersfield is nearing completion.

Station Regeneration Programme work has been undertaken at Cattal, Hammerton, Knaresborough, Settle, Hellfield, Clapham, Giggleswick and Wennington. Work is scheduled for completion at Bentham by April 2000.

Track and structures One bridge at Shipley has been reconstructed and another has undergone major strengthening and steelwork repairs. Both improvements will assist reliability and linespeed.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Wharfedale and Airedale	Route works and platform extensions	To enable the Leeds North West Route to be cleared for Class 333 train operation	2000	A
Halifax–Huddersfield	Reopening of route for passenger services	Additional capacity	2000	B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Leeds	Completion of Leeds 1st	Improvements which will increase track capacity	2002	A
Doncaster–York	Upgrading of ECML parallel route	Additional capacity for freight operator	2005	B
IOS(O): Sheffield–York	Detailed scheme being prepared	Ability to combine existing services to provide a through service Sheffield–Wakefield–Ponterfract–York	2004	A
IOS(C): Leeds–Wakefield via Ponterfract	Detailed scheme being prepared	Additional peak paths	2006	B
IOS(J): Leeds–Skipton	Detailed scheme being prepared	Reduce journey time by 2min	2004	C
IOS(J): Leeds–Harrogate	Detailed scheme being prepared	Reduce journey time by 2min	2006	D
IOS(J): Leeds–Knottingley	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 2min	2006	E
IOS(J): Barnsley via Penistone–Huddersfield	Railtrack proposes to offer sSRA an alternative output	Reduce journey time by 3min	2006	F
IOS(C): Leeds–Carlisle	Railtrack proposes to offer sSRA an alternative output	Increase to 12 trains per day by lifting TSRs on Ribbleshead and Kirkby viaducts	2006	G
Skipton–Carlisle	Major track renewals	Enhance the route's capability to carry more freight traffic	2002	A
Leeds–Skipton	Increase gauge to W8	Capability improvement	2004/05	B
Hellifield–Skipton	Clearance to RA10 capability	Capability improvement	2004/05	C
Anglo-Scottish Coal Routes	Capability to operate coal trains at 75mph at RA10	Capability improvement		D
Leeds–Skipton	Ability to run Class 91 electric services	Capability improvement	2001	E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Leeds–Skipton EMU333	42	7	44min (36mph)	44min (36mph)	44min (36mph)	42min (37.5mph)#
Leeds–Harrogate DMU(s)	32	6	35min (34mph)	35min (34mph)	35min (34mph)	33min (36mph)#
Harrogate–York DMU(s)	30	5	35min (32mph)	35min (32mph)	35min (32mph)	33min (34mph)#
Leeds–Knottingley DMU(s)	22	3	33min (25mph)	33min (25mph)	33min (25mph)	31min (27mph)#
Barnsley via Penistone–Huddersfield DMU(s)	24	10	47min (19mph)	47min (19mph)	47min (19mph)	44min (20mph)#
Leeds–Carlisle	182	20	2hr 40min (42mph)	2hr 40min (42mph)	2hr 40min (42mph)	2hr 40min (42mph)
Leeds–Barnsley–Sheffield	65	10	1hr 21min (30mph)	1hr 21min (30mph)	1hr 21min (30mph)	1hr 21min (30mph)
LINESPEEDS (km of track)						
Up to 35mph			164	164	164	164
40–75mph			867	867	867	867
80–105mph			83	83	83	83
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			1114	1114	1114	1114
GAUGE (km of route)						
W6A			710	710	710	710
W7			664	664	664	664
W8			546	546	546	546
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			13	13	13	13
20.4–24.1 tonnes			1099	1099	1099	1099
24.2–25.4 tonnes			2	2	2	2
TOTAL			1114	1114	1114	1114

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
LONDON NORTH EASTERN ZONE				
Track	3.8	6.1	31.7	25.7
Structures	4.0	3.6	10.5	9.5
Signalling	1.0	6.0	14.1	8.4
Electrification	0.4	0.0	0.0	0.0
Plant & Machinery	0.1	0.1	2.8	0.4
Telecoms	0.2	0.1	0.0	0.0
Stations	2.8	0.3	5.2	4.5
Depots	0.0	0.0	2.8	3.1
TOTAL	12.3	16.2	67.1	51.6

NORTH WEST ZONE

Track	0.2	1.1	3.5	8.5
Structures	1.3	3.4	10.9	13.9
Signalling	0.0	0.0	3.3	3.6
TOTAL	1.5	4.5	17.6	26.1

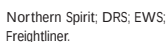
COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	2.4	6.0	0.4	9.0	Various
Class 333 operation	2000/01	0.3	0.5	0.0	0.0	0.8	Various
TOTAL		0.5	2.9	6.0	0.4	9.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	269.5	Various
TOTAL	269.5	

The sum of the expenditures may not match totals due to rounding



Committed schemes

- A** Sunderland: integration with light rail

Options for major improvements to capability

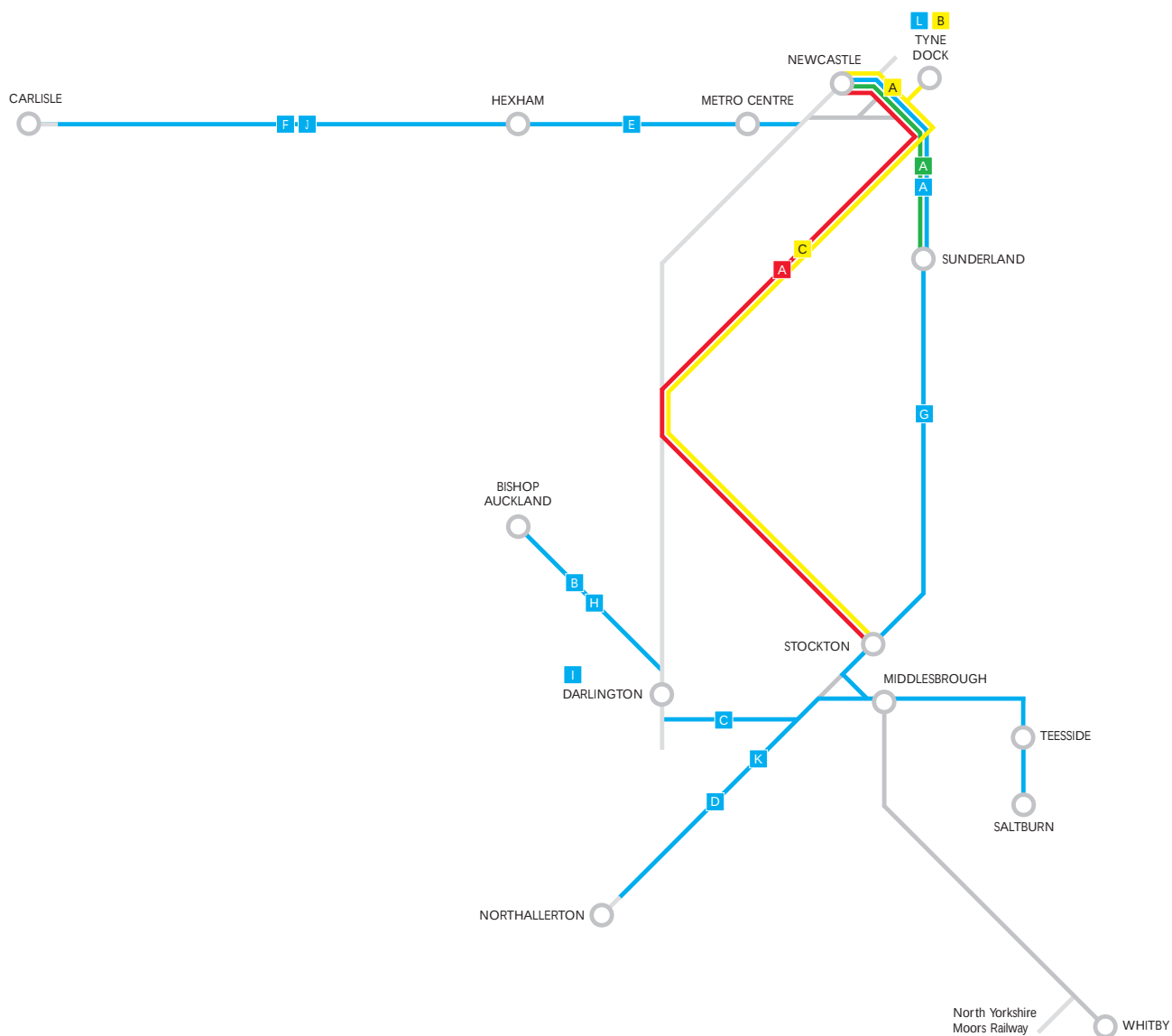
- A** East Coast Main Line: improved capability

IOS options

A	Newcastle-Sunderland: improved journey time
B	Bishop Auckland-Darlington: improved journey time
C	Darlington-Saltburn: improved journey time
D	Northallerton-Middlesbrough: improved journey time
E	Newcastle-Hexham: additional capacity
F	Hexham-Carlisle: additional capacity
G	Sunderland-Middlesbrough: additional capacity
H	Darlington-Bishop Auckland: additional capacity
I	Darlington: additional capacity
J	Newcastle-Carlisle: additional capacity
K	Northallerton-Teeside: additional capacity
L	Pelaw-Tyne Dock: operational flexibility

Customer Reasonable Requirements and other development options

- A Newcastle–Tyne Dock: improved capability
- B Tyne Yard and Tyne Dock: improved capability
- C New passenger service



Route characteristics

DESCRIPTION This route covers the rail network which serves the conurbations on the rivers Tyne, Wear and Tees. It supports regional passenger services while carrying a substantial volume of freight trains from Teesside and Tyneside and is linked to the ECML (Route 2). The route also provides a link to the WCML (Route 1) and Scotland via Hexham and Carlisle.

The lines within the area are predominantly two track with typical linespeeds of 60mph. The exception is the single-track Whitby branch and the line to Bishop Auckland with linespeeds at 30–40mph.

KEY CAPACITY CONSTRAINTS

Carlisle to Newcastle This section of the route is nearing capacity. Capacity available for additional services is constrained by the long signalling sections on this route section. Capacity is further affected by the mix of traffic in terms of speed and stopping patterns.

Route vision

Our vision is to develop the routes in the North East to allow the introduction of new services using existing passenger lines and lesser-used freight-only lines and to reduce journey times wherever practicable in conjunction with our customers' needs. The first example of new service is the Sunderland Direct project with Nexus. This will provide a new six-train-per-hour service for the Metro LRT system to Sunderland and South Hylton making use of our existing network and some new railway. Further examples include the RPP initiative to enable the enhancement of train services to a half-hourly frequency on the Durham coast between Sunderland and Hartlepool from summer 2000.

Furthermore, the planned reopening of the Leamside Line as part of the ECML upgrade (see Route 2) presents the exciting prospect of the possibility of the introduction of local passenger services to new stations on this line, as well as new longer-distance service options.

Reduced passenger journey times are an important part of our vision for the routes in the North East and we are working with the sSRA, PTEs and train operating companies to ensure that we target the most beneficial schemes for the industry.

Committed development plans

INFRASTRUCTURE The biggest development project is the Sunderland Direct Project. This will provide an 18.5km extension of the Tyne & Wear Metro system from Newcastle to Sunderland and South Hylton, which includes serving Sunderland University. The Metro service will run up to six trains per hour in each direction between Newcastle and South Hylton. This £98M scheme is funded by Railtrack, Central Government, ERDF and Nexus (Tyne & Wear PTE). After successful negotiations during 1999 between Railtrack and Nexus, physical work is about to start. On completion in late 2001, the scheme will provide a direct, very frequent Metro connection between Sunderland and the extensive Nexus Tyne & Wear Metro system.

STATIONS The Sunderland Direct project will entail refurbishing four stations along the route and the introduction of eight new stations. Included in the scheme is a long-overdue major upgrade to Sunderland Station itself. This upgrade will include a new station entrance arrangement, remodelling of the station concourse and improved access to a completely rejuvenated platform area with totally new lighting, air conditioning and lively colourful surfaces.

Options for development

MAJOR CAPACITY UPGRADES As part of our proposed ECML Upgrade (Route 2), we propose upgrading the Northallerton–Stockton–Ferryhill–Newcastle Route as the ECML Primary Freight Route, with W9 gauge, RA10 and 775m long train capability. We will be able to carry projected freight train volumes on other routes with the existing infrastructure.

sSRA Incremental Output Statements There are a large number of IOSs associated with this route. Aspirations to increase linespeed and capacity between Sunderland and Middlesbrough and between Bishop Auckland and Darlington could entail signalling improvement. Any increases in passenger and freight traffic over the line between Newcastle and Carlisle will require substantial alterations and possible additional trackworks (loops etc) to allow trains of differing speeds to overtake. The agreed work packages will have to balance capacity and linespeed aspirations. Work on this route will also enable us to offer improved facilities for services to the Gateshead Metro Centre.

There are specific IOSs providing additional platform facilities at Darlington and improving freight-gauge availability between Northallerton and Teesside. The latter will be achieved partly by the potential ECML upgrade Primary Freight Routes initiative (see Route 2). Linespeed improvements are sought between Newcastle–Sunderland and Bishop Auckland–Darlington.

Customer Reasonable Requirements Current objectives include the provision of a fast Middlesbrough–Newcastle service and supporting stopping services for new stations following the reopening of the Leamside Line at Durham Belmont, Washington and Fence Houses. It is hoped to progress this with the support of the Local Transport Plans for the area.

Our freight customers have raised with us a number of aspirations which we are now considering how to take forward. CRRs in relation to tonnage, axle-load requirements and train lengths will be particular issues. We will work with customers and funders to identify resolutions to both funding and other issues.

Local Transport Plans The LTPs in the area cover the ECML upgrade and the desire for new stations and services to the region. For example, we have worked with Northumberland County on its plans for the Ashington–Blyth and Tyne Line for three new stations. This project has now progressed to an application for RPP Funding.

The Leamside Line and the Durham Coast offer possibilities for new Nexus supported services while proposals from the Tees Valley and Durham County Council, are subject to the necessary third-party funds for additional passenger infrastructure. The increase in frequency of services on the Durham Coast, which is also an IOS, could be accompanied by the opening of new stations to better serve communities on the route. We are awaiting confirmation of the authorities' priorities from the initial proposals.

Progress on the 1999 NMS

STATIONS The extensive £25M programme of work at Newcastle station is nearing completion in time for the station's 150th anniversary celebrations in August 2000. Undertaken in partnership with the Railway Heritage Trust it involves the rebuilding of the South Barrel roof, platform resurfacing, office refurbishment, car park improvements and new lifts. In conjunction with Nexus, we have recently opened a new escalator connection to the Tyne & Wear Metro Station.

We have completed our Station Regeneration Programme for the route. At Middlesbrough, we have completed a £2M work package which has significantly improved the retail travel facilities.

There has been a significant rebuild of Redcar Central station platform.

Measures have been undertaken at Prudhoe to improve safety. Station regeneration has typically improved waiting shelters, platform surfaces and lighting facilities.

Work at all stations has improved platforms to modern standards, improved lighting and upgraded the disabled facilities.

PERFORMANCE Significant vegetation clearance on the line between Newcastle and Carlisle, necessary to improve performance and reduce problems from leaf fall in the autumn, has been carried out.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Sunderland	Sunderland Direct – extension of Tyne and Wear Metro	Provide facilities for the integration of Metro (light rail) services with the existing rail services between Newcastle, Sunderland and South Hylton. This scheme will involve the electrification of the route, new junctions at Pelaw and Sunderland, new stations, and a completely new railway between Sunderland and South Hylton.	2002	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Major capacity option: ECML Primary Freight Route	Upgrade of route and reopening lines	Capacity improvements	2005	A
IOS(I): Newcastle–Sunderland	Detailed scheme being prepared	Reduce journey time by 1min	2006	A
IOS(I): Bishop Auckland–Darlington	Detailed scheme being prepared	Reduce journey time by 2min	2006	B
IOS(I): Darlington–Saltburn	Detailed scheme being prepared	Reduce journey time by 2min	2006	C
IOS(I): Northallerton–Middlesbrough	Detailed scheme being prepared	Reduce journey time by 2min	2006	D
IOS(C): Newcastle–Hexham	Detailed scheme being prepared	Additional services	2006	E
IOS(C): Hexham–Carlisle	Detailed scheme being prepared	Additional slow service	2006	F
IOS(C): Sunderland–Middlesbrough	Detailed scheme being prepared	Additional fast service	2004	G
IOS(C): Darlington–Bishop Auckland	Detailed scheme being prepared	Hourly service	2004	H
IOS(O): Darlington	Detailed scheme being prepared	Creation of bay platforms to avoid conflicting moves	2006	I
IOS(C): Newcastle–Carlisle	Detailed scheme being prepared	Additional paths	2006	J
IOS(C): Northallerton–Teesside	Detailed scheme being prepared	Improve gauge clearance to W9	2006	K
IOS(O): Pelaw–Tyne Dock	Railtrack proposes to offer sSRA an alternative output	Ability to run directly without turning round	2006	L
Newcastle–Tyne Dock	Provide capability for W10 (9'6" containers) on high-deck wagons	Capacity improvements		A
Tyne Yard and Tyne Dock	Increase gauge to W10	Capacity improvements		B
Stockton–Newcastle	Upgrade route and construct new stations	New passenger service		C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Newcastle–Sunderland	19	1	19min (37mph)	19min (37mph)	19min (37mph)	18min (39mph#)
Bishop Auckland–Darlington	17	4	25min (26mph)	25min (26mph)	25min (26mph)	23min (28mph#)
Darlington–Saltburn	38	8	50min (29mph)	50min (29mph)	50min (29mph)	48min (30mph#)
Northallerton–Middlesbrough	34	2	28min (45mph)	28min (45mph)	28min (45mph)	26min (49mph#)
Newcastle–Carlisle	97	14	1hr 21min (45mph)	1hr 21min (45mph)	1hr 21min (45mph)	1hr 15min (48mph)
Sunderland–Middlesbrough	58	4	53min (41mph)	53min (41mph)	53min (41mph)	47min (45mph)
Middlesbrough–Whitby	56	16	1hr 25min (24mph)	hr 25min (24mph)	hr 25min (24mph)	1hr 20min (26mph)
LINESPEEDS (km of track)						
Up to 35mph			197	197	197	197
40–75mph			479	479	479	479
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			676	676	676	676
GAUGE (km of route)						
W6A			410	410	410	410
W7			399	399	399	399
W8			399	399	399	399
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			0	0	0	0
20.4–24.1 tonnes			676	676	676	676
24.2–25.4 tonnes			0	0	0	0
TOTAL			676	676	676	676

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

IOS proposal

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	3.3	5.5	12.8	10.5
Structures	1.7	1.5	8.3	5.7
Signalling	0.8	0.9	33.0	85.7
Plant & Machinery	0.0	0.1	2.8	0.4
Telecoms	0.1	0.0	0.0	0.0
Stations	0.8	0.2	5.6	4.9
TOTAL	6.7	8.2	62.4	107.2

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Sunderland: Tyne & Wear Metro extension	2002/03	2.4	43.1	44.4	0.0	89.9	5
Other committed schemes	Various	1.9	4.4	13.2	0.4	19.9	Various
TOTAL		4.3	47.5	57.6	0.4	109.8	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	40.1	Various
Freight: gauge enhancements	4.5	1
TOTAL	44.6	

The sum of the expenditures may not match totals due to rounding



ScotRail, DRS, EWS.

Committed schemes

- A Thornhill: improved performance
- B Ayr–Stranraer: improved safety

Options for major improvements to capability

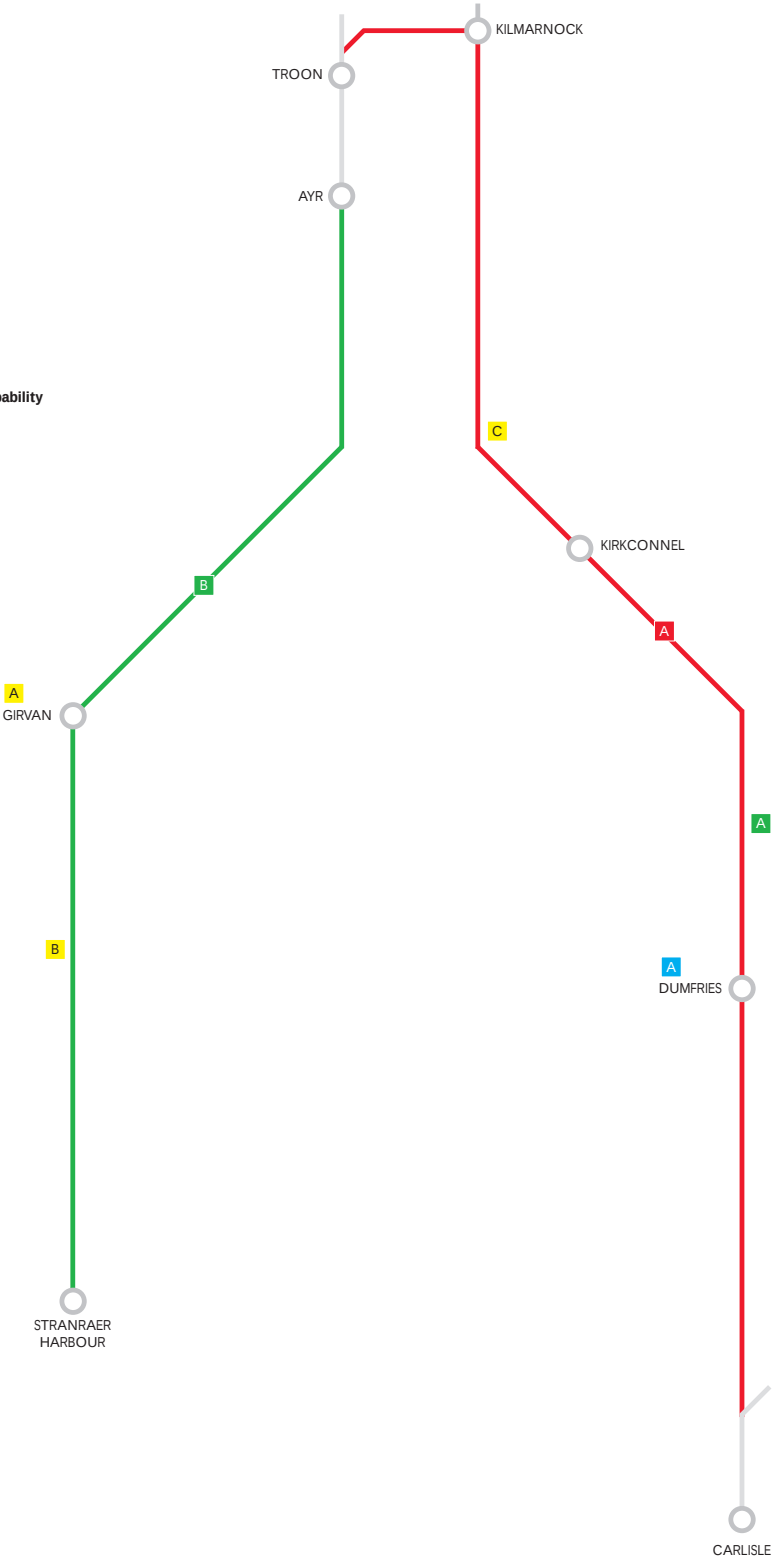
- A Barassie–Gretna: additional capacity

IOS options

- A Dumfries: operational flexibility

Customer Reasonable Requirements and other development options

- A Girvan: operational flexibility
- B Barrhill: operational flexibility
- C Auchinleck: operational flexibility



Route characteristics

DESCRIPTION The route encompasses two distinct lines: Ayr–Stranraer and Kilmarnock–Gretna Junction (Carlisle), together with the connecting link line from Kilmarnock to Barassie.

The Ayr–Stranraer section provides connections with the ferries to Northern Ireland as well as local services to Girvan with a link to Glasgow and Carlisle. Coal traffic runs over the northern section between Ayr and Dalrymple Junction.

Kilmarnock–Gretna Junction has mixed traffic with very high – and increasing – levels of freight traffic, mainly coal en route to power stations in England from local open-cast sites and imported via Clydeport's Hunterston Terminal. The line also acts as a diversionary route for WCML.

The Ayr–Stranraer Line is primarily single track with passing loops. The Kilmarnock–Carlisle Line is double track as far as Annan. The signalling on the

route is a mixture of colour lights and semaphore. Beyond Annan, the line is single track to Gretna Junction where it links onto the WCML.

KEY CAPACITY CONSTRAINTS The Kilmarnock–Gretna Junction route has several interlinked restrictions on capacity, which together create bottlenecks. The route has a 13km single-line section with no passing loops and long signalling sections which restrict train movements to a maximum of three per hour in each direction.

The single-line connection to the WCML at Gretna Junction has limited capacity, and so has the potential to limit traffic on both this route and the WCML. Options to alleviate this are being developed as part of the Third Anglo-Scottish Freight Route.

Route vision

Our vision for the route is that it should play a key role in facilitating and growing Anglo-Scottish traffic for both passenger and freight as well as continuing to provide a rail link north and south for the communities on the line of route. The line via Kilmarnock offers an alternative to the WCML and we are currently evaluating the long-term capacity we need to provide for projected passenger and freight train movements. This route may offer an appealing alternative fast route between Northern England and the Glasgow area.

We will work in partnership with our customers and the local authorities to develop, expand and improve both passenger and freight business with the objective of benefiting the community and the environment by encouraging the transfer from road to rail. We aim to grow the Irish passenger and freight flows to utilise the capacity on the Ayr–Stranraer Line of the route.

Committed development plans

INFRASTRUCTURE

The recent growth in freight-train movements between Kilmarnock and Gretna Junction means that most of this leg of the route's capacity has been used. We are installing a long loop at Thornhill, and will install additional passing loop facilities which will provide capacity for all predicted train movements.

STATIONS

Historic Dumfries Station is currently having its ornate Victorian glass roof and canopy reglazed. Station regenerations will have been completed at all stations on the route by March 2001.

Options for development

MAJOR CAPACITY UPGRADES Additional passing loops are proposed together with intermediate block signals on the Barassie–Gretna Junction section. Remodelling Gretna Junction to provide more capacity and provide double track through to Annan and increasing the linespeed to 90mph are currently being evaluated.

ssRA Incremental Output Statements ScotRail needs a turnback facility at Dumfries to facilitate more frequent local passenger services. This has potential to benefit the freight traffic too as it will allow passenger growth without using any more paths north of Dumfries.

Customer Reasonable Requirements Our freight customers are looking for W9 and W10w gauge on this route with the capability for 775m long trains to offer increased operational flexibility and grow their freight business.

Local Transport Plans Dumfries and Galloway Council plan to regenerate Stranraer and have secured funding to develop a transport interchange, relocating the rail station closer to the centre of Stranraer. Economic development plans also look for reduced rail journey times between Stranraer and Glasgow and Carlisle.

Mobility impaired access and station security are integral to their plans and are being addressed through our Station Regeneration Programme and development projects.

Progress on the 1999 NMS

TRACK A new static loop for freight traffic is being built at Thornhill. At 640m long, this facility is a significant step in creating improved capacity on this leg of the South West Route.

STATIONS Dumfries and Galloway Council have secured Scottish Public Transport Funding for Stranraer Station interchange development. In liaison with the council, we will ensure that we play our role in this ambitious project.

By the end of 1999/2000, we will have completed an additional five Station Regeneration Projects on the route: Barrhill, Barassie, Kirkconnel, Dumfries and Kilmarnock are set for completion this year.

SIGNALLING To accommodate predicted growth in freight-train movements, we have increased the opening hours of signal boxes and introduced dedicated paths for freight trains to maintain standards of high punctuality.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Thornhill	Creation of loop	Performance improvement	2000	A
Ayr–Stranraer	Fitting AWS equipment	Improved safety and potential for linespeed improvements	2000–03	B

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Barassie–Gretna	Resignalling and speed improvements Improve capacity	Capacity, speed, operational flexibility Increase capacity on Barassie–Gretna to accommodate additional one train per hour	2000–09	A
IOS(O): Dumfries	Turnback facility	Ability to turn trains at Dumfries Station	2004	A
Girvan	Connection	Operational flexibility	tba	A
Barrhill	Sidings and connections	Operational flexibility	tba	B
Auchinleck	Sidings and connections	Operational flexibility	tba	C

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Stranraer–Carlisle	270	10	3hr 31min (48mph)	3hr 31min (48mph)	3hr 31min (48mph)	3hr 15min (52mph)
Stranraer–Glasgow	163	6	2hr 7min (48mph)	2hr 7min (48mph)	2hr 7min (48mph)	2hr (51mph)
Glasgow Central–Carlisle	185	8	2hr 22min (49mph)	2hr 22min (49mph)	2hr 22min (49mph)	2hr 15min (51mph)

LINESPEEDS (km of track)

Up to 35mph	10	10	10	10
40–75mph	315	315	315	251
80–105mph	51	51	51	115
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	376	376	376	376

GAUGE (km of route)

W6A	242	242	242	242
W7	241	241	241	242
W8	241	241	241	242
W9	0	0	0	0
W10	0	0	0	0
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	0	0	0	0
20.4–24.1 tonnes	119	119	119	119
24.2–25.4 tonnes	257	257	257	257
TOTAL	376	376	376	376

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
NORTH WEST ZONE				
Track	0.0	0.2	1.2	2.6
Structures	0.0	0.1	0.0	0.0
Signalling	0.0	0.0	0.2	0.1
TOTAL	0.0	0.3	1.4	2.7

SCOTLAND ZONE

Track	4.9	4.6	8.6	12.8
Structures	0.9	1.4	10.0	12.3
Signalling	0.2	0.8	32.3	22.0
Electrification	0.0	1.0	0.0	0.0
Plant & Machinery	0.2	0.1	0.8	0.1
Telecoms	0.1	0.2	0.2	0.0
Stations	2.1	1.1	1.2	1.5
Depots	0.0	0.0	1.3	1.3
TOTAL	8.4	9.2	54.4	50.0

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.1	0.7	1.7	0.0	2.5	Various
TOTAL		0.1	0.7	1.7	0.0	2.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Glasgow and South West: upgrade capacity and speed	20.0	2
Aberdeen–Inverness: journey-time improvements and capacity	2.7	2
Other schemes	1.0	Various
TOTAL	23.7	

The sum of the expenditures may not match totals due to rounding



ScotRail; DRS; EWS; Freightliner.

Committed schemes

A	Largs Station: improved station facilities
B	Ayrshire Route: improved reliability of passenger information
C	Renfrewshire: new station at Howwood
D	North Lanarkshire: new station at Gartcosh
E	West end of Glasgow: improved station facilities
F	Glasgow Central: enhanced reliability and performance
G	Paisley Gilmour Street: improved station facilities
H	Glasgow Queen Street: improved station facilities

Options for major improvements to capability

- A** Glasgow Airport: improved station facilities
- B** Glasgow Central: additional capacity
- C** Barrhead–Kilmarnock: additional capacity

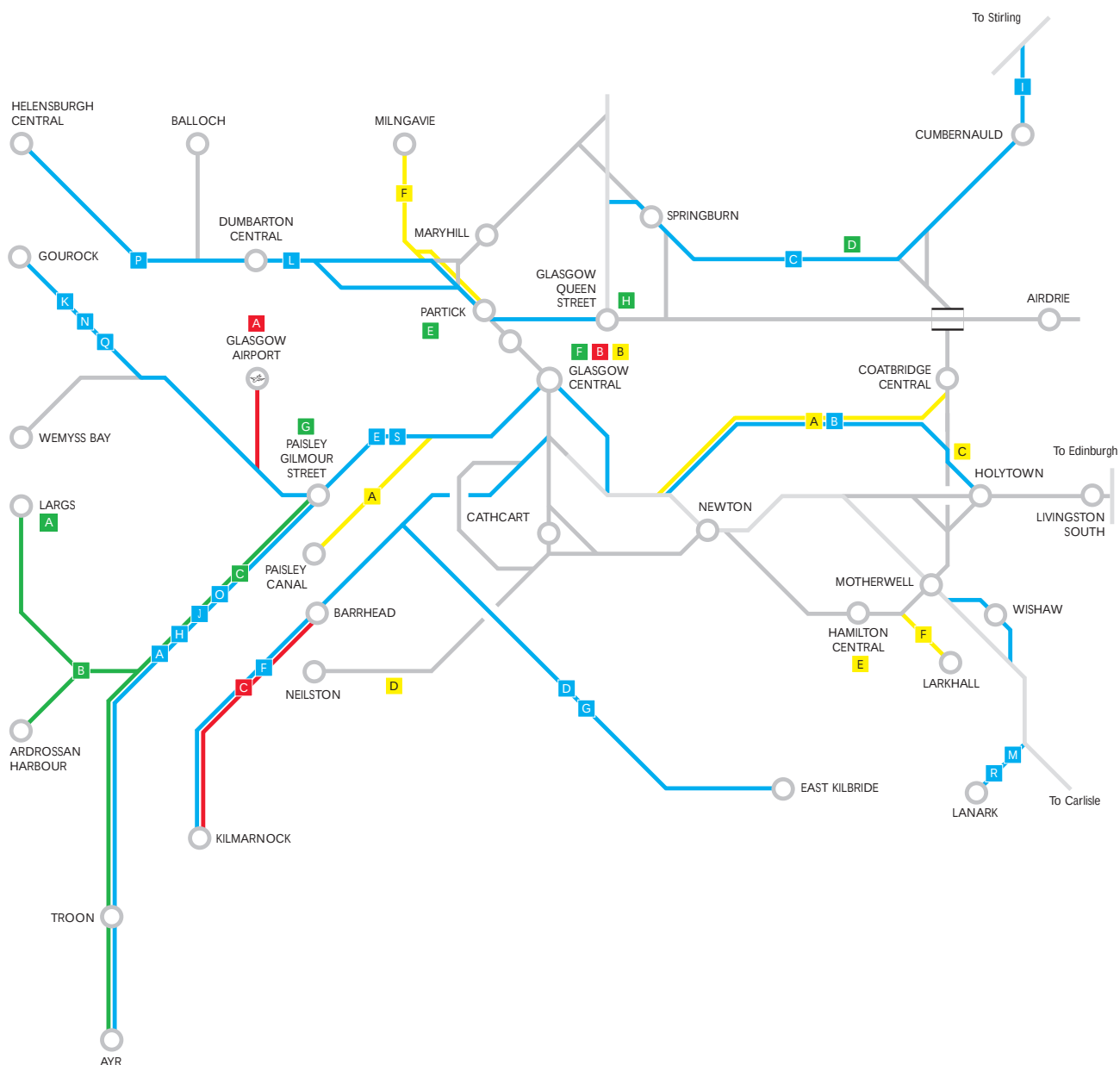
IOS options

- A** Glasgow Central–Ayr: additional capacity
- B** Glasgow Central–Shotts via Whifflet: additional capacity
- C** Glasgow Queen Street–Cumbernauld: additional capacity
- D** Glasgow Central–East Kilbride: additional capacity
- E** Paisley Gilmour Street–Glasgow Central (Ayr services): additional capacity
- F** Kilmarnock–Glasgow Central (including through services to Stranraer and Carlisle): additional capacity
- G** East Kilbride–Glasgow Central: additional capacity
- H** Glasgow Central–Ayr: additional capacity
- I** Falkirk Grahamston–Glasgow Queen Street via Cumbernauld: additional capacity
- J** Glasgow Central–Ayr: improved journey times
- K** Glasgow Central–Gourock: improved journey times
- L** Glasgow Queen Street–Helensburgh: improved journey times

M	Glasgow Central–Lanark: improved journey times
N	Glasgow Central–Gourock: additional capacity
O	Glasgow–Ayr: improved journey times
P	Glasgow–Helensburgh: improved journey times
Q	Glasgow–Gourock: improved journey times
R	Glasgow–Lanark: improved journey times
S	Deanside Branch: operational flexibility

Customer Reasonable Requirements and other development options

- A** Rutherglen–Coatbridge: operational flexibility
- B** Glasgow Central: improved station facilities
- C** Mossend: increased siding lengths, crossovers and electrification
- D** East Renfrewshire: access improvements at six stations
- E** Hamilton Central Station: improved station facilities
- F** Larkhall & Anniesland: new Larkhall–Milingavie services



Route characteristics

DESCRIPTION The route is the largest suburban passenger railway network outside London, with freight carried on many of the lines. The route is mainly double track although 23% is single line. In the Glasgow Central area, there are multiple tracks. Linespeeds vary considerably, ranging between 40 and 90mph. Signalling is predominantly colour-light using route-relay interlockings. 58% of track kilometres are electrified.

The route is largely co-terminus with the Strathclyde Passenger Transport (SPT) area of responsibility and runs through 12 local authority areas in whole or in part.

KEY CAPACITY CONSTRAINTS Six areas in the Strathclyde Route currently exceed capacity levels of 70% in the peak:

- Shields Junction–Paisley Gilmour Street
- Westerton Junction–Hyndland North Junction

- Dalmuir–Hyndland East Junction via Yoker
- Hyndland East Junction–Finnieston East Junction
- Barrhead–Kilmarnock
- Busby–East Kilbride

In these areas, pathing additional trains may require capacity enhancements and we have commissioned research to ascertain likely growth rates which would drive the need for more train paths.

Many of the lines in the Strathclyde Route carry freight traffic, and indeed the hub of Scotland's freight flows is concentrated in the Mossend–Coatbridge area where both EWS's and Freightliner's principal Scottish terminals are located. Significant traffic is generated by Clydeport's Hunterston Bulk Handling Terminal on the Largs branch.

Route vision

The Strathclyde Route is the primary public transport network for the Glasgow area. Our vision is to develop the network to maintain this position and to enhance it by growing its share of an expanding market.

ScotRail is the service operator on behalf of SPT, who set the service specification and standards. SPT is responsible for funding these services and is keen to promote expansion where this can be viably achieved.

We envisage a dynamic urban railway providing fast, frequent and reliable services radiating out from Glasgow city centre throughout the conurbation. The rail service plays a key role in an integrated transport system throughout the area, helping to improve the environment by reducing road congestion, thereby ensuring the economic and cultural growth of Scotland's largest city.

We share and support SPT's vision that 'when walking or cycling are inappropriate, travel by public transport is at least as attractive as by car' and we will strive to help them realise their mission statement to '... continue to promote and develop efficient and attractive public transport that supports the community, economy and environment of west central Scotland'.

We trust SPT will continue its proactive marketing policy which is of vital importance – as is punctuality, reliability and customer satisfaction. Growth areas will be addressed by the provision of additional capacity in the form of extra train paths and services, and by opening new lines and stations.

Committed development plans

STATIONS A contract has been let for the renewal of customer information systems at five stations and of the public address at 21 stations in Ayrshire and this work is expected to be complete in July 2000.

We have submitted an application on behalf of SPT for detailed planning permission for a new station at Howwood which is targeted for opening in September 2000. The Scottish Executive has recently granted funds to North Lanarkshire Council for the construction of a new SPT station at Gartcosh, and we are working in close liaison with SPT on improvements to the Partick interchange.

A project to install three lifts at Paisley Gilmour Street is well under way and scheduled for completion in March 2000.

Largs Station reconstruction and development will provide improved station facilities by summer 2000.

Improvements in mobility impaired access, customer information systems, CCTV and car parking are being developed at various stations, often in partnership with SPT.

MAJOR STATIONS Glasgow Central won both the 'overall station' and 'most passenger-friendly station' awards in 1999 and is the subject of two large schemes. One, at the Design and Development stage for resignalling, will result in enhanced reliability and thus improved performance.

The second scheme is the largest single Station Regeneration Programme scheme in Scotland. Costing about £35M, it will be complete in June 2000, one year ahead of schedule. The building is listed Category A and the work comprises major structural repairs and complete recladding in patent glazing of the 2.5 hectare roof. It also provides complex access arrangements to comply with safe systems of work for future roof maintenance.

Within the station itself, platform repairs and resurfacing are being carried out and an upgrade of the train watering system provided. The project includes extensive works to sub-structure and drainage systems, work to electrical systems and new period-style lighting. Extensive repairs to the stone elevations, internal and external, have been carried out, as well as reconstruction of the 'Heilanman's Umbrella' in cast iron to the original detail and total refurbishment of the Gordon Street Canopy. The work coincides with Glasgow's Public Realm project and a jointly funded project to refurbish the retail units in the 'Heilanman's Umbrella' and will complete a comprehensive new look for an important area of Glasgow.

Options for development

MAJOR CAPACITY UPGRADES New routes to Larkhall and Maryhill–Annisland together form a key development plan to allow Larkhall–Milngavie services to operate from 2001. The new routes to Larkhall and Milngavie include three new stations south of Hamilton and a further station south of Maryhill. This is dependent upon a successful conclusion to current consultations which are aiming to reach a PPP agreement to allow both the Larkhall and Annisland sections to be built.

Detailed feasibility work has been undertaken to identify the options for improving the Barrhead–Kilmarnock portion of route where a single line inhibits the desire for a half-hourly service. In order to facilitate a half-hourly Glasgow Central to Kilmarnock service an additional loop would be required between Stewarton and Dunlop.

The proposed Glasgow Airport Link services to Glasgow Central would necessitate capacity improvements from Paisley Gilmour Street to Glasgow Central. Concerns were previously expressed about capacity at Glasgow Central. Our analysis shows that there is sufficient provision for most of the identified existing and future services.

If all of the identified aspirations for future services from south of the river were pathed into Glasgow Central High Level, additional capacity would be required. Solutions for such a possibility are being investigated and include building additional platforms in Glasgow Central itself, or development of alternative routeing options away from Glasgow Central.

sSRA Incremental Output Statements There are 19 Incremental Output Statements which apply to this route, including:

An increased service level between Glasgow Central and Ayr giving three regular-interval trains per hour each way. This will necessitate a recast of the Ayrshire and Inverclyde timetables and is being actively progressed with SPT and ScotRail. The proposed solution would also serve to fulfil the IOS for six Ayrshire trains per hour between Paisley Gilmour Street and Glasgow Central.

Regular hourly Sunday services between Glasgow Central and Shotts via Whifflet, Glasgow Queen Street and Cumbernauld, and extended operation of Sunday services between Glasgow Central and East Kilbride.

A half-hourly Kilmarnock to Glasgow Central service. This would require an additional loop between Stewarton and Dunlop on the single line between Barrhead and Kilmarnock as described above.

The ability to allow six-vehicle working to East Kilbride and nine-vehicle working on the limited stop services to Ayrshire and to Gourock. This would necessitate platform extensions at 13 stations.

Specific targets for journey-time reductions to Helensburgh, Lanark, Gourock and Ayr as well as identification of further possibilities to reduce journey times to Helensburgh, Lanark, Gourock and Ayr.

A diversionary route, capable of carrying up to six passenger trains and one freight train per hour, between Falkirk Grahamston and Glasgow Queen Street via Cumbernauld.

Facilitation of access to and multi-operator use of the Deanside Branch so as to reduce capacity conflicts on the Paisley–Glasgow Line at Cardonald Junction.

Operation of 775m long freight trains.

Customer Reasonable Requirements Glasgow Airport services – four trains per hour. This would necessitate the building of a spur to the airport and a major capacity upgrade (see above).

- Glasgow–East Kilbride – three trains per hour in off-peak.
- Glasgow–Kilmarnock regular half-hourly service. This would necessitate infrastructural enhancements, as above.
- Extension of the overhead electrification is sought from Rutherglen to Coatbridge and to Paisley Canal. A feasibility study on the former, jointly funded in partnership with SPT, is anticipated to be commissioned in early 2000.
- Capacity improvements in the approaches to Glasgow Central
- Improved journey times to key destinations
- Declining number of disruptive track possessions for engineering work.

As part of a scheme to renew the signalling interlocking at Mossend, we are developing options with EWS to enhance this part of the network. Options include new electrification, extending some of the sidings to accommodate longer trains and additional connections between lines. This scheme will also create additional capacity on the main lines by facilitating a faster entrance to the yard.

Progress on the 1999 NMS

PERFORMANCE The programme to install remote monitoring of equipment has continued at many locations. This allows the performance of vital installations at key locations to be assessed without a visit to the site by our maintenance contractor, enabling equipment such as power-generator sets and air-supply systems to be monitored and their condition assessed. The programme of points heater renewals has continued. Uninterruptible power supplies have been installed at various sites within the Strathclyde network.

SIGNALLING The three-year project to renew signalling equipment in the Cowairs area has successfully been completed, including further capacity work at Queen Street Station. Further detailed development for resignalling Glasgow Central, Rutherglen, Polmadie and Mossend is reaching completion. Implementation has commenced for the replacement of telephone equipment at Yoker and Paisley. Work to design new Train Describer equipment at Paisley Signalling Centre has taken place and installation is planned for May 2000.

STRUCTURES The first stage of repairs to the retaining wall at Paisley is now complete, and the requirement for further remedial work is being investigated. Design work has started for the refurbishment of a bridge at Bishopton with a view to implementation in late 2000.

Local Transport Plans SPT is recognised as the principal conduit between Railtrack and the 12 local authorities it represents. However, most Unitary Authorities have expressed aspirations for rail infrastructure and service developments in their Local Transport Plans and these include:

- New stations
- Reopening of former rail corridors
- Conversion of freight-only routes to accommodate passenger traffic
- Increased park-and-ride provision
- Further mobility impaired access improvements
- Faster journey times to key locations
- Expansion of CCTV coverage.

Most of the above requirements are already included in the overarching SPT Transport Strategy and are the subject of current detailed discussion with SPT.

Many potential new station sites are being considered by SPT in conjunction with Railtrack and ScotRail. The implications of service provision at these locations remains a key factor in the decision-making process and this takes into account capacity within rolling-stock diagrams as well as the capital cost of station construction.

Alterations to Hamilton Central Station are being designed on behalf of Hamilton Ahead.

East Renfrewshire Council was awarded support from the Public Transport Fund to implement various improvements to mobility impaired access. Implementation of this scheme will take place over the next 12 months in consultation with SPT.

MAJOR STATIONS In addition to the Station Regeneration Project works at Glasgow Central, options exist to develop a programme including improvements to the customer information systems, installation of a comprehensive CCTV security system, improvements to public toilets and other customer and retail facilities. These improvements are scheduled to commence during 2000/01 in conjunction with a review of the operational, passenger, train operating company and retail tenant needs around the concourse area.

We are also evaluating provision of passenger-operated lifts between the high and low level stations.

FREIGHT The route between the West Coast Main Line from Law Junction and Motherwell to Mossend and Coatbridge has been cleared for W10 gauge (9'6" container trains).

STATIONS AND DEPOTS The Station Regeneration Programme has continued with 123 stations complete and the remaining 49 stations scheduled for completion by the end of 2001. Work has progressed well at Glasgow Central where the regeneration will be complete in June 2000, one year ahead of schedule. At Paisley Gilmour Street we are near to completing the installation of three lifts to enhance the access facilities to platforms. At many other locations, improvements to station facilities, mobility impaired access and CCTV are continuing. A new station at Howwood is under Design and Development and feasibility work is ongoing to improve facilities at Hamilton Central Station and at Partick interchange. Many of these enhancements have been co-funded by SPT.

We have completed the installation of facilities to discharge on-train toilets at Ayr, Yoker and Corkerhill.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Largs Station	Station reconstruction and development	Improved station facilities	2000	A
Ayrshire Route	Renewal of customer information systems and long-line public address	Improved reliability of passenger information	2000	B
Renfrewshire	New station at Howwood on behalf of SPT	New station for additional passengers	2000	C
North Lanarkshire	New station at Gartcosh on behalf of North Lanarkshire Council	New station for additional passengers	2001	D
West end of Glasgow	Improvements to Partick transport interchange on behalf of SPT	Improved station facilities for enhanced passenger growth	2001	E
Glasgow Central	Resignalling	Enhanced reliability and performance Enhanced passenger growth	2004	F
Paisley Gilmour Street	Provision of lifts and enhancements		2000	G
Glasgow Queen Street	Upgrades to station facilities	Improved station facilities	2000	H
Stations throughout the route		Improvements in mobility impaired access, customer information systems, CCTV and car parking enhanced passenger growth	Ongoing	

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Glasgow Airport	Additional 11.4km of track Paisley Gilmour Street–Shields Junction and 3.8km of track from Paisley St James to the airport	15min airport service	TBA	A
Glasgow Central	Additional platforms and approach capacity	Would enable significant increase in services to Glasgow Central	TBA	B
Barrhead–Kilmarnock	Additional loop between Stewarton and Dunlop	Additional capacity	2004	C
IOS(C): Glasgow Central–Ayr	Detailed scheme being prepared	Three trains per hour as nearly at regular intervals as possible	2006	A
IOS(C): Glasgow Central–Shotts via Whifflet	Detailed scheme being prepared	Regular interval Sunday service	2004	B
IOS(C): Glasgow Queen Street–Cumbernauld	Detailed scheme being prepared	Regular interval Sunday service	2004	C
IOS(C): Glasgow Central–East Kilbride	Detailed scheme being prepared	Extended times of operation of Sunday service	2004	D
IOS(C): Paisley Gilmour Street–Glasgow Central (Ayr services) 6 trains per hour.	Detailed scheme being prepared	Increased level of services to Ayr to six trains per hour	2006	E
IOS(C): Kilmarnock–Glasgow Central (including through services to Stranraer and Carlisle)	Detailed scheme being prepared	Half hourly service	2004	F
IOS(C): East Kilbride–Glasgow Central	Detailed scheme being prepared	Ability to allow 6-vehicle working	2006	G
IOS(C): Glasgow Central–Ayr	Detailed scheme being prepared	Ability to allow 9-vehicle working of limited stop service	2006	H
IOS(C): Falkirk Grahamston–Glasgow Queen Street via Cumbernauld	Railtrack proposes to offer sRA an alternative output	Diversionary route capable of carrying up to six passenger and one freight train per hour	2006	I
IOS(J): Glasgow Central–Ayr	Detailed scheme being prepared	Reduce journey times to 50min	2006	J
IOS(J): Glasgow Central–Gourock	Detailed scheme being prepared	Reduce journey times to 39min	2006	K
IOS(J): Glasgow Queen Street–Helensburgh	Detailed scheme being prepared	Reduce journey times to 39min	2006	L
IOS(J): Glasgow Central–Lanark	Detailed scheme being prepared	Reduce journey times to 53min	2006	M
IOS(C): Glasgow Central–Gourock	Detailed scheme being prepared	Ability to allow 9-vehicle working for limited stop service	2006	N
IOS(I): Glasgow–Ayr	Detailed scheme being prepared	Identify incremental journey-time improvements possible on this route	2006	O
IOS(J): Glasgow–Helensburgh	Detailed scheme being prepared	Identify incremental journey-time improvements possible on this route	2006	P
IOS(I): Glasgow–Gourock	Detailed scheme being prepared	Identify incremental journey-time improvements possible on this route	2006	Q
IOS(J): Glasgow–Lanark	Detailed scheme being prepared	Identify incremental journey-time improvements possible on this route	2006	R
IOS(O): Deanside Branch	Detailed scheme being prepared	Facilitate access to and multi-operator use of Deanside Branch, so as to reduce capacity conflicts on Paisley–Glasgow line at Cardonald Junction	2006	S

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY (continued)

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Rutherglen–Coatbridge	Extension of the overhead electrification between Rutherglen–Coatbridge and Shields Junction–Paisley Canal	Improved rolling-stock flexibility and thus efficiency	TBA	A
Glasgow Central	Provide lift access between the High Level and Low Level stations	Improved mobility-impaired access and enhanced passenger growth	2000	B
Mossend	Increased siding lengths, crossovers and electrification at Mossend Yard	Improved flexibility for freight operators as well as relief of capacity on passenger line		C
East Renfrewshire	Access improvements at six stations in East Renfrewshire	Improved mobility-impaired access and enhanced passenger growth	2001	D
South Lanarkshire	Alterations to Hamilton Central Station on behalf of Hamilton Ahead	Improved station facilities and enhanced passenger growth	2001	E
Larkhall & Anniesland	Six km additional route, four new stations	New Larkhall–Mingavie services additional passengers	2001	F

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Drumgelloch–Helensburgh	59	20	1hr 12min (31mph)	1hr 12min (31mph)	1hr 12min (31mph)	1hr 12 min (31mph)
Glasgow Queen St–Helensburgh	38	9	41min (34mph)	41min (34mph)	41min (34mph)	39min (36mph)
Dalmuir–Lanark	62	22	1hr 17min (30mph)	1hr 17min (30mph)	1hr 17min (30mph)	1hr 17 min (30mph)
Glasgow Central Low Level–Lanark	50	11	55min (34mph)	55min (34mph)	55min (34mph)	53min (9 stops) (35mph)
Glasgow Central–Neilston	19	9	27min (26mph)	27min (26mph)	27min (26mph)	27min (26mph)
Glasgow Queen St–Maryhill	8	4	13min (23mph)	13min (23mph)	13min (23mph)	13min (23mph)
Glasgow Central–Gourock	42	6	41min (38mph)	41min (38mph)	41min (38mph)	39min (40mph)
Glasgow Central–Ayr	69	7	50min (52mph)	50min (52mph)	50min (52mph)	50min (52mph)

LINESPEEDS (km of track)

Up to 35mph	103	103	105	108
40–75mph	694	694	700	702
80–105mph	85	85	85	85
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	882	882	890	895

GAUGE (km of route)

W6A	468	468	468	468
W7	468	468	476	476
W8	378	378	392	392
W9	69	69	83	83
W10	0	0	0	0
W11	0	0	0	0

AXLE WEIGHT (km of track)

Up to 20.3 tonnes	97	97	99	97
20.4–24.1 tonnes	106	106	112	106
24.2–25.4 tonnes	679	679	679	692
TOTAL	882	882	890	895

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	7.6	5.6	14.9	22.6
Structures	1.8	2.9	24.0	30.1
Signalling	6.5	8.0	56.5	54.2
Electrification	0.6	0.4	19.6	17.1
Plant & Machinery	1.9	0.2	1.3	0.3
Telecoms	4.6	3.7	6.3	9.4
Stations	17.7	7.4	11.0	18.2
Depots	0.2	0.2	6.3	8.9
TOTAL	40.9	28.4	140.1	160.8

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	2.4	2.1	8.7	0.0	13.2	Various
Paisley Gilmour Street: lifts	2000/01	1.2	0.1	0.0	0.0	1.3	5
TOTAL		3.6	2.2	8.7	0.0	14.5	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Glasgow Airport: rail link	60.0	1
Other schemes	54.9	Various
Larkhall–Milngavie	30.0	3
Barrhead–Kilmarnock: capacity	10.0	1
TOTAL	154.9	

The sum of the expenditures may not match totals due to rounding



ScotRail, EWS.

Options for major improvements to capability

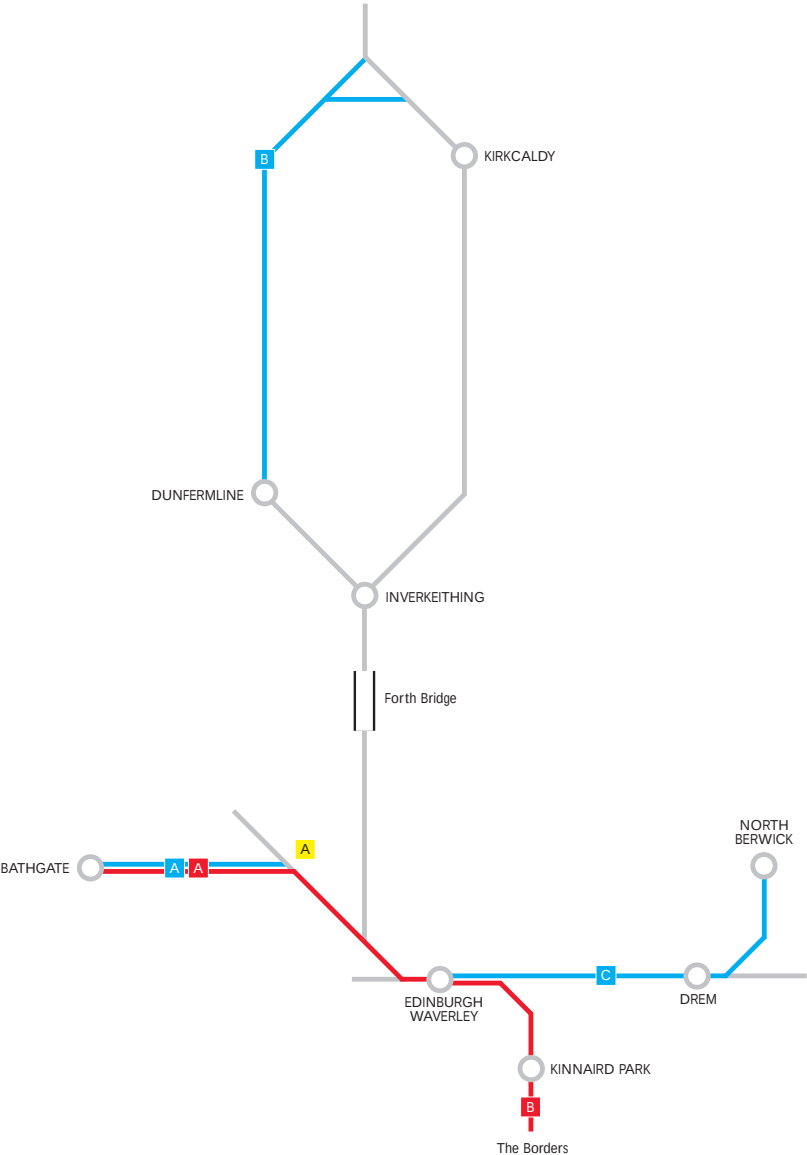
- A Edinburgh CrossRail: capacity upgrade
- B Edinburgh CrossRail: extension

IOS options

- A Bathgate Branch: platform extension
- B Fife Circle: platform extension
- C Edinburgh–North Berwick: improved journey time

Customer Reasonable Requirements and other development options

- A Newbridge Junction: additional capacity



Route characteristics

DESCRIPTION The route consists of three distinct elements, Inverkeithing Central Junction–Thornton North and South Junctions (Fife Circle), Drem Junction–North Berwick, and Newbridge Junction–Bathgate.

The Fife Circle is double track used by both freight and passenger traffic. Maximum speed on the line is 65mph with the capability to accommodate RA10 traffic between Inverkeithing and Cowdenbeath.

The Bathgate Line is a mixture of double- and single-track railway, which is primarily used by passenger trains with a maximum linespeed of 75mph, and is also capable of carrying trains up to RA10.

The North Berwick Branch is a four-mile long, single, passenger-only railway, electrified throughout with 25kV OLE. Maximum linespeed is 50mph. The route is controlled from Edinburgh with colour-light signals.

Route vision

Our vision is a route that expands to form a network of railway lines at the core of the city's urban transport requirements. It would then enable the provision of through services from Bathgate and Dunblane via Kinnaird Park, with its shopping centres and proposed housing developments. This could eventually extend outwards to Dalkeith, Penicuik and the Borders. This could generate a renaissance of rail travel in and around Edinburgh. These and other routes, would link with the bus network and with the City of Edinburgh Rapid Transit System

into an integrated transport network serving the city airport, business district, and the city community.

Coal traffic is an important feature of the route in Fife. It has grown in recent years and we predict that this, and other freight traffic, will continue to expand. The route is well positioned to realise ambitions of turning Rosyth into a major east coast port, providing connections to and from the rest of the country.

Options for development

Edinburgh CrossRail We have been working closely with the City of Edinburgh council on the CrossRail scheme in order to complete feasibility works on the proposal. This would involve track and signalling alterations to permit the introduction of through services from Bathgate and Dunblane via Edinburgh Waverley to new stations at Brunstane and Kinnaird Park on a reopened section of the old Edinburgh–Carlisle Waverley Route.

A possible further phase would involve extending the line to Galashiels, Dalkeith and the Borders. This would be achieved in partnership with all local authorities on the route and the Scottish Executive.

SSRA Incremental Output Statements Longer platforms are needed to accommodate six-vehicle trains between Waverley and Bathgate and throughout the Fife Circle.

Improved journey times between Waverley and North Berwick are sought, with a target of reducing the journey time by five minutes to 28 minutes.

Customer Reasonable Requirements ScotRail is seeking reduced journey times throughout the Fife Circle. A half-hourly service to North Berwick on Saturdays is also sought. The speed improvements referred to above will help deliver this.

Local Transport Plans

East Lothian Council The council, in conjunction with a number of operators, is currently carrying out a study of existing rail services in East Lothian with the objective of producing a rail strategy for the future development of services.

The council wishes to see the ScotRail service from Edinburgh to North Berwick and GNER service between Edinburgh and Dunbar improved to encourage people to park locally rather than drive to the outskirts of Edinburgh before changing modes.

When contracted bus services are reviewed, means of routeing them to serve rail stations will be considered. It is expected that the demand for easy interchange between bus and rail will grow with the introduction of multimodal tickets.

City of Edinburgh Council CrossRail, including stations at Kinnaird Park, Brunstane and potentially Portobello, and extensions to car parks at stations which have park-and-ride facilities such as Dalmeny, Curriehill, Wester Hailes and South Gyle.

Progress on the 1999 NMS

CAPACITY Improvements to signalling headways in Fife were completed in June 1999. This increased capacity on the route and made sufficient paths available to accommodate an additional Edinburgh to Cowdenbeath hourly service. It has also allowed for a station stop at the new station of Dunfermline Queen Margaret to be built into the timetable.

STATIONS Dunfermline Queen Margaret Station was opened on 26 January 2000. This station was fully funded by Fife Council.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Edinburgh CrossRail	Signalling and track upgrade and new stations	New passenger service route		A
Edinburgh CrossRail	Reopening disused route and constructing new stations	New service opportunities		B
IOS(C): Bathgate Branch	Platform extension	Ability to allow six vehicle working	2006	A
IOS(C): Fife Circle	Platform extension	Ability to allow six vehicle working	2006	B
IOS(J): Edinburgh–North Berwick	Railtrack proposes to offer sSRA an alternative output	Improve journey time to 28min	2006	C
Newbridge Junction	Remodel infrastructure	Capacity improvement, increased service to Bathgate, 4 trains per hour	2002	A

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Edinburgh–Glenrothes via Dunfermline	49	10	56min (33mph)	56min (33mph)	56min (33mph)	56min (33mph)
Bathgate–Edinburgh	30	3	26min (43mph)	26min (43mph)	26min (43mph)	26min (43mph)
Edinburgh–North Berwick	38	5	33min (43mph)	31min (45mph)	31min (45mph)	28min (50mph)
LINESPEEDS (km of track)						
Up to 35mph			21	21	21	21
40–75mph			78	78	78	78
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			99	99	99	99
GAUGE (km of route)						
W6A			56	56	56	56
W7			56	56	56	56
W8			32	32	32	32
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			8	8	8	8
20.4–24.1 tonnes			35	35	35	35
24.2–25.4 tonnes			56	56	56	56
TOTAL			99	99	99	99

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.9	3.5	5.0	7.2
Structures	0.7	1.0	9.9	12.3
Signalling	1.6	0.4	2.9	8.4
Plant & Machinery	0.2	0.1	0.2	0.0
Telecoms	0.1	0.1	0.1	0.0
Stations	1.6	0.7	1.9	2.4
Depots	0.0	0.0	0.4	0.3
TOTAL	7.1	5.8	20.4	30.7

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.2	4.1	5.9	0.0	10.2	Various
TOTAL		0.2	4.1	5.9	0.0	10.2	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	7.6	Various
TOTAL	7.6	

The sum of the expenditures may not match totals due to rounding



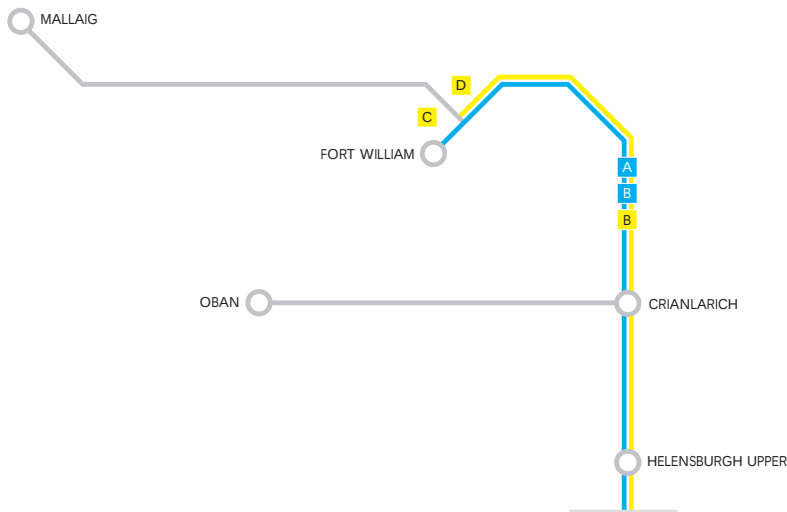
ScotRail, West Coast Railway Co, EWS.

IOS options

- A Inverness–Wick/Thurso and Helensburgh–Fort William: route clearance for Class 66
- B Inverness–Wick/Thurso and Helensburgh–Fort William: ability to pass two freight trains

Customer Reasonable Requirements and other development options

- A Beauly: new station
- B West Highland Line: radio network upgrade
- C Banavie: signalling improvements
- D Clachnaharry and Banavie Swing Bridges: renew and automate
- E Georgemas: enhanced facilities



Route characteristics

DESCRIPTION The route consists of three distinct lines: the West Highland Line (Oban and Mallaig branches), the Kyle Line, and the Far North Line.

The West Highland Line comprises 300km of single track, rural mixed-traffic railway with passing loops, which runs from Glasgow to Fort William, Mallaig and Oban. Freight traffic is predominantly focused in the Fort William area, though there are a number of freight operations based at sidings throughout the West Highland Line.

Apart from a tiny pocket of conventional signalling in the Fort William area, the route is controlled from the radio electronic token block centre at Banavie.

The Kyle Line is also RETB controlled with single line and passing loops generally located at the stations. There is a freight loading facility at Kyle Pier.

The line from Inverness to the Far North is a 257km-long single-track,

RETB, rural mixed-traffic railway with passing loops, which runs from Inverness and terminates at Wick and Thurso. A freight loading facility is in use at Georgemas with the potential for further expansion.

The Highlands Route encompasses some of the world's most scenic rail lines and some of the country's most remote stations. The route has regular passenger services including a ScotRail Caledonian Sleeper from Fort William to London, regular charter trains and a summer steam-hauled service.

Passenger services link remote communities with the commercial and administrative centres of Fort William and Inverness. Tourist traffic is also an important seasonal boost to passenger numbers and local economies. Freight is being re-established on a more regular basis over the whole route, with important Anglo-Scottish and international flows.

Route vision

Our vision is that the route will continue to play an important socio-economic role, linking communities with commercial centres and providing a growing freight network. These links also include the ferry terminals serving many of the Scottish Islands.

We believe there are opportunities for the rail industry to contribute further to the economy of the Highlands through partnerships which will grow the already significant tourism trade. Lineside management, heritage development and conservation initiatives can all play their part in this growth. Targeted marketing and strengthened links with other tourism centres and packages will further encourage growth.

Passenger volume, we predict, will continue to see moderate growth, encouraged by faster journey times and improved rolling stock.

Efficient and reliable transport interchange is a priority on routes where communities are not served directly by rail, eg Sutherland, Orkney and the Hebrides. Liaison with local authorities, ScotRail and other transport operators continues to improve both the interchange capability and information about bus, ferry and train links.

Freight traffic on the West Highland and Far North Lines is established, and we see scope for this to grow further. The possibility of developing an enhanced freight facility at Georgemas on the Far North Line is being examined. Building on the success of the 'Safeway Flyer' transporting fresh produce for Safeway to Inverness, we aim to offer an extended route to Georgemas. On the West Highland Line, we are preparing to introduce a capability for container traffic which will facilitate paper traffic from Corpach to mainland Europe.

Our regular meetings with local authorities and community stakeholders will enable us to form partnerships which fund improvements in access for mobility-impaired passengers and increase station security (eg help points, lighting). Innovative use of currently unused station buildings is being examined with opportunities for community-driven developments such as Internet access points.

We will continue to explore innovative maintenance methods both technically and contractually. The goal of this is to reduce the cost of maintaining remotely located assets.

Committed development plans

INFRASTRUCTURE

Turntable at Fort William In partnership with Lochaber Ltd, The Highland Council, Friends of the West Highland Line and the Railway Heritage Trust, we are installing a turntable at Fort William. This will greatly benefit the steam services and boost tourism at Fort William as the development will include a viewing platform.

STATIONS

Our Station Regeneration Programme will have been completed by March 2001 at all the Highland Route stations.

Options for development

sSRA Incremental Output Statements

Longer freight trains To grow the freight business on the route we require additional operational flexibility: we need to be able to pass long freight trains. Building long static loops will create that flexibility and capacity – and offer pathing benefits to passenger traffic.

Locomotives EWS has invested in new more powerful locomotives. We aim to offer them clearance for the route where the additional power makes significant improvement to speeds and tonnages hauled.

Customer Reasonable Requirements

New station Railtrack and Highland Council and Inverness and Nairn Enterprise plan to rebuild and reopen Beaulieu station on the Far North Line. This will provide a regular link between the community and the commercial and administrative centre of Inverness.

Freight demand is predicted to grow and our customers' requirements are for longer, heavier, faster trains. Infrastructure assessment and alteration to accommodate this is required throughout the route.

Local Transport Plans Councils on the lines of route plan to improve transport integration. Bus and ferry connections to the stations are particularly significant. Improvements to mobility-impaired access are also included in the local plans. Car parks, help points and station security are key elements which we are currently addressing as part of our SRP work.

In conjunction with local authorities and other stakeholders we are examining the potential for enhanced freight facilities at Georgemas and lineside loading capabilities at strategic locations throughout the route.

Turntable at Mallaig We plan the introduction of a turntable at Mallaig to complement that at Fort William.

Progress on the 1999 NMS

SIGNALLING Work has begun on the upgrade of the RETB system on the West Highland Line. This will improve performance for freight and passenger customers on the route. At Banavie the renewal of telecoms equipment will improve the reliability of communications between level crossings and the signalling centre. This will also allow the removal of two related speed restrictions and increase the communication capacity of the Banavie centre.

New power supply equipment will increase efficiency allowing Fort William and Banavie to operate independently in the event of a power failure in either.

STATIONS The twin destinations in the Far North – Thurso and Wick – celebrated 125 years of the Far North Line with our Station Regeneration Programme investing in complete refurbishment – including reroofing of both historic buildings.

Elsewhere on the Highland Route stations, platforms and footbridges were repaired and refurbished. In partnership with ScotRail and local authorities, we are continuing to provide better access for mobility-impaired customers.

FREIGHT AND CHARTER SERVICES The route has continued to attract 'special trains' including the popular Jacobean Steam service on the West Highland Line. A major development for both freight and charter will be the installation of turntables at Fort William and Mallaig, allowing steam trains to turn and thus eliminating the requirement to run 'tender first'. Work to remove the first turntable – for Fort William – is complete. The historic equipment had been immersed in water and disused at a site near Marylebone in London.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(C): Route wide	Railtrack propose to offer sSRA an alternative output	Ability to use Class 66 trains	2006	A
IOS(C): Route wide	Passing loops	Ability to pass two freight trains	2004	B
Beauly	Build new station	Rail link revived for commuters and tourists	2001	A
West Highland Line	Radio-bearer network – upgrade	Improved reliability – performance		B
Banavie	Power signalling cable: renew and enhance	Increase speeds, reduce journey times	2002	C
Clachnaharry & Banavie Swing Bridges	Renew and enhance (automate)	Increased reliability	2004	D
Georgemas	Alter infrastructure and create additional loading facilities, develop buildings	Develop freight hub	2003 onwards	E

CAPABILITY CHANGES

JOURNEY TIME	km	STOPS	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Glasgow Queen Street–Oban	163	1	2hr 58min (34mph)	2hr 58min (34mph)	2hr 58min (34mph)	2hr 50min (36mph)
Glasgow Queen Street–Fort William	198	14	3hr 42min (33mph)	3hr 42min (33mph)	3hr 42min (33mph)	3hr 15min (38mph)
Fort William–Mallaig	67	9	1hr 20min (31mph)	1hr 20min (31mph)	1hr 20min (31mph)	1hr 20min (31mph)
Inverness–Wick–Thurso	260	22	4hr 10min (39mph)	3hr 50min (42mph)	3hr 50min (42mph)	3hr 50min (42mph)
Inverness–Kyle of Lochalsh	132	13	2hr 26min (34mph)	2hr 26min (34mph)	2hr 26min (34mph)	2hr 15min (37mph)
LINESPEEDS (km of track)						
Up to 35mph			142	142	142	102
40–75mph			542	542	542	582
80–105mph			0	0	0	0
110–125mph			0	0	0	0
Over 125mph			0	0	0	0
TOTAL			684	684	684	684
GAUGE (km of route)						
W6A			666	666	666	666
W7			666	666	666	666
W8			522	522	522	666
W9			0	0	0	0
W10			0	0	0	0
W11			0	0	0	0
AXLE WEIGHT (km of track)						
Up to 20.3 tonnes			629	629	629	629
20.4–24.1 tonnes			0	0	0	0
24.2–25.4 tonnes			55	55	55	55
TOTAL			684	684	684	684

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.8	1.4	4.8	6.3
Structures	1.3	1.5	0.0	0.0
Signalling	0.7	0.5	7.4	10.9
Plant & Machinery	0.0	0.1	1.0	4.5
Telecoms	0.5	0.5	3.8	0.0
Stations	6.1	2.7	1.1	1.7
Depots	0.0	0.1	1.1	1.6
TOTAL	10.4	6.8	19.3	25.0

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	1.1	1.0	0.9	0.0	3.0	Various
TOTAL		1.1	1.0	0.9	0.0	3.0	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	26.0	Various
TOTAL	26.0	

The sum of the expenditures may not match totals due to rounding

Routes 42 43 44 45

Scotland DRS, EWS, Freightliner

- A** Raith's Farm: increased freight traffic
- A** Falklands Yard and Shields Junction: additional capability
- B** Edinburgh Suburban Line: additional capability
- C** Knockshinnoch-Killoch: capacity improvement

Northern England DRS, EWS, Freightliner

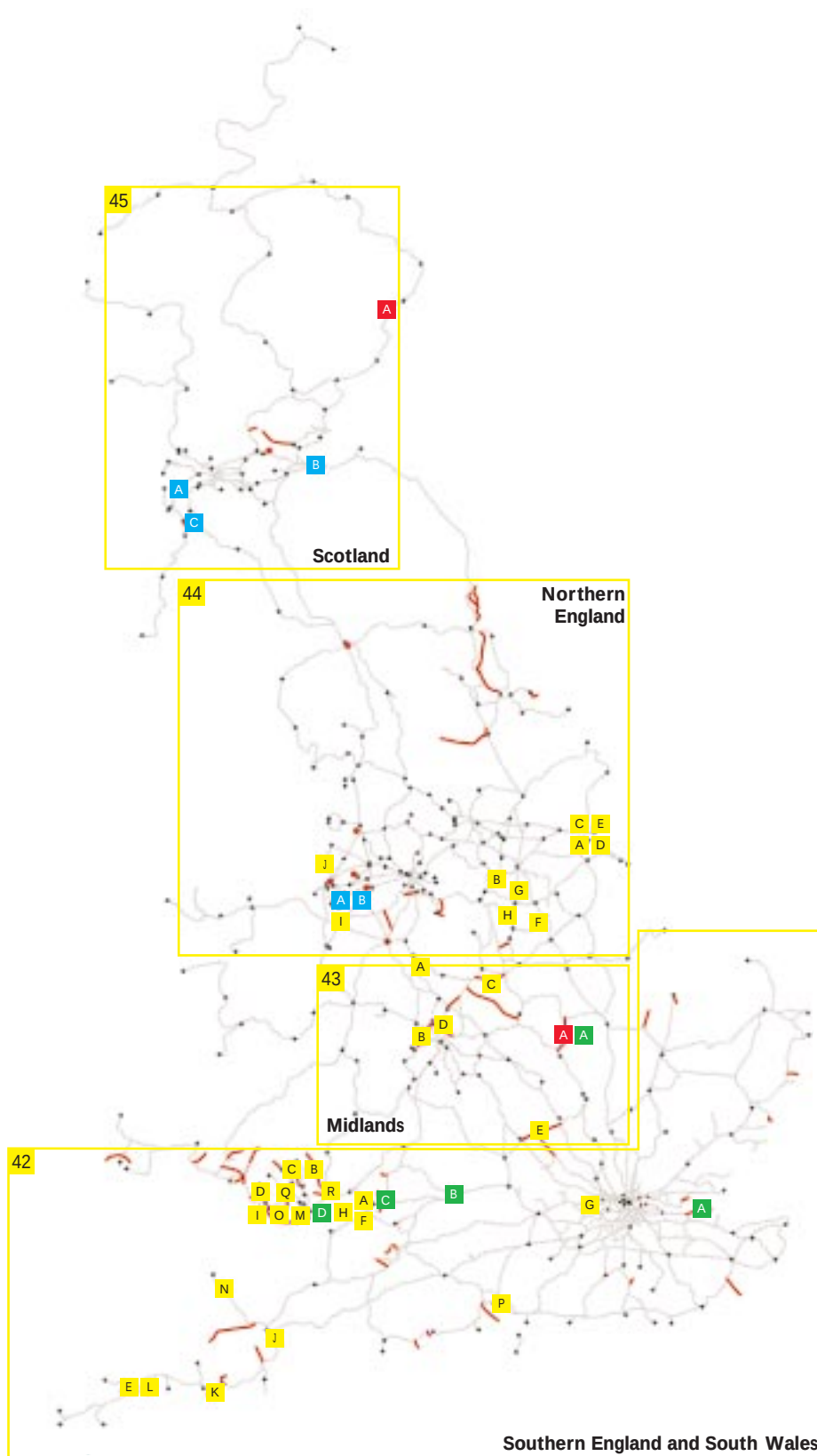
- A** Rock Ferry-Bidston East Junction: reopen for freight
- B** Halton Junction: operational flexibility
- A** Immingham Docks: capacity improvement
- B** Stainforth-Adwick Junction: linespeed improvement
- C** Hesse Road-Hull coal import terminal: capacity improvement
- D** Killingholme Branch: capacity improvements
- E** Hull Docks Branch: capacity improvement
- F** Boughton Junction-High Marnham: capacity improvement
- G** Firbeck Junction-Harworth Colliery: capacity improvement
- H** Oxcroft Junction-Oxcroft Colliery: capacity improvement
- I** Ditton Terminal: capacity improvement
- J** Bootle Branch Junction-Seaforth: W11

Midlands EWS, Freightliner

- A** Corby BS Branch: increased capacity
- A** Kettering-Corby: increased capacity
- A** Stoke-Caldon: new services
- B** Round Oak-Walsall: increased capacity
- C** Castle Donnington: new services
- D** Walsall-Nuneaton: electrification
- E** Claydon-Bletchley: reopen

Southern England and South Wales DRS, EWS, Freightliner

- A** Isle of Grain Branch: improved facilities
- B** South Marston: new terminal
- C** Bristol Parkway: new connection
- D** Wentlooge: new terminal
- A** Filton-Avonmouth: W10w gauge
- B** Newport-Ebbw Vale: 30tonne axle weights
- C** Ystrad Mynach-Cwmbargoed: 25.5tonne axle weights
- D** Swansea Burrows-Onllwyn: 25.5tonne axle weights
- E** Burngullow-Parkandillack: 25.5tonne axle weights
- F** Filton-Avonmouth: 775m trains
- G** London International Freight Exchange, Colnbrook: Euroterminal
- H** Portishead Branch: reopen
- I** Bridgend and Neath Valley Wharf: freight terminals
- J** Exeter Airport: intermodal freight terminal
- K** Tavistock Yard, Plymouth: intermodal freight terminal
- L** Bodmin: intermodal freight terminal
- M** Penarth Harbour Branch: reopen
- N** Newquay Branch: reopen
- O** Barry-Bridgend: upgrade
- P** Dibden Bay, Southampton: link to new terminal
- Q** Llantrisant-Cwm: reopen
- R** Ystrad Mynach-Cwmbargoed: additional capacity



Route characteristics

DESCRIPTION This geographically dispersed group of routes convey freight trains. Linespeeds are low, generally 20–40mph. Over the last two years, Southern England and South Wales have seen significant increases in rail freight traffic.

Route vision

Our vision for these freight-only routes is to encourage and cater for growth in rail freight by providing connections to the network at the most favourable, strategic locations and by accommodating longer, larger-gauge and heavier axle-weight trains.

Committed development plans

Implementation of track and signalling work will start on the Isle of Grain branch in 2000 for completion in 2001. This will enable the delivery by rail of construction materials for the CTRL project and improve the long-term capacity and facilities for freight on this line. Work is nearing completion on providing a connection to the South Marston freight terminal near Swindon and the new terminal for Royal Mail at Bristol Parkway. The latter is due to open by mid-2000.

We have upgraded some branch lines in Cornwall and East Anglia to enable Class 66 locomotives to haul china-clay traffic and other commodities, and we are evaluating improvements on other lines. This work allows displacement of older freight locomotives with a consequent increase in reliability.

The branch line to Fifoots Point, near Newport, Gwent, was returned to operational use in 1999, after being mothballed for a number of years. This will allow the operation of coal trains to the power station at Fifoots Point, which itself has been the subject of refurbishment and rebuilding. Following this work, provision of a new signalling system on the branch line is being examined to cater for further rail freight expansion.

Upgrading works and speed improvements are continuing on the Western Valley Line (between Newport and Ebbw Vale).

Options for further development

We are evaluating reopening the Cwm branch from Llantrisant to Cwm Coking Works and providing additional capacity on the branch from Ystrad Mynach to Cwmbargoed.

A number of options are being evaluated for improving capacity and reliability on the Vale of Glamorgan Line, in partnership with South Wales Integrated Fast Transit (SWIFT) to allow scheduled passenger services with new stations.

Railtrack and Argent have completed a feasibility study for proposals to construct the London International Freight Exchange at Colnbrook (LIFE) near Heathrow. This has enabled Transport and Works application to be submitted.

We are also working with Associated British Ports to develop a rail link into the proposed new terminal at Dibden Bay, Southampton.

We continue to work with the Bristol Port Company in respect of the Portishead branch line reopening. The Port Company has submitted a freight facilities grant application to the DETR on its and Railtrack's behalf, toward the branch line refurbishment costs and provision of new rail facilities on the dock side at Portbury.

We are undertaking a feasibility study in partnership with local authorities and the WPA with a view to creating new freight terminals in the Bridgend and Neath Abbey Wharf areas.

We are continuing to work with our partners on the preferred sites for future intermodal freight terminals, identified in the TENS study, at Exeter Airport, Tavistock Yard (Plymouth) and in mid Cornwall.

Progress on the 1999 NMS

Felixstowe Capacity has been increased by resignalling the route from Ipswich to both north and south terminals at Felixstowe.

South Wales The Vale of Neath and Onllwyn lines have been opened to 24-hour operation to cater for additional traffic. Track relaying has also been carried out.

We have completed a feasibility study and do not propose to pursue the option of centralised signalling control in the Neath, Brecon Junction and Park Junction areas.

Work is largely complete on upgrading the Western Valley Line between Newport and Ebbw Vale.

Cardiff Work at the Wentlooge freight terminal is under way for completion in 2001.

Cardiff–Bridgend Proposals are available for upgrading for the scheduled passenger service, subject to SWIFT funding.

Avonmouth Euroterminal Opened for business with expansion planned.

Southampton We are working with Associated British Ports to develop track and signalling enhancements to support the Dibden Bay development at Southampton.

Liskeard The Moorswater terminal branch has been upgraded to allow total removal of older freight locomotives west of Exeter.

Crediton and St Erth freight terminals opened in 1999.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Isle of Grain Branch	Improve capacity and facilities	Additional Capacity	2000/01	A
South Marston, near Swindon	Connection to new terminal	New Service Opportunities	2001	B
Bristol Parkway	Connection to new Royal Mail terminal	New Service Opportunities	2000	C
Wentlooge, Cardiff	Construction of new terminal	New Service Opportunities	2001	D

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Filton–Avonmouth	Gauge clearance to W10w	Additional Capacity	2004	A
Newport–Ebbw Vale	Increase permitted axle weight to at least 30 tonnes	Additional Capacity	2005	B
Ystrad Mynach–Cwmbargoed	To be capable of accommodating 25.5tonne axle weights	Enhance Capacity	2001	C
Swansea Burrows–Onllwyn	To be capable of accommodating 25.5tonne axle weights	Enhance Capacity	2001	D
Burngullow–Parkandillack	To be capable of accommodating 25.5tonne axle weights	Enhance Capacity	2001	E
Filton–Avonmouth	To be capable of accommodating trains 775m long	Enhance Capacity	2005	F
London International Freight Exchange, Colnbrook	Euro-Terminal: construct	New Service Opportunity	2005	G
Portishead Branch	Reopen	New Service Opportunity	2000/01	H
Bridgend and Neath Abbey Wharf	Freight terminals	New Service Opportunity		I
Exeter Airport	Intermodal freight terminal	New Service Opportunity		J
Tavistock Yard (Plymouth)	Intermodal freight terminal	New Service Opportunity		K
Bodmin, Mid Cornwall	Intermodal freight terminal	New Service Opportunity		L
Cardiff: Penarth Harbour Branch	Reopen	New Service Opportunity	2000–02	M
Newquay Branch	Reuse of closed branch for freight	New Service Opportunity	2001–05	N
Barry–Bridgend	Upgrade route for regular passenger service	Operational Flexibility	2001–03	O
Dibden Bay, Southampton	Link to proposed new terminal	New Service Opportunity		P
Llantrisant–Cwm	Reopen	New Service Opportunity		Q
Ystrad Mynach–Cwmbargoed	Reinstate loop at Nelson to increase capacity for additional traffic	Additional Capacity	2005	R

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	493	493	437	452
40–75mph	190	190	248	248
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
Total	684	684	685	700
GAUGE (km of route)				
W6A	523	523	523	523
W7	469	469	469	473
W8	308	308	308	312
W9	0	0	0	43
W10	0	0	0	43
W11	0	0	0	0
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	36	36	36	36
20.4–24.1 tonnes	248	248	237	237
24.2–25.4 tonnes	400	400	413	428
Total	684	684	685	700

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
GREAT WESTERN ZONE				
Track	2.7	1.6	7.6	6.5
Structures	0.4	0.3	4.7	3.6
Signalling	0.1	0.1	4.0	0.0
Plant & Machinery	0.0	0.0	0.1	0.2
Telecoms	0.0	0.0	0.1	0.3
TOTAL	3.2	2.0	16.5	10.5

SOUTHERN ZONE

Track	0.1	0.0	1.4	1.5
Structures	0.0	0.0	1.6	1.5
Signalling	0.0	0.0	0.9	9.0
TOTAL	0.1	0.0	3.9	11.9

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	0.0	0.3	1.7	0.0	2.0	Various
TOTAL		0.0	0.3	1.7	0.0	2.0	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	25.5	Various
TOTAL	25.5	

The sum of the expenditures may not match totals due to rounding

Route characteristics

DESCRIPTION This geographically dispersed group of routes conveys freight trains only and consists of two distinct categories of line: main arterial routes and branch lines. The main arterial routes include Sutton Park Line, Kettering–Manton Junction, Sheet Stores–Stenson Junction, St Andrew's Junction–Lawley Street and

Knighton Junction–Leicester Burton Junction. Linespeeds are predominantly 40–75mph. These routes are further supplemented by numerous facilities, both on branch lines which are predominantly single track with a linespeed ranging between 30 and 60mph, and at private sidings.

Route vision

Our vision for these routes is to encourage and cater for growth in all freight markets which we predict will expand, not only in terms of volume, but also in axle weights, train lengths and vehicle profiles. Opportunities exist to expand the current volume of freight throughout the network, by a concerted effort to search for new freight depot sites.

Delivery of this market growth and customer loyalty will only be sustained through the provision of highly reliable infrastructure, seeking the continual improvement of performance to ensure delivery of the agreed timetable.

Committed development plans

INFRASTRUCTURE

We will reinstate multiple-train working on the Corby BS Branch.

Options for development

West Midlands strategic capacity review We are participating with sSRA, Centro, the Government office for West Midlands and Birmingham City Council in a strategic capacity review for the West Midlands area. We will use the conclusions of the review as a framework for the development of our strategy for the route and in the preparation of individual enhancement schemes.

There are benefits in overall network utilisation of creating routes for freight trains passing through the West Midlands which avoid Central Birmingham. There are two proposals for this emerging from the review:

- South West–Worcester–Stourbridge–Walsall–Water Orton–North East. This would require reopening the Stourbridge–Walsall Route throughout. A second phase of developing this route might also involve reopening the Walsall–Brownhills–Lichfield Route to avoid the congested Water Orton area for trains to and from the North East.
- South East–Leamington–Kenilworth–Berkswell–Stechford–Bescot–Bushbury–Stafford–North West. This would involve reopening the disused alignment between Kenilworth and Berkswell and using the additional capacity created by the proposed additional tracks on the Coventry–Birmingham Route.

We are also working with Centro on the possible extension of Midland Metro services between Wednesbury and Dudley.

INFRASTRUCTURE

We will continue to work with industry partners to secure and encourage freight growth using both existing facilities and potential freight locations. We are working with developers to investigate the opportunities for new intermodal depots at a number of locations within the East and West Midlands.

We will continue to work with industry partners including the sSRA, and the freight operators, to identify and develop options for specific gauge, axle weight, and capability improvements, including options for operating 775m-long trains and gauge up to W11, and electrification from Nuneaton to Walsall and Birmingham.

Part of this route, from Sheet Stores to Stenson Junction and from Kettering to Manton, is also being considered as part of the Third Anglo-Scottish Primary Freight Route to evaluate the potential of providing freight capacity as an alternative to the West Coast Main Line.

We have been working with our industry partners to explore the feasibility of reopening the Stoke–Caldon Low Line. A Freight Facilities Grant application has been made and it is hoped to reopen the line during 2000/01.

Consideration is being given to the reopening of the Donnington Branch on the Shrewsbury–Wolverhampton Line, which has been out of use since the early 1990s. Current ownership rests with Telford and Wrekin Council.

The mothballed Claydon–Bletchley Route is to be safeguarded for possible future reopening in conjunction with the East–West Rail Link.

As part of the proposal for upgrade of the Midland Main Line (Route 5) consideration is being given to the reinstatement of the double-track for passenger services on the section of route between Kettering and Corby.

Customer Reasonable Requirements The proposal for the electrification of Walsall–Nuneaton affecting the Sutton Park Line on Route 43 (and the Nuneaton–Water Orton section of Route 9) is also being considered. We are also developing, with Centro, the proposal to site a new station at Aldridge on the Sutton Park Line.

Local Transport Plans All the local authorities connected with this route see rail as an important part of their local plans. All encourage the use of a fair and efficient transport system, balancing social and economic needs. Specific features of local plans include:

Northamptonshire County Council's strategy for rail services based on the need to improve the County's link with the rest of the country and Europe, in the context of a substantial growth in the County's population, and increasing congestion on the motorway and trunk road network. It aspires to the reintroduction of regular passenger services to Corby.

West Midlands's support for the provision of a new station at Aldridge on the Sutton Park Line.

Progress on the 1999 NMS

STOKE-CALDON LOW Proposal at an advanced stage of development for reopening this route and awaiting finalisation of agreements.

Route capability

COMMITTED IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Corby BS Branch	Reinstatement of multiple-train working	Increased capacity	2000/01	A

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

Kettering–Corby	Two-track reinstatement for passenger services	Increased capacity	2001–05	A
Stoke–Caldon Low Branch	Reopening	New services	2000/01	A
Round Oak–Walsall–(Brownhills)	Reopening	Increased capacity	2005/06	B
Castle Donnington	Reinstate connection	New services	2001/02	C
Walsall–Nuneaton	Electrification	Ability to operate 25kV trains	2004/05	D
Claydon–Bletchley	Potential reopening	Increased capacity and linespeeds	2006/07	E

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	24	24	24	24
40–75mph	181	181	181	189
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	205	205	205	213
GAUGE (km of route)				
W6A	199	199	199	199
W7	68	68	68	68
W8	42	42	42	42
W9	21	21	21	21
W10	0	0	0	0
W11	0	0	0	0
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	0	0	0	0
20.4–24.1 tonnes	0	0	0	0
24.2–25.4 tonnes	205	205	205	213
TOTAL	205	205	205	213

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	2.4	2.6	3.3	5.4
Structures	1.1	2.3	8.8	10.4
Signalling	0.1	0.2	6.0	36.8
Other	0.1	0.4	0.0	0.0
TOTAL	3.7	5.5	18.1	52.6

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Caldon Low: freight improvements	2001	0.0	0.3	0.0	0.0	0.3	4
TOTAL		0.0	0.3	0.0	0.0	0.3	

OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Stourbridge–Walsall: new line	50.0	0
Other schemes	8.1	Various
Castle Donnington: freight schemes	3.0	1
TOTAL	61.1	

The sum of the expenditures may not match totals due to rounding

Route characteristics

DESCRIPTION This geographically dispersed group of lines and small networks is used exclusively by freight trains. This group does not include those lines which

regularly take diverted passenger services. Linespeeds are generally low and the signalling is predominantly of a traditional manual type.

Route vision

This group of lines covers a particularly key area of the country for both existing and future traffic. Our vision is to maintain service levels of existing traffic, while at the same time ensuring that every new opportunity is taken and that the capacity exists to achieve this.

Freight-only lines often provide the crucial link between traffic origin points, terminals and the rest of the rail network. We intend to continue a programme of heavy maintenance, primarily on track and structures, to improve the reliability and availability of the routes.

We are keen to play a full role in unlocking the potential of sites such as Trafford Interchange on the Carrington site. We are working in partnership with Wirral Council, EWS and Mersey Docks and Harbour Company to open a rail freight facility at Birkenhead Docks, and we are assessing the potential for another facility at Aintree.

We will encourage the use of these lines and, where possible, open them up to passenger services as well.

Committed development plans

INFRASTRUCTURE

As part of the installation of overhead-line equipment needed for the Sunderland

Direct Project, we will be reconstructing two bridges between Newcastle and Tyne Dock which will assist in reducing gauge restrictions on this route.

Options for development

Customer Reasonable Requirements We are working with EWS and other customers in developing schemes to support traffic growth. On this route we expect to see an increase in traffic in line with national predictions, with development of freight from Immingham expected to be particularly strong. Significant increases in traffic on the line to Liverpool Docks, out of the Peak District and between Ditton and Latchford continue to place considerable additional demands on the affected routes. We have adapted our maintenance strategy to ensure that the quality of our infrastructure continues to meet the current and future requirements of our customers.

At Hull Docks we are currently looking at expanding capacity on the current single line by either installing loops or increasing linespeed, providing capacity for the increase in demand on the line.

On the Killingholme Branch, because of increased traffic, we are investigating the possibility of installing new connections for ABP at Immingham.

Bootle Branch Junction to Seaforth is an important route with potential. Access via Olive Mount Chord has been examined and linked to the potential for new freight to Seaforth and new freight and charter services along the North

Merseyside Branch to Aintree. The results of CRR evaluation have been fed into the Merseyside Freight Strategy. We are working with customers to assess gauge and clearance issues for potential service enhancements to Seaforth from the WCML and Trans-Pennine routes, including W10w and W11 gauges.

A feasibility study to allow increased train lengths to Hindlow has been completed and we are discussing the findings with our customers.

There are many strategic sites where ownership of infrastructure is shared by Railtrack and EWS. In some cases a third party is also involved. A key to route development has to be the recognition of shared goals and objectives in getting the best out of these sites, this can be achieved by developing already shared plans. This is the intention at three locations, Healey Mills (near Wakefield), South Humberside and Hull.

Local Transport Plans We are working with Northumberland County Council and Northern Spirit, on plans for the Ashington–Blyth & Tyne Line for new passenger services and three new stations.

Progress on the 1999 NMS

The number of enquiries to develop freight schemes has continued at a high level throughout the year. On a number of schemes, these initial enquiries are now beginning to develop into firm proposals with feasibility studies in progress.

Work to reopen a coal-handling site at Woolley has been completed. This has involved working with the customer's contractors on the site of the former colliery. Further, at Redcar, we are working with Corus (formally British Steel) to reinstate direct access to the Redcar ore terminal.

We have improved access to the Widnes terminals and worked with EWS to improve the access to RMC quarry at Dove Holes. We have carried out infrastructure works to improve drainage at Peak Forest and have undertaken rerailing works in Dove Holes tunnel.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
IOS(O): Rock Ferry–Bidston East Junction	Detailed Scheme being proposed	Reopen route for freight	2004	A
IOS(O): Halton Junction	Detailed Scheme being proposed	Ability to have bidirectional working	2004	B
Immingham Docks	Accommodate larger SBIC intermodal traffic	Capacity improvement		A
Stainforth–Adwick Junction	Remove temporary speed restriction	Linespeed improvement		B
Hessle Road–Hull coal import terminal	Accommodate RA10 traffic	Capacity improvement		C
Killingholme Branch	Work with EWS to devise a mutually acceptable long-term strategy for infrastructure at ABP Immingham	Capacity improvement		D
Hull Docks Branch	Increase capacity at this key freight point	Capacity improvement		E
Boughton Junction–High Marnham	Clear route for RA10 traffic	Capacity improvement		F
Firbeck Junction–Harworth Colliery	Clear route for RA10 traffic	Capacity improvement		G
Oxcroft Junction–Oxcroft Colliery	Clear route for RA10 traffic	Capacity improvement		H
Ditton Terminal	Evaluate access arrangements and electrification costs at O'Connors terminal, Ditton to facilitate direct access for line-length trains	Capacity improvement		I
Bootle Branch Junction–Seaforth	Accommodate W11 gauge	Capacity improvement		J

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	349	349	349	349
40–75mph	269	269	269	269
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	618	618	618	618
GAUGE (km of route)				
W6A	513	513	513	513
W7	428	428	428	428
W8	368	368	368	368
W9	27	27	27	27
W10	0	0	0	0
W11	0	0	0	0
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	29	29	29	29
20.4–24.1 tonnes	589	589	589	589
24.2–25.4 tonnes	0	0	0	0
TOTAL	618	618	618	618

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS					
PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	
LONDON NORTH EASTERN ZONE					
Track	1.9	3.8	8.9	7.3	
Structures	1.7	1.5	5.6	1.9	
Signalling	0.0	0.1	0.0	0.0	
TOTAL	3.6	5.4	14.6	9.2	
NORTH WEST ZONE					
Track	1.0	0.9	3.1	6.4	
Structures	0.2	0.5	1.0	1.3	
Signalling	0.0	0.3	2.8	3.4	
TOTAL	1.2	1.7	6.9	11.1	
OPTIONAL ENHANCEMENTS					
PROGRAMME OF WORK				TOTAL	STATUS
Other schemes				6.6	Various
Immingham: terminal improvement				2.6	1
TOTAL				9.2	
The sum of the expenditures may not match totals due to rounding					

Route characteristics

DESCRIPTION The freight routes in Scotland are made up of 28 discrete lines which are either dedicated to the service of an individual freight terminal or utilised as a freight-only chord or link. The nature of these routes is varied, but most are single-track, low-speed lines with lengths varying from 1km to 20km.

The lines from Monktonhall Junction to Portobello Junction via Millerhill Yard and between Whifflet and Sunnyside are electrified with 25kV overhead power.

Signalling is a mixture of semaphore, colour-light and various token arrangements controlled from five signalling centres and nine traditional signal boxes.

Route vision

Our vision is to improve the infrastructure provided on these lines through enhancements to the gauge, route availability and speed to cater for the increasing requirements of freight customers. New methods of signalling and a more innovative approach to branch operation will be developed to enable additional services to utilise the single lines with greater efficiency.

New locomotives and bigger wagons are being introduced which enable longer freight trains to operate. The length of loops will be investigated to ensure that suitable facilities are available on strategic routes throughout Scotland.

Options for development

INFRASTRUCTURE

Stirling–Alloa–Kincardine We are committed to the development of a scheme which will open the route between Stirling, via Alloa, to Kincardine. This would operate primarily as a freight route providing an alternative, and less restrictive, method of accessing Fife from the south and west.

Edinburgh CrossRail The proposal to introduce passenger traffic on the lines between Portobello Junction and Millerhill is currently being developed with completion expected in 2003 (see Route 40).

New Freight Facilities In conjunction with the freight operating companies we will assist with the development of schemes to provide new freight sidings and terminals in Scotland. This will include the delivery of feasibility studies to support customer aspirations. This includes the proposed facility at Raithe's Farm (see Route 14).

sSRA Incremental Output Statements

Falkland Yard and Shields Junction–Terminus Junction electrification To provide EWS with flexibility and direct access from Ayrshire to the West Coast Main Line it is proposed that two short stretches be electrified along with a number of sidings at Falkland Yard.

Knockshinnoch–Killoch The work to improve capacity is designed to avoid conflict between the growing freight services in Ayrshire and the existing passenger service. The scheme involves enhancement works to increase capacity and operational flexibility.

Edinburgh suburban electrification We will develop a scheme to electrify the Edinburgh South Suburban Line to provide a through route for electric traction from west to east without the need to pass through Edinburgh Waverley Station.

Customer Reasonable Requirements EWS has a number of aspirations relating to the development of new terminals. We will work to assist the progression of these initiatives through input to feasibility studies and the delivery of on-site works when the schemes move to implementation.

Freightliner has aspirations linked to the clearance of routes for container traffic. Work to gauge routes and understand the scope of this work to achieve these objectives is under way in conjunction with Freightliner.

Local Transport Plans The eventual reopening of the route between Stirling and Alloa to passenger traffic is part of the Local Transport Plan.

Local Authorities The transfer of freight from road to rail is a cornerstone of many of the transport plans of local authorities. We support this initiative and are prepared to be an active partner in discussions over how this may best be achieved.

Progress on the 1999 NMS

INFRASTRUCTURE We have supported our customers throughout the year in the development of schemes. The study into the reopening of the Stirling–Kincardine Line has been taken forward through dialogue with the local authority and the Scottish Executive.

Railtrack has worked with EWS to enhance the facilities at Motherwell Depot through its scheme to electrify a number of stabling sidings.

Route capability

OPTIONS FOR FURTHER IMPROVEMENTS IN CAPABILITY

LOCATION	PROPOSED ACTION	CHANGED OUTPUT	YEAR	REF
Raithe's Farm	Freight terminal	Increased freight traffic	2002	A
IOS(O): Falkland Yard and Shields Junction	Detailed Scheme being proposed	Ability to electrically haul coal trains from Falkland Yard avoiding change of traction at Mossend	2002	A
IOS(O): Edinburgh Suburban Line	Detailed Scheme being proposed	Ability to use as an electrified alternative route	2006	B
IOS(C): Knockshinnoch–Killoch	Detailed Scheme being proposed	Avoid use of Falkland Yard for run round purposes	2005	C

CAPABILITY CHANGES

LINESPEEDS (km of track)	CURRENT POSITION	COMMITTED 2001* POSITION	COMMITTED 2006 POSITION	ACHIEVING ROUTE VISION
Up to 35mph	174	174	174	174
40–75mph	48	48	48	61
80–105mph	0	0	0	0
110–125mph	0	0	0	0
Over 125mph	0	0	0	0
TOTAL	222	222	222	235
GAUGE (km of route)				
W6A	193	193	193	206
W7	193	193	193	206
W8	34	34	34	100
W9	3	3	3	100
W10	0	0	0	100
W11	0	0	0	100
AXLE WEIGHT (km of track)				
Up to 20.3 tonnes	37	37	37	37
20.4–24.1 tonnes	82	82	82	82
24.2–25.4 tonnes	103	103	103	116
TOTAL	222	222	222	235

* Plans and expenditure for sustaining the network from 2001/02 will maintain capability at the levels shown
The sum of the figures may not match totals due to rounding

Expenditure (£M – 1999/2000 prices)

RENEWALS

PROGRAMME OF WORK	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11
Track	1.7	1.4	2.1	2.8
Structures	0.8	0.6	9.5	12.0
Signalling	0.0	0.1	0.0	0.0
Plant & Machinery	0.1	0.0	0.3	0.0
Stations	0.4	0.0	0.2	0.3
Depots	0.0	0.0	0.1	0.1
TOTAL	3.0	2.1	12.3	15.1

COMMITTED ENHANCEMENTS

PROGRAMME OF WORK	COMPLETION	1999/2000	2000/01	2001/02–2005/06	2006/07–2010/11	TOTAL	STATUS
Other committed schemes	Various	3.9	1.4	0.0	0.0	5.3	Various
TOTAL		3.9	1.4	0.0	0.0	5.3	

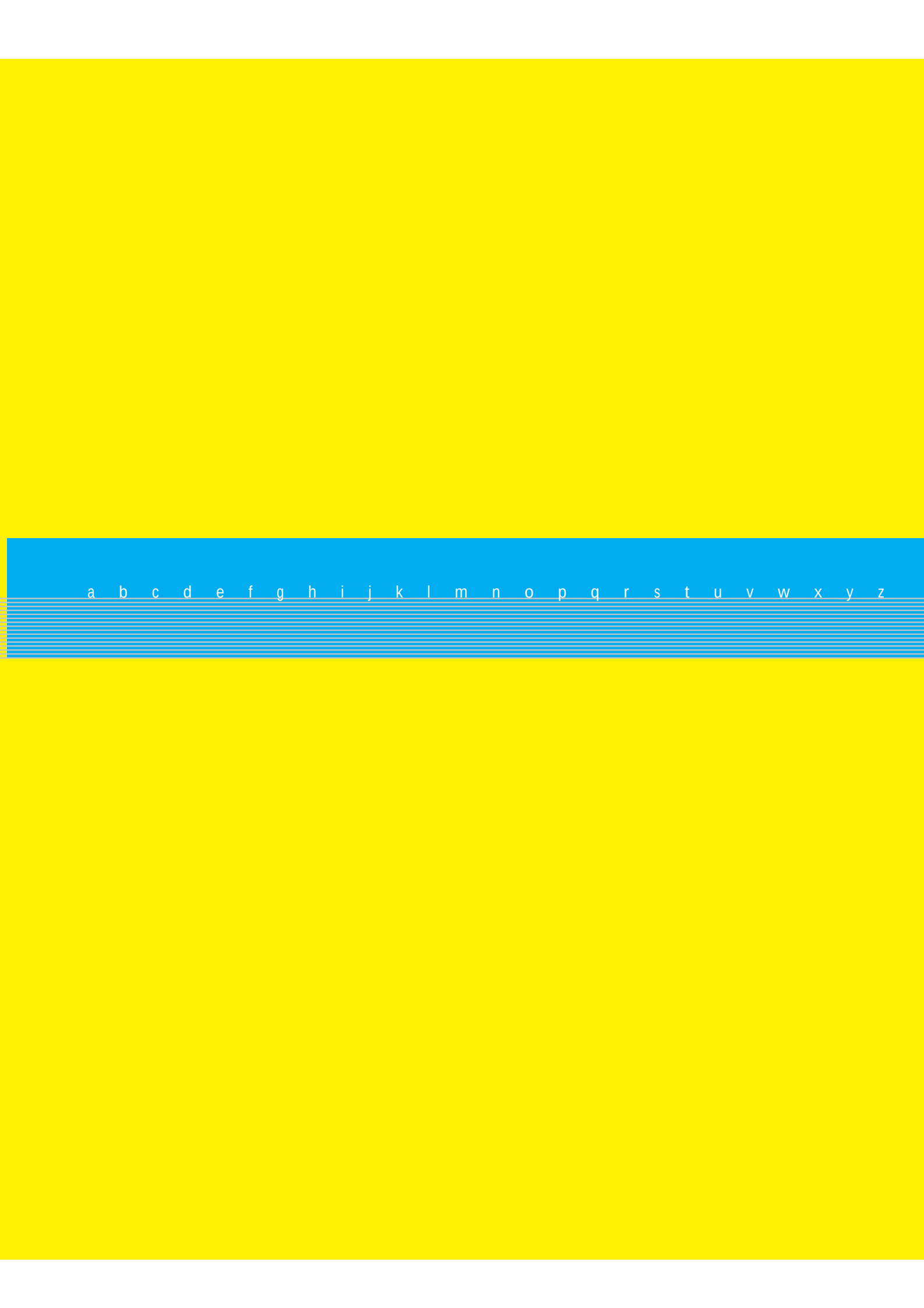
OPTIONAL ENHANCEMENTS

PROGRAMME OF WORK	TOTAL	STATUS
Other schemes	16.8	Various
Knockshinnoch–Killoch: capacity upgrade	8.0	1
Edinburgh CrossRail	5.0	2
TOTAL	29.8	

The sum of the expenditures may not match totals due to rounding

abbreviations and glossary





a b c d e f g h i j k l m n o p q r s t u v w x y z

Abbreviations and glossary

A	AC	Alternating current
	Accommodation level crossings	Points at which private roads, farm trucks, public footpaths and bridle paths cross a railway line. There is usually no automatic warning of the approach of a train
	ADGs	Area Delivery Groups
	AHB	Level crossing protected by automatic half-barrier
	air rights development	The right to develop buildings above existing building height on land owned by Railtrack
	AMP	Asset Maintenance Plan
	ARL	Above rail level
	ATCO	Association of Transport Co-ordination Officers
	ATOC	Association of Train Operating Companies
	ATP	Automatic Train Protection
	AWG	Adhesion Working Group
	AWS	Automatic Warning System
	axle-counters	Part of signalling system which detects the position of a train on a railway line
	BAA	British Airports Authority. Owner and operator of a number of airports in Great Britain and elsewhere
B	balise	Trackside train control system transmitter
	bay line	A short, dead-end platform
	BML	Brighton Main Line
	Bn ntkm	billion net tonne kilometres
	BNFL	British Nuclear Fuels Limited
	bottleneck	A location on the network where the number of train movements is close to, or projected to exceed, the capacity of that location (same as pinchpoint)
	BRB	British Railways Board
	CCTV	Closed-circuit television
	CD/RA indicators	A special signal to a train driver that a train is ready to depart from a station
	Centro PTE	West Midlands Passenger Transport Executive
	CERT	City of Edinburgh Rapid Transport
	CET	Controlled emission toilets on a train. The train's toilet empties into a tank which is emptied at a servicing depot
	chord line	Short section of line connecting two other lines, forming a triangle
	CIRAS	Confidential Incident Reporting System and Analysis
C	CIS	customer information systems
	Class 158, Class 170, etc	Types of trains
	clockface timetable	A timetable where trains run at regular intervals (eg every ten minutes)
	Control Period	The Period (normally five years) for which the Rail Regulator fixes our access income from franchised passenger train operators
	CRR	Customer Reasonable Requirement
	CSC	Connex South Central
	CSE	Connex South Eastern
	CSR	Cab secure radio
	CTR1	Channel Tunnel Route 1 (via Tonbridge)
	CTR2	Channel Tunnel Route 2 (via Maidstone)
	CTR3	Channel Tunnel Route 3 (via Redhill)
	CTRL	Channel Tunnel Rail Link
	customers	Those who use Railtrack infrastructure and equipment
	DART	Digital Advanced Radio for Trains
D	DC	Direct current
	DDA	Disability Discrimination Act
	DETR	Department of Environment, Transport and the Regions
	disaggregation	Splitting Railtrack's plans and expenditure into seven Zonal and 45 Strategic Route plans

D	DLR	Docklands Light Railway
	DMU	Diesel multiple-unit
	DOO	Driver-only operation
	DRA	Driver's Reminder Appliance
	DRS	Direct Rail Services
E	ECML	East Coast Main Line
	ELL	East London Line
	EMS	Environment Management System
	ERDF	European Regional Development Fund
	ERTMS	European Rail Traffic Management System
	ETSC	European Transport Safety Council
	EU	European Union
	euro	European currency unit
	EWS	English Welsh & Scottish Railway
F	FFG	Freight facilities grant
	FGW	First Great Western
	footfall	The number of people passing through a station
	FSC	Forest Stewardship Council
	FTA	Freight Transport Association
	FUG	Freight upgrade
G	GAUGES	
	'big-box'	See W10
	SBlc	Gauge to carry Swap-body vehicles
	UIC A	European gauges
	UIC B	European gauges
	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
	W10w	Previously 9'6" refrigerated container gauge
	W11	The gauge capable of handling 4m-high lorry trailers on rail wagons
	GB	Great Britain
	GE	Great Eastern
	GEML	Great Eastern Main Line
	Georgemas Plunger	A device permitting the train driver to operate the points at Georgemas Junction
	GER	Great Eastern Railway
	GLA	Greater London Authority
	GMPTe	Greater Manchester Passenger Transport Executive
	GNER	Great North Eastern Railway
	GNRTS	Greater Nottingham Rapid Transit System
	golden assets	Railway infrastructure which has the greatest potential impact on train performance
	grade-separated junction	A junction where one track passes over or under another on a bridge to avoid conflicting train movements
	G&SW	Glasgow and South Western Route
	GTE	Proposed Rapid Transit System for Oxford
	gtm	Gross tonne-miles
	GWML	Great Western Main Line
H	HML	Highland Main Line
	HMRI	Her Majesty's Railway Inspectorate
	HSE	Health and Safety Executive

H	HST	High-speed train
I	ICC	International Convention Centre (Birmingham)
	IECC	Integrated Electronic Control Centre
	IMC	Infrastructure maintenance company/contractor
	IMC2	Second generation maintenance contract
	IMC2000	Third generation maintenance contract
	immunisation works	These protect the signalling system from high-voltage electric currents in the overhead line train power supply system
	INLORS	Inner London Orbital Route Strategy
	IOS	Incremental Output Statement
J	JLE	Jubilee Line Extension
K	kiss and ride	Where a passenger is dropped off or collected by car at a station
	kV	Kilovolt (= 1,000 volts)
L	LB	London Borough
	LIFE	London International Freight Exchange
	LMD	Light maintenance depot
	Loco	Locomotive
	LRT	Light Rail Transport
	LTA	London Transport Authority
	LTPs	Local Transport Plans
	LTS Rail	London, Tilbury and Southend train operator
	LUL	London Underground Limited
M	M	Million
	megafret	An intermodal wagon with a platform height of 835mm to carry Swap-bodies or container
	MEL	Merseyrail Electrics Limited
	MML	Midland Mainline
	MOD	Ministry of Defence
	MPTE	Merseyside Passenger Transport Executive
	MPV	Multi-Purpose Vehicle
	MTL Group	Holding company for Merseyrail and Northern Spirit
	multifret	An intermodal wagon with a platform height of 945mm to carry Swap-bodies or containers
	MVAIR	Manchester Victoria area signalling renewal scheme
N	NEG	National Express Group plc
	NEXUS	Tyne and Wear Passenger Transport Executive
	NLL	North London Line
	NMC	Network Management Centre
	NMS	Network Management Statement
	NRN	National Radio Network
	NTP	North Trans-Pennine
O	Objective 1 areas	Area of Europe eligible for maximum grant support from EU institutions
	OLE	Overhead-line equipment
	OPRAF	Office of Passenger Rail Franchising
	output-based contract	A contract where the outputs and the price are defined, but not the means to achieve the end result
P	pantograph	On train equipment for collecting electricity from overhead power cable
	parkway station	A railway station with a large car park and easy road access
	PFI	Private Finance Initiative
	PfPI	Process for Performance Improvement
	piggyback	Conveying lorry trailers by train
	pinchpoint	A location on the network where the number of train movements is close to, or projected to exceed, the capacity of that location (same as bottleneck)

P	PIXC	Passengers in excess of capacity. The Franchising Director's measure of overcrowding on train services
	PPP	Private–public partnership
	PRISM Rail	Holding company for Cardiff Railway Company
	Project Elephant	Project to assess feasibility and costs of increasing freight vehicle loads and axle weights
	PSB	Power signal box
	PTA	Passenger Transport Authority
	PTE	Passenger Transport Executive
	PTI 2000	Public Transport Information 2000
	PUG	Passenger Upgrade
	PUG 1	Passenger Upgrade No 1 – agreement with the Franchising Director and WCML
	PUG 2	Passenger Upgrade No 2 – agreement with Virgin Trains for the capacity and capability of WCML and revenue-sharing arrangements
Q	Q-Train	Special train run to catch trespassers on railway lines
R	RA	Route availability – RA1–6 up to 20.3 tonnes; RA7–9 up to 23.4.1t; RA10 up to 25.4t
	RAB	Regulatory Asset Base
	RAC	Royal Automobile Club
	radio-electronic token-block	A radio based signalling system used on some rural, single track railways
	RAR	Railtrack Asset Register
	reactionary delay	A late train delays other trains
	RGS	Railway Group Standards
	RHA	Road Haulage Association
	ROSCO	Rolling Stock Leasing Company
	ROSS	Renewal of Scottish signalling
	RPI-X formula	This is the formula often used by regulators to determine how the charges of a company will vary over time. It is the Retail Price Index less a percentage eg RPI=3% less X of 1% means that the maximum price rise that the company can levy in any one year is 2%
	RPL	Rail Property Ltd
	RPP	Rail Passenger Partnership
	RSAB	Rolling Stock Acceptance Board
	RTCS	Railtrack Train Control System
	RTIA contracts	Contract between Railtrack and its maintenance contractors (compare IMC2/IMC2000)
	RTS	Rapid transit system
	RUCC	Rail Users' Consultative Committee
	Rules of Route	Agreement between Railtrack and train operators as to when lines can be temporarily closed for maintenance and renewal work
S	Safety Case	The documentation and systems by which all parts of the railway industry set out how they will manage the safety of their activities
	SB	Signal box
	SBI gauge	Loading gauge which permits operation of road–rail Swap-body vehicles
	SCADA	Supervisory control and data acquisition
	S&CL	Settle and Carlisle Line
	Section 54 agreement	Agreement with the Franchising Director over form/content of a future franchise
	Section 54 support	Enables the Franchising Director to give an undertaking on how he will exercise his franchising function in the future
	SELTRANS	South East London Transport Strategy
	shoulder peak services	Train service timetable immediately before and immediately after the 'peak' period of maximum train services
	SHRT	South Hampshire Rapid Transit
	skip-stopping	Not stopping at all intermediate stations between two main stations
	SLUs	Standard Length Units are used to describe the length of freight trains

S	SMA	Strathclyde Manning Agreement
	SMS	Safety Management System
	SPAD	Signal passed at danger
	SPT	Strathclyde Passenger Transport
	SRP	Station Regeneration Programme
	S&SD	Railtrack's Safety and Standards Directorate
	sSRA	Shadow Strategic Rail Authority
	Sustrans	Sustainable transport – an organisation primarily involved in creating a national network of cycle paths
	Swap-body	System for conveying road freight vehicle bodies on rail vehicles
	SWELTRAC	South-West London Transport Advisory Committee
T	SWELTRANS	South-West London Transport Strategy Committee
	SWIFT	South Wales Integrated Fast Transit
	SWML	South Wales Main Line
	SWT	South West Trains
	SYPTE	South Yorkshire Passenger Transport Executive
	TCS	Train Control System
	TCS-M	Train Control System based on a moving block
	Train Describer	track-based equipment identifying the location and identity of a train
	TENS	Trans-European Networks
	TERFF	Trans-European Freight Freeway
U	tph	trains per hour
	TPWS	Train Protection Warning System
	TSR	Temporary speed restriction
	T&WA	Transport & Works Act
	TUG	Train Operator User Group
	UIC	International Union of Railways (Union Internationale Chemins de Fer)
	UK	United Kingdom
	UPS	Uninterruptible Power Supply
	US	United States (of America)
	V DC	Volts direct current
W	VoG	Vale of Glamorgan
	WA	West Anglia
	WAGN	West Anglia & Great Northern Railway
	WAML	West Anglia Main Line
	WARM	West Anglia Route modernisation
	WCML	West Coast Main Line
	WCRC	West Coast Railway Company
	WCRM	West Coast Route modernisation
	WELL	West London Leadership
	WLL	West London Line
Y	WYPTE	West Yorkshire Passenger Transport Executive
	Y2K	Year 2000

Other Railtrack publications:

- Investment criteria
- Railtrack Line Safety and Environment Plan
- Connections Guide/Freight Directory (CD-Rom)/Code of Practice
- 1998/99 Annual Report
- 1999/2000 Interim Report
- 1998/99 Corporate Responsibility Report

Copies of these publications together with those listed below can be obtained by calling the Railtrack Helpline on 0845 711 41 41 (calls will be charged at the local call rate).

Information available on Railtrack's website includes:

- 1998,1999 and 2000 Network Management Statements
- Detailed data tables and network capability maps
- Developing rail services in:
 - London and South East England
 - South West England
 - The Midlands
 - Northern England
 - Scotland
 - Wales
- Current timetable for passenger services on the rail network.

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