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Statement 2000

Network Management Statement 2000

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Developing rail services in London & the South East



Developing rail services in London & the South East



This is one of six regional documents which complement Railtrack's Network Management Statement for 2000. It sets out a vision for the development of the rail network in London and South East England, covering: the role of the rail network in the economic and social development of the region; the improvements to which Railtrack is committed during the next ten years, ranging from maintenance and renewals of the existing network to major projects such as Thameslink 2000; our vision of how the network could be developed beyond those commitments – and a discussion of how such development could be achieved, in partnership with our stakeholders.

In the first section we set out the strategic framework and key issues in planning the network, and describe the main upgrade schemes to which we are committed. The second section discusses a range of options for the further development of the network. Finally, we bring these together into a vision for the future of the rail network in the South East.

1	2	3
CURRENT DEVELOPMENTS	FUTURE DEVELOPMENTS	OUR VISION FOR THE SOUTH EAST
Strategic framework	Options for further network development	A coherent network
Key issues in planning the network	The East London Line	Expenditure tables
Our firm plans for the next five years	CrossRail	
Committed schemes	Interchanges and orbital transport hubs	
	Airport access	
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Strategic framework

The rail network serving London and the South East of England is a vital part of the infrastructure which supports the development of the region and maintains London's position as a world city.

Railtrack's guiding objective is the integrated development of this network. We aim to build a strategic framework which provides firm guidelines for action yet which can respond flexibly to the changing needs of the many stakeholders.

Unprecedented opportunity

The year 2000 will be one of great significance for London and for the future of its rail network.

The creation of Transport for London (TfL) will bring transport issues to the fore and offer an unprecedented opportunity to address them.

Reporting directly to the new Mayor of London, TfL will have overall responsibility for all public transport within London and for services into and out of the capital. For the first time since the abolition of the Greater London Council, there will be a strategic body charged with planning London's transport, in conjunction with the shadow Strategic Rail Authority. The Mayor will be required to produce a strategic plan for transport within a year of taking office.

Growth in demand

The London and South East England economy continues to grow. In London, extensive new office developments are under construction or planned both in the City and at key regeneration locations such as Docklands, King's Cross, Paddington and the South Bank. In the region, there is strong economic growth in a number of areas such as the Thames Valley and Cambridgeshire.

Both employment in London and levels of economic activity are forecast to increase over the next ten years, and this, together with current government policies, will stimulate increased demand for rail travel. Our current view is that demand for passenger rail travel in the South East will increase by approximately 36% by 2011.

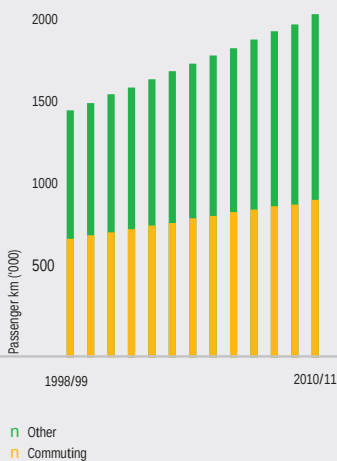
The recent substantial increases in passenger travel and freight movements mean that much of the network is already operating at full capacity. Even though three substantial new railways have started operating in the past few months (the Jubilee Line extension to Stratford, Docklands Light Railway extension to Lewisham and Croydon Tramlink), further solutions are urgently needed to handle the increasing demand. Our proposals are set out later in this document.

Planning for an integrated future

The development of the rail network needs to be seen in the context of the region's transport as a whole, including the Underground system, buses, trams, taxis, riverboats and private transport.

All play their role, and opportunities for integration must be sought out and exploited. And as patterns of demand for transport emerge, any plans for the future must be capable of amendment in response to changing needs.

We therefore fully recognise that planning for the region's future rail network is not something we can do in isolation. It needs the full involvement of all stakeholders including the shadow Strategic Rail Authority, Transport for London, local government, the train operating companies and other transport undertakings such as BAA plc.





Key issues in planning the network

Complex interactions

The extensive rail network which serves London and the South East of England is extremely complex. Minor timetable changes can require substantial retimetabling over a large area. Within the Greater London area alone, the network carries passenger trains operated by 22 different companies as well as freight trains and mail trains, travelling through 32 London boroughs and the City.

Among the many different stakeholders in the rail network are its passengers, freight customers, passenger train operators, local and national government, other transport operators such as London Transport and BAA plc, and a variety of other businesses. These stakeholders have different needs and expectations, which often conflict operationally and commercially – sometimes even within a single group of stakeholders. For example, passengers travelling within London typically require high-frequency services stopping at all stations, while those travelling into London from the Home Counties require fast trains making relatively few stops within London.

This complexity means that, particularly in the London area, it is simply not possible to consider individual routes in isolation. Network development must be considered holistically to take account of the interactions between routes. We are uniquely well placed, at the heart of the railway, to provide this overview and develop plans for the network as a whole, in close co-operation with all other stakeholders.

Equally important are the interactions between our network and other transport networks. For example at central London termini adequate means of dispersal, in the form of buses, Underground and taxis, are essential to allow passengers to reach their ultimate destination.

Funding and commercial realities

Investment in rail infrastructure has to be justified by the benefits it generates. Railtrack, as a commercial company, is required to cover the costs of investment and to generate a commercial return on asset enhancement.

We achieve this through charging for network access. In some cases, an improvement or enhancement scheme will lead directly to additional fares revenue and, provided regulatory agreement can be reached on a suitable increase in access charges, the scheme will be commercially viable for us.

However, in other cases – particularly in London – the benefits of investment are non-financial, such as time savings, reduced crowding and reduced road congestion. While such benefits can be valued financially, they do not directly generate funds to meet the cost of investment – so a scheme which shows substantial benefits to the economy as a whole may be commercially unviable. In such a case, funding from local or national government would be needed for the scheme to proceed, in recognition of the wider benefits.

Risk, reward and benefit

The structure of today's rail industry means that any scheme will involve a number of players.

Even when a scheme produces overall benefits for rail users, some of these players may lose out. Addressing the way in which risk and reward are apportioned between industry partners is an important part of ensuring a project's success.

An everyday example which is specific to London is that of the Travelcard. Offering unlimited availability on rail, bus and Underground within specified geographical zones, Travelcards account for a high percentage of travel in the London area.

While the benefits to customers are obvious, the situation is much less clear for transport operators. The revenue from Travelcard sales is allocated between the various operators based on a quarterly survey of travel patterns. It can therefore take a considerable time for the farebox benefits of a scheme to find their way through to a train operator – and the actual level of benefits will be affected by the inevitable statistical variations in the survey.

This has been, and remains, a deterrent to carrying out investment in the rail network in London, and is something that the Mayor may wish to address.

High-quality passenger facilities

Infrastructure upgrades and enhancements will deliver new and improved train services. It is essential that these are complemented by a high-quality passenger interface.

Particularly in the case of the complex London rail network, accurate and accessible customer information is needed to help people plan their journeys and to keep them informed as they travel. As the custodian of timetable and train running data, we are committed to working with our industry partners to deliver the level of information customers need.

Equally important is the provision of a safe and welcoming station environment, and we are actively collaborating in projects to improve the region's stations. This is an area of particular importance at interchanges. On page 22, we describe how a network of orbital transport hubs can help to deliver a wider range of journeys to London's rail passengers.

Minimising disruption during construction

All but the most minor renewals to the rail network are likely to involve temporary disruption of scheduled services. Indeed, major projects can require closing sections of track for lengthy periods while new facilities are built. There is also a high level of interdependency between different projects. In London, the second section of the Channel Tunnel Rail Link, Thameslink 2000 and the extension to the East London Line are closely interrelated.

The potential impact for disruption means that the scheduling of upgrading works is of crucial importance. We are actively considering this issue for both committed and planned schemes, so as to ensure that improvements can be delivered in a way which minimises disruption.

Our firm plans for the next five years

We now discuss those of our plans which are already fully developed. Forming a major part of these is a continuing programme of renewals, designed to ensure that current network output levels are maintained and that in addition train punctuality performance continues to improve by two per cent each year. The full extent of our renewals programme will be found in this year's Network Management Statement, Volume 2, Route Strategies. A key feature of our renewals programme to date has been the Station Regeneration Programme, aimed at bringing the fabric of all the stations on the network up to standard. This programme is now 80 per cent complete and on target for completion in 2001.

Major schemes

We are also committed to an extensive programme of projects across the country to upgrade or enhance the network. In this section, we list the schemes which will directly benefit this region, and outline progress on three of the most important: West Coast Route Modernisation, Section One of the Channel Tunnel Rail Link, and Thameslink 2000. Full details of all committed and proposed schemes are published in our Network Management Statement.

West Coast Route Modernisation

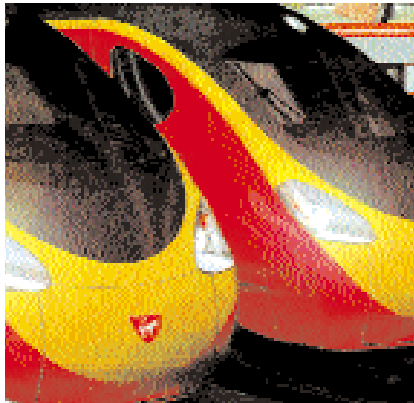
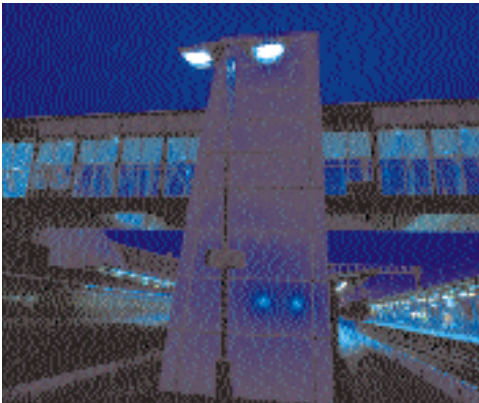
The West Coast Main Line is the principal rail corridor linking London and South East England with the West Midlands, North West England and Scotland. It is a mixed-traffic railway, with high volumes of intercity, regional and local passenger train movements as well as freight.

In the early 1990s, a consensus grew that the route was in need of urgent upgrading. Virgin's franchise to operate intercity services was won on the basis of upgrades agreed with Railtrack to increase train speed and frequency. Our plans for modernisation of the WCML will deliver faster, more frequent and more reliable intercity services, together with improvements to regional and local services along the route.

The current position

The upgrade work is planned to take place in two phases. Phase 1 is due for completion by May 2002, and will deliver infrastructure works and timetabling to enable a maximum speed of 125mph for Virgin Trains' services. It will also provide one additional service per hour to each of Manchester, Birmingham and Preston/Glasgow, and a level of route performance which meets the reasonable requirements of other route users.

Phase II is scheduled for completion by May 2005. This will deliver further reductions in journey times with a maximum speed of 140mph, utilising tilt technology, along with additional services for Virgin Trains and an extra 42 slow line paths per day between London and Crewe.



Our firm plans for the next five years

Channel Tunnel Rail Link SECTION ONE

At 108km long, the high-speed Channel Tunnel Rail Link (CTRL), from St Pancras to the Channel Tunnel, will be Britain's first new main line railway for nearly a century.

The new railway will be built in two sections. Each CTRL section represents a step change in the capability of the South East's radial rail network. As well as enabling improved journey times for Eurostar trains from London to the continent and for domestic trains diverted onto the route, the CTRL will create new and released capacity on the existing network.

The potential

Section One of the CTRL runs from the Channel Tunnel through Kent and joins the existing rail network at Fawkham Junction near Gravesend. Construction of this 74km section is well advanced and it will open in 2003. On completion, this section will reduce journey times from London to Paris and Brussels by about 20 minutes and provide considerable journey-time improvements for domestic services.

In addition, Railtrack's existing network from Fawkham Junction towards London will benefit from significant investment – over £80M – to maximise the opportunity and performance of the completed CTRL Section One.

The current position

Authorised by Parliament in 1996, the CTRL is being built under a public-private partnership contract between the Government and London & Continental Railways (LCR) and under a purchase agreement between Railtrack and LCR.

Railtrack is the client for the project, while the company responsible for implementation of Section One is Union Railways (South) Ltd, a subsidiary of LCR.

On completion of Section One, Railtrack will purchase the asset at the actual build price. We describe the current status of Section Two of the CTRL project on page 28.

Work is proceeding on the construction of Section One of the Channel Tunnel Rail Link in Kent



Our firm plans for the next five years

Thameslink 2000

Thameslink 2000 is a key strategic transport initiative, designed to enhance and expand the existing Thameslink network throughout London, the South East and East of England. It will take five years to build and represents a network investment of £830M by Railtrack. These are some of the major benefits Thameslink 2000 will provide.

- Improved quality of travel. Thameslink 2000 will reduce overcrowding on Thameslink and other London commuter services and on London Underground. It will reduce the need for interchange between main line and Underground services, and will facilitate the dispersal of passengers arriving at St Pancras on the Channel Tunnel Rail Link (CTRL).
- New services. New cross-London services will become possible, improving access in the South East of England – specifically in areas of anticipated demand growth such as the London Bridge development area, the King's Cross lands and Gatwick and Luton airports.
- New continuous routes. Trains will be able to run between Bedford, Peterborough and King's Lynn in the north, and Guildford, Horsham, East Grinstead, Littlehampton, Brighton, Eastbourne, Ashford and Dartford in the south, all via central London. The project will expand the current Thameslink network of 50 stations to 169 stations, covering eight counties, 15 London boroughs and three unitary authorities.
- Increased capacity. Thameslink 2000 will deliver more peak-time train capacity and provide for easier and more frequent cross-London connections. It will do this by increasing track capacity and lengthening platforms within central London.

The potential

Thameslink 2000 has widespread support from local government, commercial organisations and rail users. It will alleviate pressures on the heavily used current network. It will help boost the economic potential of development areas and act as a catalyst for regeneration. And, in accordance with government policy, it will encourage people to travel by train rather than by car across a large part of the rail network in South East England.

Thameslink 2000 is a joint initiative, with the Franchising Director and the Secretary of State for the Environment, Transport and the Regions. Railtrack's role is to provide the infrastructure necessary to deliver the train service pattern specified by the shadow Strategic Rail Authority.

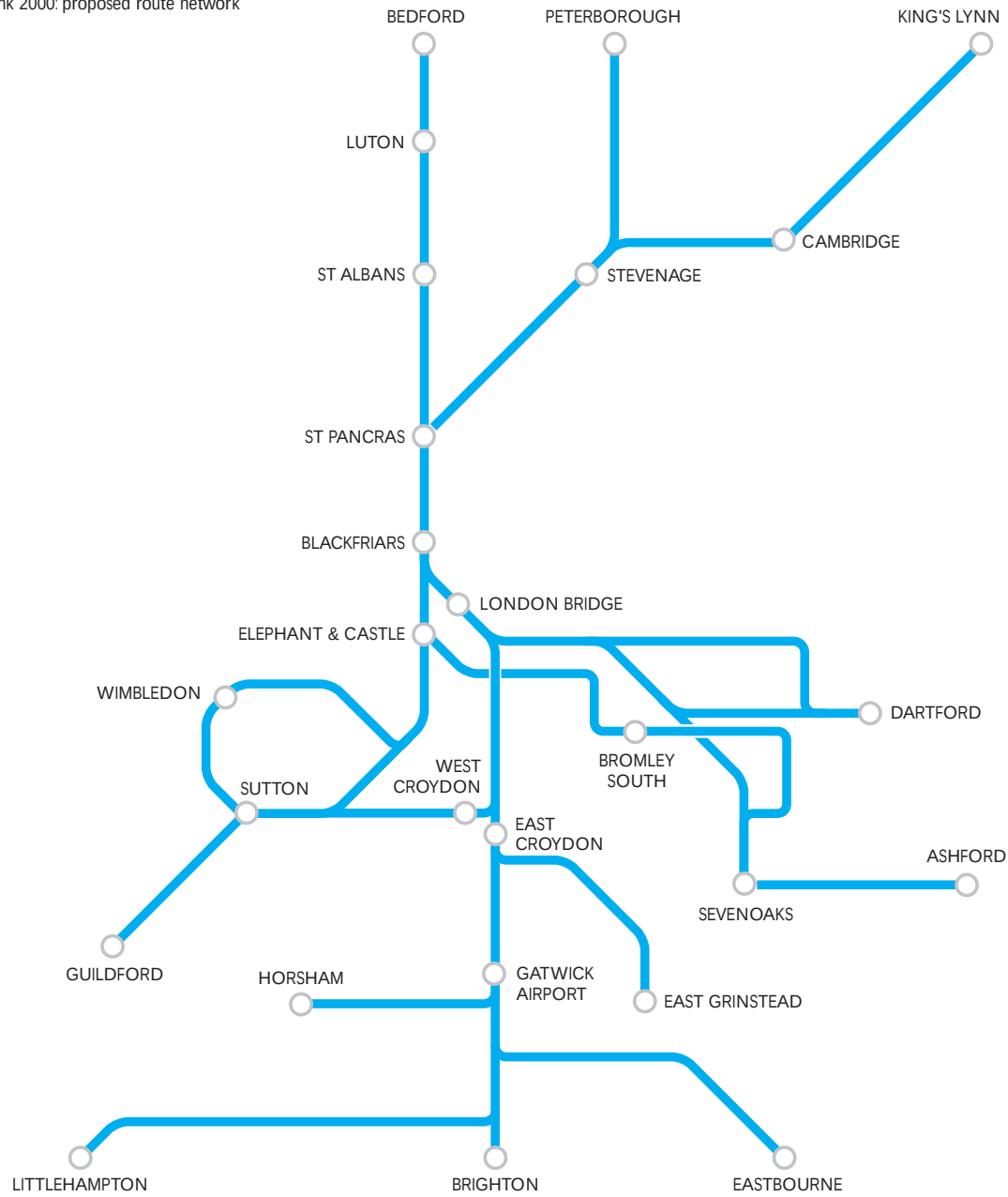
The current position

Improvements, revisions and enhancements to the Thameslink 2000 project were developed during the review period of the Channel Tunnel Rail Link project. A public inquiry into these proposals is expected to start in mid-2000.

Timescales

Final timescales for the project will not be finalised until those for Section Two of the Channel Tunnel Rail Link are agreed. However, assuming that Railtrack exercises its option to build CTRL Section Two in 2001, Thameslink 2000 could be operational in late 2006.

Thameslink 2000: proposed route network



Committed schemes

Apart from the major schemes described in the preceding pages, there is a range of other network enhancements to which we are committed. These are described in detail in our Network Management Statement, and are summarised below.

- Implementation of the Train Protection Warning System, which is designed to prevent or reduce the consequences of signals passed at danger. We will be providing new TPWS loops at 40% of all signals nationally over the next two years. This programme has been accelerated by a year and the number of locations has been increased compared with legislative requirements.
- A range of station improvements in addition to the Station Regeneration Programme, including Paddington, Charing Cross, Waterloo, Clapham Junction, Brighton and Bournemouth.
- Flood relief scheme between Maidenhead and Windsor.
- Improved access for disabled persons at many locations including Witham, Basildon, Leigh-on-Sea and elsewhere.
- Provision of a passenger link between Chafford Hundred and Lakeside shopping centre.
- Gauge clearance work for Class 375 trains between London, Eastbourne, Littlehampton and Portsmouth, and for Class 221 trains between Guildford, Redhill and Brighton.
- Improved capacity and facilities for freight on the Isle of Grain branch.



Options for further network development

Railtrack's strategy for London envisages the creation of a coherent infrastructure that promotes the development of new train services, designed to improve the service to existing customers, to attract new customers, and to meet the needs of our stakeholders, who see rail as a major tool to reduce the region's dependence on the private car.

We have developed a range of options to achieve this through enhancing the radial route capacity to and from London, linking radial routes to provide easier access into and across central London, and developing the orbital network to create new journey opportunities by rail.

The schemes fall into two categories: firstly, we describe a number of major schemes for the region including the development of cross-London and orbital rail links, airport services, and the second section of the Channel Tunnel Rail Link. Secondly, we summarise the main proposals set out in the individual Route Strategies, full details of which can be found in Volume 2 of the Network Management Statement. These include a range of incremental outputs which are under discussion with the shadow Strategic Rail Authority, local authority aspirations, and other enhancement schemes.

All these schemes are at present only options for future development. Because they are options, the costs have not yet been calculated to the same level of accuracy as for committed schemes.

In many cases, although they deliver substantial benefits, they are not commercially viable in the sense that the additional revenue generated would not entirely cover their costs. This means that additional funding would be needed in order for them to proceed. (This is one of the key issues discussed on page 4 of this document.)

Our aim would be that these schemes are taken forward in collaboration with our industry partners and other stakeholders, with all parties sharing in both the risks and the benefits.

Radial routes

The radial routes into London dominate the rail network in the South East. The majority of rail passenger journeys in the region are into and out of central London, making these routes the key priority for us and for our customers. We are already committed to upgrading the West Coast Main Line. Schemes to upgrade our other principal routes are at various stages of development, and in particular Section Two of the CTRL will provide significant capacity increases between London and Kent.

Cross-London and orbital routes

A key feature of the aspirations of many within London is the creation of a comprehensive network of cross-London and orbital transport links, both rail and other modes. Linked together by a series of orbital transport hubs providing high-quality interchanges, these would build on the capabilities of the existing radial network to provide new and enhanced journey opportunities across and around the capital.

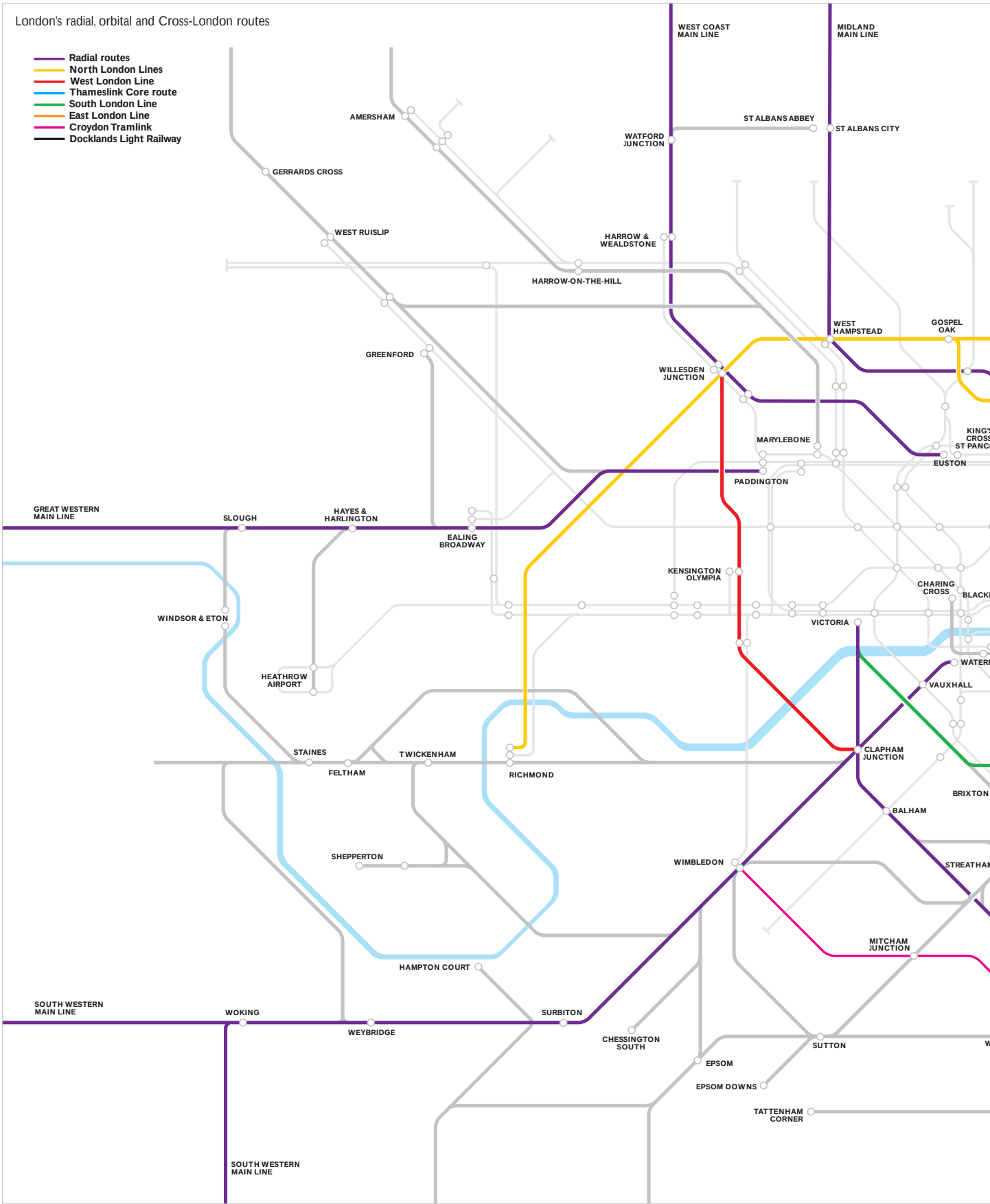
The purpose is both to provide relief for existing lines where rail is already the dominant carrier and to encourage a modal shift from road to rail, on corridors where the share of public transport is low.

Much of the infrastructure needed to provide this coherent network already exists in some form, although a number of significant enhancements are needed. The map opposite shows the key sections of infrastructure which would make up this network. Some are discussed further in the following pages. London's two light rail systems – Croydon Tramlink and Docklands Light Railway – bring the network together in South and East London.

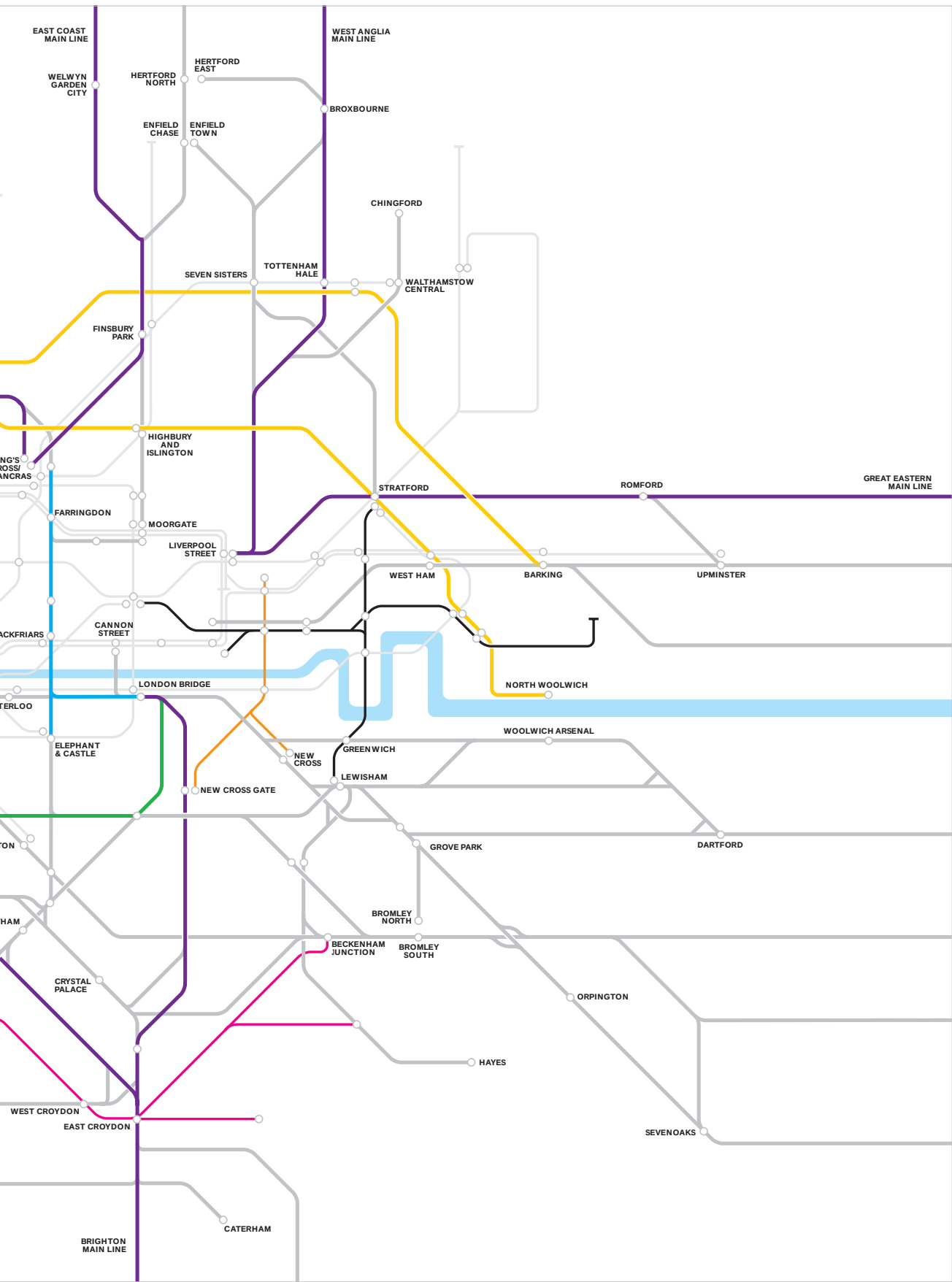
A key issue for us is to reconcile the demand for different types of service on each route and produce realistic and cost-effective proposals to maximise the use of the network.

London's radial, orbital and Cross-London routes

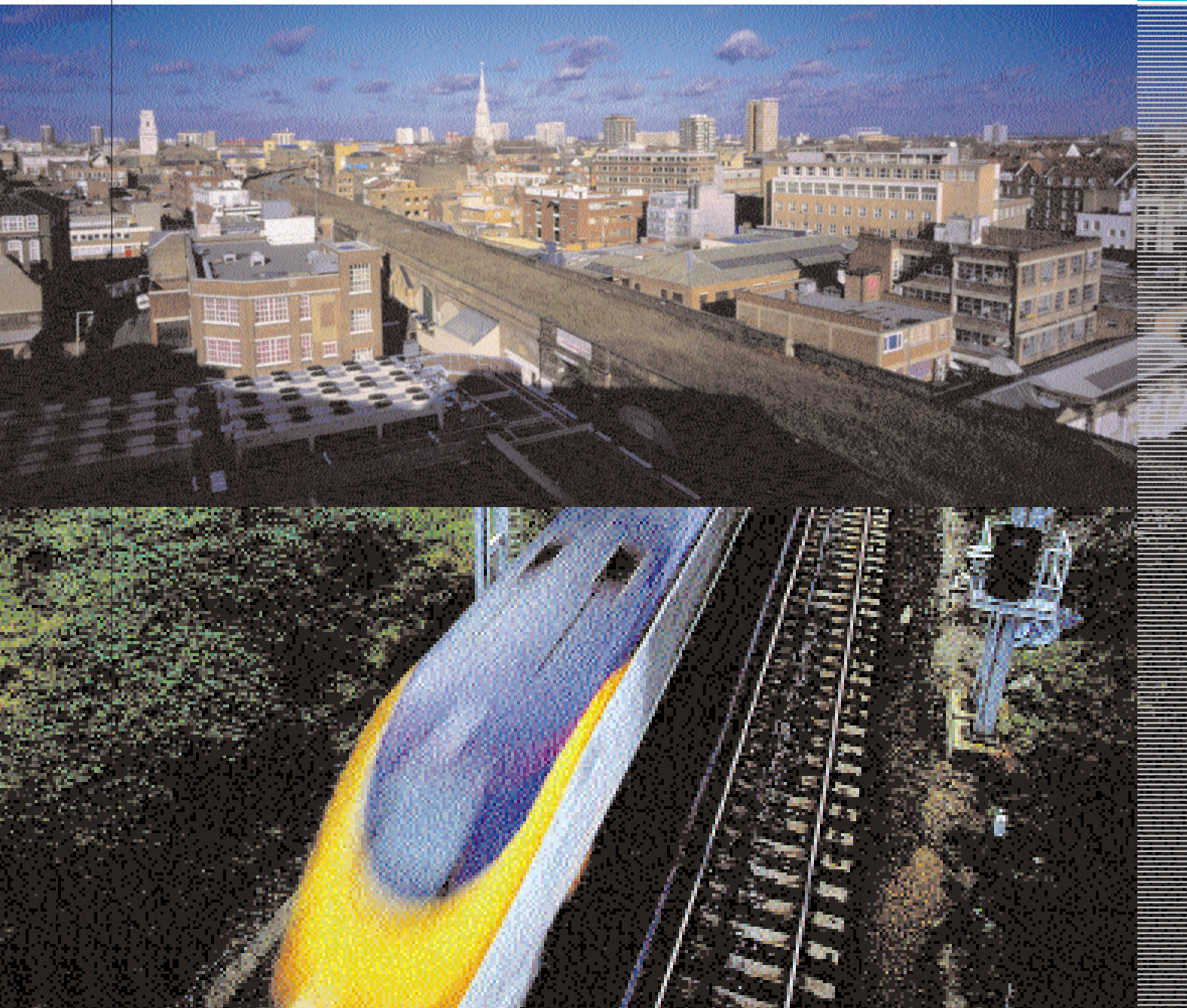
- Radial routes
- North London Lines
- West London Line
- Thameslink Core route
- South London Line
- East London Line
- Croydon Tramlink
- Docklands Light Railway



Not all stations are shown



The disused trackbed near Bishopsgate which will carry the northern extension of the East London Line



The East London Line

The existing East London Line is a short (7km) but geographically significant route that crosses the River Thames between the City and Docklands.

Plans to extend the line and reintegrate it with the national rail network have been around for many years and have been well developed by London Underground, who have already invested over £100M on the existing route. The scheme is actively and enthusiastically supported by many local authorities, but a lack of funding has so far prevented progress towards construction.

The potential

East London Line integration with Railtrack's network is the most significant missing piece of the rail jigsaw that, when completed, would provide a London orbital network embracing both the North London and South London Lines. It would allow new train services that add real value for many passengers travelling to, through or around London.

The extended line creates a new strategic cross-river railway for London, complementing our other proposals, including Thameslink 2000 and the development of orbital transport hubs around the capital. Together with London Underground's superb new Canada Water Station providing interchange on the existing route with the Jubilee Line, the East London Line scheme would stimulate new journeys and modal shift to rail.

The scheme also has the benefit of providing relief on several heavily congested Underground and national rail radial routes, while most stations on the existing line will see benefits from new through services, increased local frequencies and modern trains.

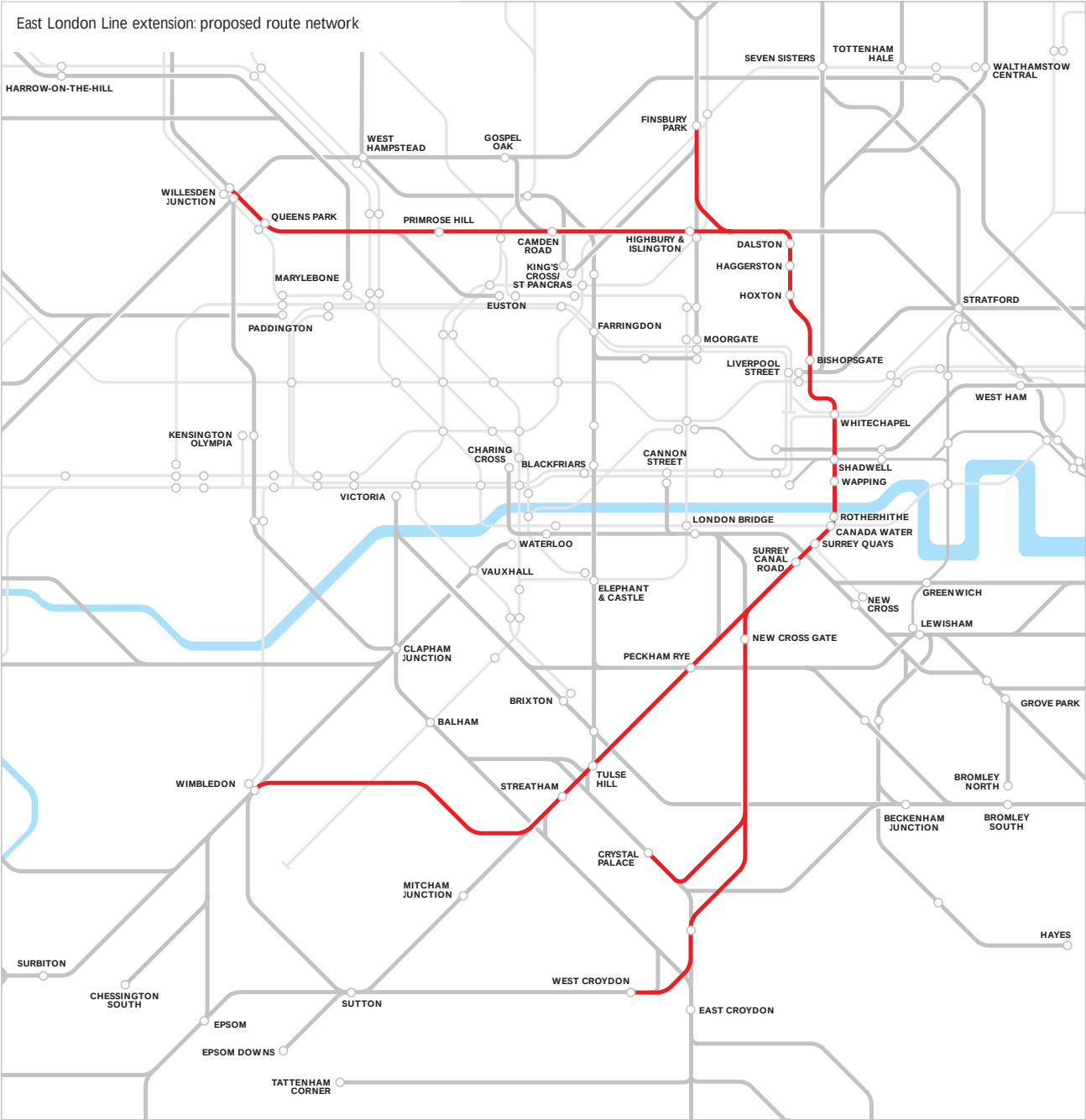
Northern and southern extensions

The proposals involve a northern and southern extension to the line. The northerly extension, for which powers have been granted, would run from Whitechapel to Dalston, where it would connect with the national rail network. The proposed route passes through a densely populated area which is currently poorly served by rail, and four new stations are planned along the route. As currently developed, services would run to Highbury and Islington, Willesden Junction and Finsbury Park and would complement the existing North London Line service from Richmond to Stratford and North Woolwich.

The southern extension would reinstate connections to the national rail network at New Cross Gate and Surrey Quays, allowing a range of through services. From Surrey Quays, services could run to Wimbledon via Streatham. From New Cross Gate, services to both Crystal Palace and West Croydon via Forest Hill could operate. Each of these would in turn offer interchange with radial rail services to more distant destinations.

Services to Clapham Junction and Brixton are also being strongly supported, but these require further evaluation. Responsibility for reviewing the East London Line proposals now rests with the shadow Strategic Rail Authority, which is further exploring the potential for through-running of trains from the national rail network over the East London Line. The Government will take a view on the way forward in due course.

If powers are granted to build and operate the railway, and assuming a funding agreement is in place, construction could begin on both northern and southern links in 2002 and the fully extended line could open in 2006 complementing Thameslink 2000.



CrossRail

CrossRail is the safeguarded rail scheme that would cross London from Liverpool Street to Paddington. It would create a network of new services to the east and west of London. The scheme is being actively promoted by the Corporation of London and is generally seen by most transport observers as the only long-term solution to enhance rail network capacity on an east–west axis.

The heart of the project is the construction of new twin tunnels through the centre of London, with new stations at Liverpool Street, Farringdon, Tottenham Court Road, Bond Street and Paddington. The existing Great Western and Great Eastern Main Lines would be linked by the CrossRail tunnel, creating the opportunity for services from towns such as Reading and Slough in the west to Stratford and Shenfield in the east. The tunnel route is safeguarded to prevent new development encroaching on the agreed alignment.

The potential

CrossRail would provide direct access to both the West End and the City, for commuting, business and leisure travellers alike from a wide range of directions. High-quality interchange with the Underground and national rail services would ensure that much of Greater London and the South East region has one-change access to the new CrossRail network. This includes Thameslink 2000 at Farringdon, giving excellent connection with the north–south main line axis.

By removing the need to change from rail to Underground at Paddington and Liverpool Street, CrossRail would provide new opportunities for journeys from, to and through central London – in particular, to Heathrow Airport and the proposed Channel Tunnel Rail Link Station at Stratford.

CrossRail would reduce congestion at a number of busy stations both directly, by providing new infrastructure at Tottenham Court Road and Bond Street, and indirectly, by attracting people from nearby stations such as Oxford Circus.

We believe that an east–west regional network to complement Thameslink 2000, embracing both the Great Western and Great Eastern Main Lines, would provide the widest benefits. The concept is similar to proposals by the Corporation of London, who recognise the strategic benefit of high-quality access to the City.

The current position

The CrossRail scheme was recommended by the Central London Rail Study in 1988, but effectively stalled by Parliament in 1996. The work undertaken by London Transport and British Rail up to that point remains available and is maintained by the London Underground CrossRail team.

Most of the work to 1996 focused on the tunnel section together with the physical links to the existing network. Since then, the restructuring of the rail industry coupled with the phenomenal growth in main line traffic mean there is much less certainty about how new CrossRail services might fit on Railtrack's network. It is already clear that a prerequisite would be a substantial enhancement to the Great Western Main Line at least as far as Airport Junction near Heathrow.

Timescales

Reactivation of the CrossRail project would require updating of the design, the promotion of an Order under the Transport and Works Act, negotiating sources of funding and construction. Excluding preliminary works, CrossRail would take approximately five and a half years to construct.

The shadow Strategic Rail Authority is currently reviewing all east–west integration options, including the interface between the various schemes that need capacity enhancements on the Great Western Main Line.

Interchanges and orbital transport hubs

Many journeys by public transport in and around London inevitably require changing trains or changing modes. Such interchanges are often neither pleasant nor easy. The station environment can be unwelcoming, and may be unsuitable for people with impaired mobility.

The provision of customer information remains inconsistent across the London network. In many instances, passengers achieve their interchange in spite of the location rather than with its support.

In short, a general improvement in interchanges would remove a significant deterrent to further growth in rail transport and modal shift from private to more sustainable forms of transport.

Interchanges can be grouped into three categories: orbital transport hubs – facilitating transfers for orbital travel around the capital without going through Central London terminal stations; Central London interchanges – major London stations managed by Railtrack and other key interchanges; and regional gateways – where there are significant transfers between main line and suburban train services or where there is significant railheading. These three categories of interchange are shown on the maps on pages 39 to 42.

A vision for improvement

Our vision is to provide effortless transfer between transport modes on an organised basis, so that the disadvantages of having to change – whether real or perceived – are reduced to an absolute minimum. To transfer modes would become a pleasurable experience rather than a nuisance.

Passengers often spend more time in interchange stations, in a less familiar environment, than in their local stations. The aim is for key interchange locations to provide a high-quality environment which brings together the various modes of public transport serving the location, while meeting the latest standards for information provision and security.

Our vision is not only to improve the infrastructure of the interchanges, we envisage also working with our train operating customers to provide train services at metro frequency (at least four per hour) wherever possible along all national rail network routes serving the interchanges.

We will also work with other transport providers to ensure that transfer to bus and other modes is as easy as possible, and that customer information and the various service frequencies are adequate.

Delivering the vision

We regard this vision as important and intend to take a proactive role in developing and implementing schemes on a co-ordinated basis. By progressing the vision, we hope that effectively seamless orbital travel can be achieved over the next ten years, thereby realising significant modal shift from the private car.

We are committed to partnership and we propose that schemes should be developed collaboratively with other stakeholders including the shadow Strategic Rail Authority, Transport for London, the train operating companies, other transport operators and local authorities.



Airport access

With the opening of Luton Airport Parkway Station at the end of 1999, five of the major airports in the South East and East Anglia now have direct access by rail. Southampton, Gatwick, Heathrow, Stansted and Luton airports all have their own dedicated stations.

Air travel is a growth market, and this growth will clearly have implications for transport to and from airports. The Government is committed to satisfying as much as possible of the increased demand by improving public transport links.

Gatwick, Luton and Stansted

These three London airports have all seen rapid growth, and developments are planned to enhance their rail services further.

The new station at Luton Airport Parkway is now open, and the airport will benefit greatly from train services running on Thameslink 2000 and Midland Mainline routes.

Services to Stansted Airport will be improved by the proposed modernisation of the West Anglia route, and those to Gatwick by the Brighton Line upgrade, new trains and the development of facilities at the airport's station. These schemes are included in our list of options for further development.

Heathrow

Heathrow Airport acquired its Heathrow Express high-speed rail link to London in 1998, serving the airport's four terminals. However, BAA plc is now in the process of seeking planning permission for a fifth terminal to meet demand and maintain Heathrow's position as the premier international airport.

BAA plc is committed to increasing the proportion of journeys to and from the airport made by public transport, and supports both the extension of Heathrow Express to the new terminal and the addition of further rail connections.

We view this situation as an opportunity to invest in new railway infrastructure that meets the aspirations of the travelling public, the Government, the shadow Strategic Rail Authority, the Regulator and BAA plc as well as producing a satisfactory return.

The shadow Strategic Rail Authority has recently launched a wide-ranging study which is likely to include a number of options for access to Heathrow from the north, including services from CrossRail. Railtrack is also proposing a complementary access route from the south. This proposal, which is supported both by BAA plc and the Government, is known as Airtrack, and is described in more detail on the next page.



Airtrack

The culmination of several studies over the past few years, Airtrack is now the preferred option for southern access to Heathrow. In particular, it offers: significant improvement in rail accessibility to Heathrow Airport, good connections with our network, minimal environmental impact, and good value for money.

Airtrack is being developed as a joint effort by Railtrack and BAA plc. The proposed route involves some 4km of double track from a junction off the Staines–Windsor Line, using the abandoned railway as much as possible, running across Staines Moor and alongside the M25 to turn into Heathrow Airport at the proposed location for the new Terminal 5.

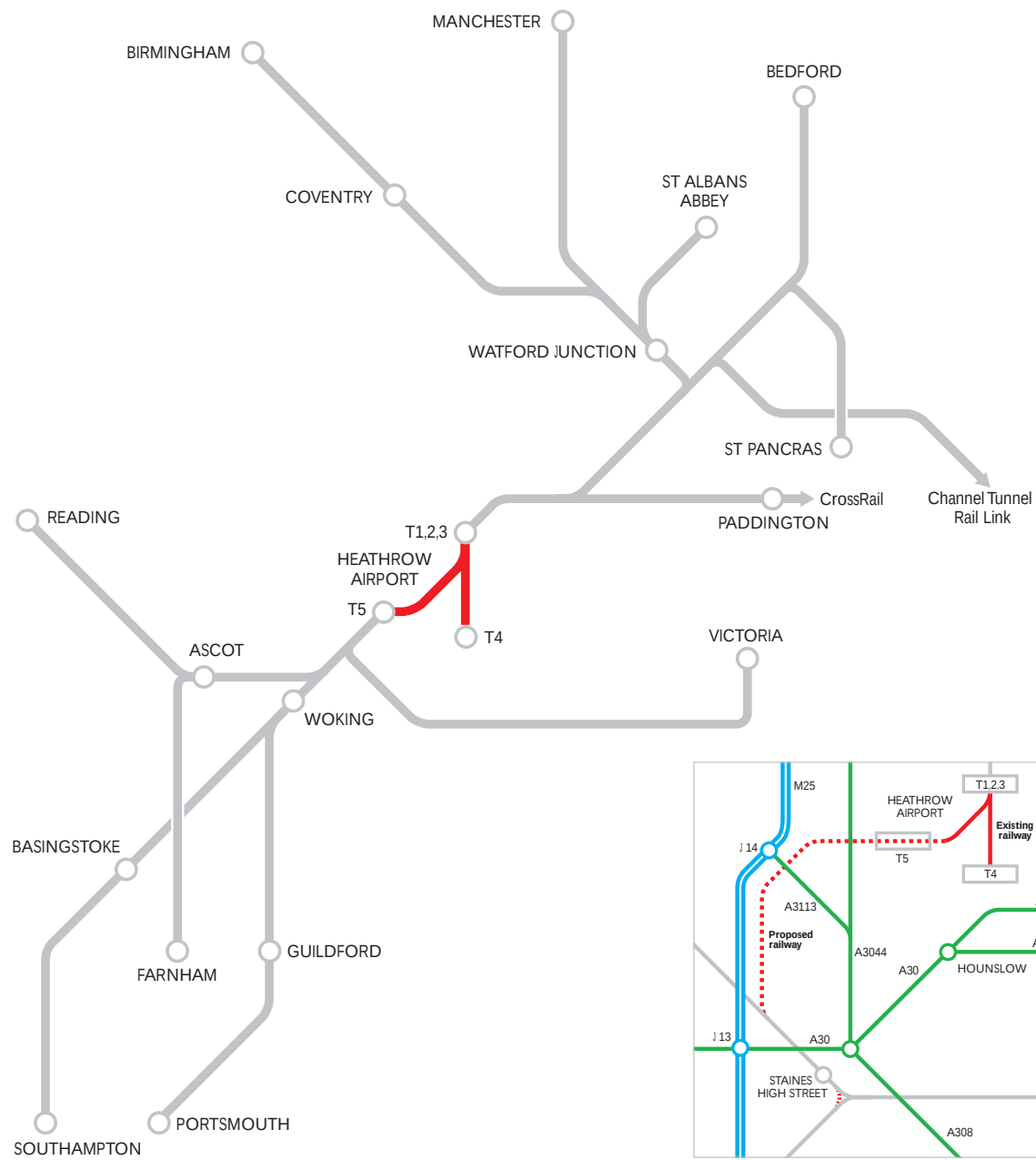
Once built, Airtrack will provide not only the possibility of direct connections to Heathrow (including remote check-in facilities) from a multitude of locations, but also the potential for through-journeys between north and south. Heathrow could become a rail transport hub capable of handling up to 16 trains per hour in each direction. Airtrack will also benefit people whose work is based at or near Heathrow and those using it as a through route.

The current position and timescales

Work is currently in hand to identify the impact of Airtrack on the capacity of the existing network to the south of Heathrow. Similar issues arise in routeing Airtrack services to the north, and we are working with the shadow Strategic Rail Authority to carry out a review of capacity and services on the Great Western/M4 corridor. The estimated cost of the Airtrack scheme is £180M.

If planning permission is granted for Terminal 5, construction is not due to be completed until 2007, and our current view is that this is the earliest practical date for Airtrack services to start. If Terminal 5 does not go ahead, the rationale for Airtrack will clearly have to be reviewed.

Airtrack: proposed route network



Not all stations are shown

Channel Tunnel Rail Link SECTION TWO

Section Two of the Channel Tunnel Rail Link (CTRL) will start directly from the end of Section One, which is included among Railtrack's committed schemes. It will extend the first section of the link (see page 8) into the heart of London, terminating at St Pancras Station.

When both sections are complete, the CTRL will be able to handle 16 trains per hour each way. These completely new train paths currently represent the most significant planned step change in the capacity of London and the South East's rail network.

As well as more than doubling the capacity for peak-time international services, the CTRL will allow the operation of Kent express services from north and east Kent, providing much-needed additional capacity to relieve pressure on the southeastern lines from Kent into London.

The potential

Section Two of the CTRL would connect with Section One southeast of Gravesend, running through the Ebbsfleet Valley before passing beneath the Thames to run alongside the Tilbury Line.

From Dagenham, the new railway would run in twin tunnels for 20km to the King's Cross railway lands. It would rise intermediately at Stratford, where a combined station for international and Kent express services would be built, creating a major new orbital transport hub for East London.

From Stratford, the new railway would continue in tunnels until it emerges to the east of the East Coast Main Line railway, crossing over this before swinging south towards St Pancras. Here, the existing station would be enlarged to handle both Midland Mainline and CTRL services, while retaining the famous Victorian structure.

When this major new route is complete, journey time from St Pancras to the Channel Tunnel would be just 35 minutes instead of today's 70 minutes from Waterloo. The journey time to Paris would be about 2 hours 20 minutes from St Pancras by non-stop Eurostar, compared with the present 2 hours 55 minutes from Waterloo. Even shorter times would be possible from the proposed new Stratford International station serving East London, East Anglia and Essex.

Moreover, the CTRL's transport benefits will not be limited to international travellers. Kent express trains would transform standards of speed and reliability for services between London and Kent, with up to eight trains an hour using the new route in peak periods. The adjacent graph shows expected reductions in journey times.

More than 35,000 passengers per day are expected to benefit from domestic services on the new railway.

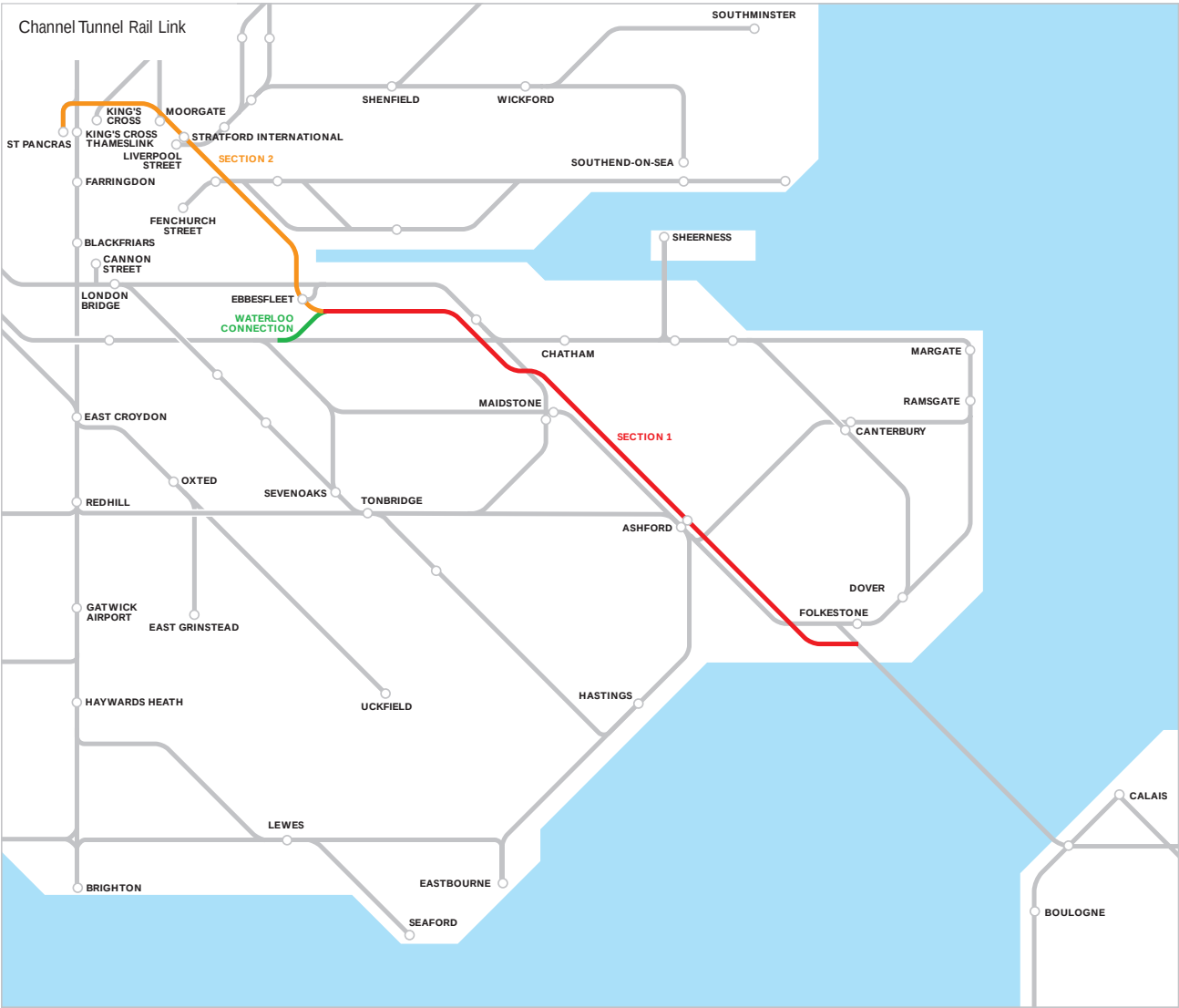
Construction of the new international terminal would greatly increase the importance of King's Cross/St Pancras as a Central London interchange, with easy transfer between international, intercity, regional and Underground services.

The current position and timescales

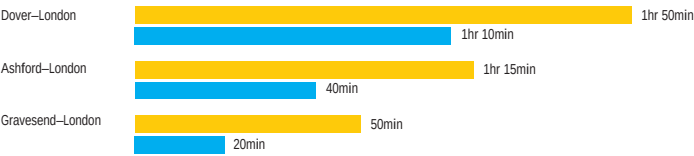
Construction of Section Two is programmed to start in 2001, with completion planned for 2007.

Railtrack has an option to purchase Section Two of the CTRL, exercisable until 1 July 2003. London & Continental Railways has a contractual obligation to complete Section Two, through its subsidiary Union Railways (North) Ltd, even if Railtrack does not exercise its purchase option.

Considerable attention is now being given to the impact of the various rail schemes that come together in the King's Cross/St Pancras area. At St Pancras, the provision of a new 12-coach subsurface station and connection to the East Coast Main Line for Thameslink 2000 cross-London rail service are integral parts of the CTRL works. Without this, Thameslink 2000 enhancements cannot be realised. Similarly, CTRL needs the Thameslink 2000 network to provide capacity for both international and domestic customers arriving at St Pancras.



The completion of Section Two of the CTRL will have a dramatic impact on journey times



Not all stations are shown

Radial route developments

Brighton Main Line

The Brighton Main Line links south London and the south coast with London's West End (at Victoria) and the City (via London Bridge and Blackfriars). It is one of the most heavily used routes in Great Britain. High levels of passenger growth are expected over the next ten years, and this growth is driving our proposals for infrastructure enhancements.

A number of key bottlenecks need to be addressed to cater for this growth. The most significant of these is Windmill Bridge Junction, north of East Croydon, where the routes from Victoria and London Bridge meet. We are proposing a new flyover here in order to increase capacity. In addition to this we are developing proposals to enhance capacity through Gatwick Airport Station, as well as developing the station itself into a world-class interchange.

Together with further capacity upgrades at Redhill, we believe that these will accommodate capacity for the next ten years. Beyond that, further solutions may be needed, and we are evaluating a range of options including longer trains, and enhancements to the parallel Arun Valley and East Croydon to Uckfield routes.

East Coast Main Line

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. In the South East, the route carries commuter services from Peterborough, Cambridge, Stevenage and Hertford into London King's Cross and London Moorgate: some of these will be extended to run through Thameslink 2000 when this scheme becomes operational in 2006.

Market forecasts indicate a significant increase in demand for passenger operators on the ECML, and the route is already experiencing an increase in all types of passenger and freight traffic.

We have developed a four-phase upgrade programme for the line which will increase linespeeds and increase capacity. In the South East the proposals include capacity upgrades at King's Cross and between Holloway Road and Alexandra Palace as well as, in the slightly longer term, four tracking of the Welwyn viaduct, and the construction of a new flyover and chord at Hitchin.

Great Western Main Line

The Great Western Main Line (GWML) is the principal rail route from London to the West of England and South Wales and is in direct competition with the M4. In the past year, passenger demand has grown by 7.5%. Passenger demand remains strong, especially for journeys in the Upper Thames Valley, with latest research showing economic growth in the Thames Valley continuing at double the national average. Heathrow Airport will add to this as it grows and rail's share of travel to the airport increases. High growth is also being achieved on north-south traffic flows that use the GWML, particularly through Reading.

The network is currently at capacity at peak times between Acton and Airport Junction, and the low linespeeds and different stopping patterns on the relief lines mean they are operating near capacity throughout the day. The strong east-west demand, combined with the growth in traffic from the South Coast to the Midlands means that Reading Station will need to be remodelled in order to cater for forecast demand.

The Great Western Renaissance programme will deliver the additional capacity and reliability required 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. Schemes we are developing to deliver this vision include the six tracking of Paddington–Airport Junction, additional capacity at Paddington, the remodelling of Reading Station, the provision of grade separated junctions throughout the route to relieve capacity constraints caused by crossing movements, and an increase in the linespeed through the Severn Tunnel to 125mph – giving a journey time of 1hr 40min from Paddington to Cardiff.

West Anglia Main Line

The electrified West Anglia Main Line runs from London to King's Lynn via Cambridge. The line serves one of the fastest growing regions in the country, with densely populated areas at its southern end and key locations throughout the route such as Cambridge and Stansted Airport. Rail now has a 25% share of the market for travel to Stansted Airport – the highest share of any UK airport.

The West Anglia Route Modernisation Project (WARM) is under way with signalling renewals at Hackney Downs, and further programmes to renew signalling, telecoms and overhead-line equipment planned throughout the route. We are also developing plans for a third track between Cheshunt and Broxbourne to provide additional capacity between London and Stansted.

We plan to build on the opportunities provided by the WARM project and by improvements to stations throughout the route by providing an additional platform at Cambridge and by constructing a second tunnel to Stansted Airport, greatly increasing capacity to this fast-growing airport.

Other routes

Principal options for development on other routes include the following:

- A range of upgrade works on the North London Lines, including capacity increases between Stratford and Willesden Junction, and electrification and other improvements between Barking and Gospel Oak
- Platform extensions and other works in South East London and north Kent in order to provide additional seats by allowing 12-car trains to run
- Capacity increases on the Brighton Main Line to enable more and longer trains to operate to convey projected passenger volumes
- A range of options being considered as part of the South Coast Corridor Study including electrification of the Ashford–Hastings route and infrastructure options to improve capacity and journey times
- Platform extensions on South London Line routes from Victoria and London Bridge to Purley and Epsom to increase permitted train length from 8-car to 10-car
- Major works at Waterloo together with further works on the South Western Main Line to allow either longer trains or double-deck trains to run on the route
- Infrastructure upgrades on the Chiltern Line to meet aspirations for increased service frequency and reduced journey times

Freight through and around London

A significant proportion of freight traffic traverses the London rail network at some point on its journey.

Freight traffic is conveyed through London from the Channel Tunnel, Felixstowe, Thamesport, Tilbury and Barking to the West Coast Main Line, East Coast Main Line and Great Western Main Line – using the West London Line, North London Line and Great Eastern Main Line.

Terminals at Willesden and Wembley distribute goods delivered by rail for London. At Willesden, there is also a major Royal Mail interchange dealing with Royal Mail trains from all parts of Britain.

Other freight terminals in the London area include King's Cross, Angerstein, Purley, Dagenham, Bow, Brentford, Ripple Lane, Langley and Northolt.

Recent developments

We have completed the electrification of the City Goods Lines at Willesden, providing a second electrified connection between the North London Line and the West Coast Main Line.

Additional signalling on the Tottenham and Hampstead Line from Gospel Oak–Barking is designed to accommodate freight growth without affecting passenger traffic and reduce the need for freight trains to cross the Great Eastern Main Line on the flat. We have also installed extra signalling on the North London Line, which increases its capacity and improves the performance of trains on the route.

On the Great Eastern Main Line, we have carried out an operational planning exercise which has improved the availability of train paths for freight traffic.

Options for further developments

Freight customers are forecasting significant growth in traffic over the next ten years in London.

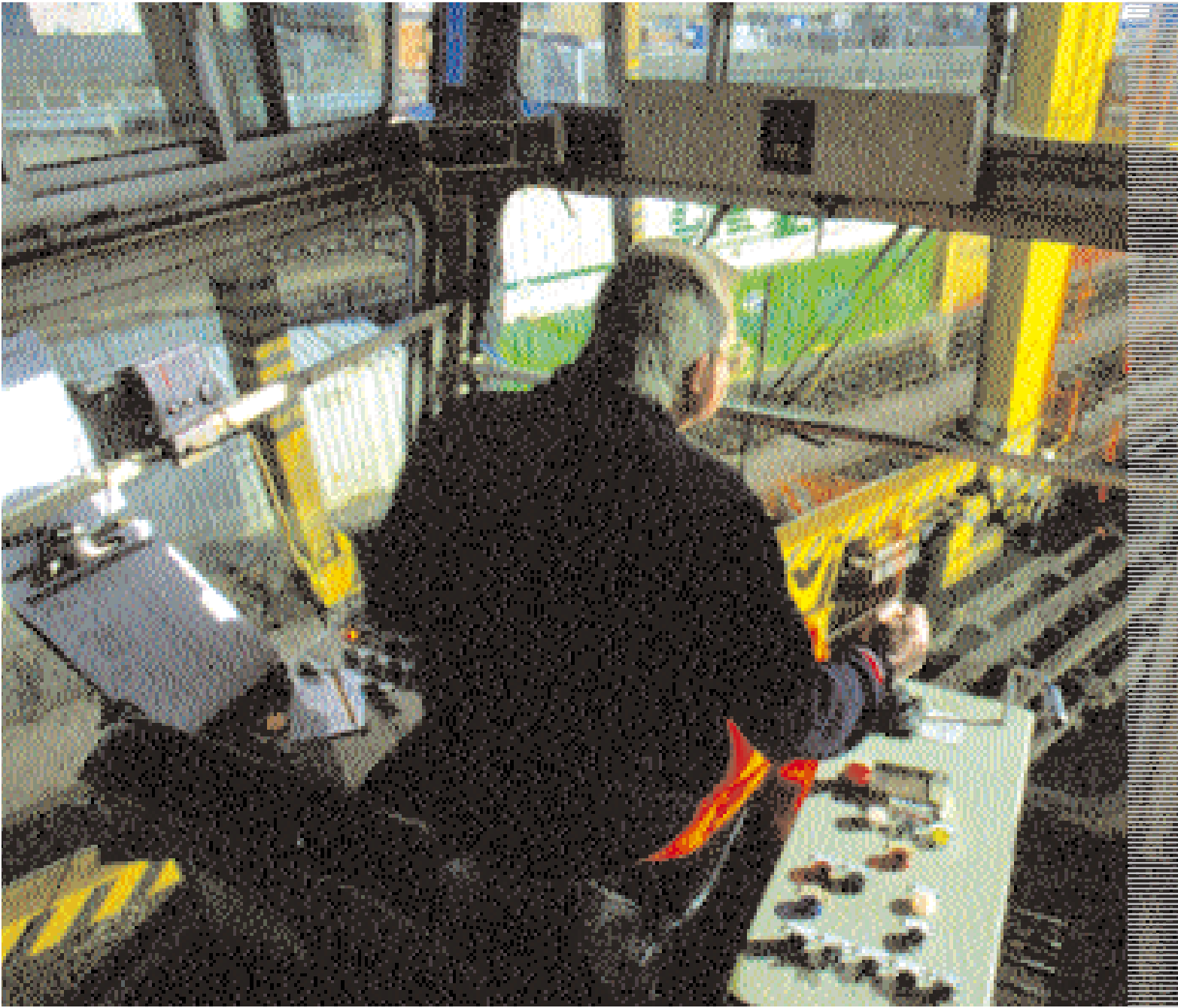
The envisaged growth could be accommodated by significant major enhancement schemes we are planning for London, together with development options in each of the London Route Strategies.

On the route between Felixstowe and Nuneaton, we are developing proposals to enhance the capacity and gauge to accommodate W10 (9'6" containers) and increase the route's capacity. This would divert freight traffic from Felixstowe which currently passes through London, freeing up capacity on the Great Eastern Main Line and the North London Line.

More freight terminals will also be needed to meet the envisaged traffic growth. We have carried out a feasibility study with Argent, promoters of the London International Freight Exchange, to develop proposals for the rail works required to connect the terminal and accommodate the potential rail traffic. This has enabled Argent to submit a Transport and Works Act application for powers to carry out the works.

Reviewing the demands

In the light of recent developments and the portfolio of possible options, there is a need to review the competing demands upon the London network. We have organised a joint industry review with freight customers and stakeholders to communicate the current status of the major developments, identify any opportunities for synergies between them, and assess the need to revise our current plans. The shadow Strategic Rail Authority has commissioned a study which will complement this review.



Incremental outputs

Discussions are taking place between the shadow Strategic Rail Authority and Railtrack concerning improving the frequency, timings and flexibility of train services in the London & South East area through specific enhancement schemes. The portfolio of proposals we are developing is set out below. The shadow Strategic Rail Authority will select those it wishes to proceed with and these will be included in the Rail Regulator's review of our track access charges for the period 2001–06:

- Peterborough and Cambridge–Stansted Airport, also to Norwich and Ipswich. Improved journey time of two minutes, also greater operational flexibility
- London–Norwich/Great Yarmouth. Saving of four minutes in journey time/increased train frequency/regular interval services
- Enfield Town–Stratford. New train service
- LTS services between London and Rainham. Improved journey times
- Tilbury–Barking also Ripple Lane. Increased freight capability
- North London Line/West London Line between Stratford and Clapham Junction also between Barking and Gospel Oak. Improved capacity and operational flexibility, some journey-time savings
- London–Westbury/Swindon/Banbury/Worcester/Bicester. Capacity and operational flexibility improvements and journey-time savings
- Cross-country routes through Westbury to Salisbury/Portsmouth and Brighton. Capacity improvements and journey-time reductions of five minutes
- London–Welwyn/Hertford. Capacity improvements
- London–Watford Junction (DC lines). Saving of four minutes in journey time
- London–Bedford. Operational flexibility improvements
- Tonbridge–Reading. Capacity and operational flexibility improvements, journey-time savings of five minutes
- London–Ramsgate via Maidstone East/Tonbridge and Dover Priory and branches. Journey-time savings of four to five minutes and operational flexibility improvements
- London–Ramsgate/Dover Priory via Canterbury East and branches. Journey-time savings of seven to ten minutes and operational flexibility improvements
- South East London suburban routes. Journey-time savings of one to two minutes
- London–Gatwick/Brighton and branches. Journey-time savings of three to five minutes/operational flexibility improvements
- Brighton–Hastings. Journey-time savings of two minutes
- South London suburban routes. Journey-time savings of one to two minutes
- Havant–Brighton. Journey-time savings of three minutes/capacity improvements
- London–Portsmouth via Woking. Journey-time savings of three minutes and operational flexibility improvements
- London–Bournemouth. Journey-time savings of two minutes and operational flexibility improvements
- South West London suburban routes. Journey-time savings of one to two minutes
- Portsmouth/Havant–Eastleigh. Capacity and operational flexibility improvements, also journey-time reduction of two minutes
- London (Waterloo)–Reading and branches. Capacity and operational flexibility improvements.

Local authority aspirations

Local Transport Plans include a whole range of aspirations for improvements to both passenger and freight services, including improved speeds, new stations and freight facilities. These have been identified in the individual Route Strategies in the main Network Management Statement, and some of the principal aspirations are summarised below:

- The shadow Strategic Rail Authority is considering a submission by a consortium of local authorities to provide an east–west rail link between Oxford, Milton Keynes, Bedford and Cambridge. The extensive work required to construct this line would include upgrading existing railways, reopening closed lines and the construction of entirely new railways, and would be undertaken in stages.
- New stations at a number of locations including Elstow, Lea Bridge, Dussindale, Barking Reach, Coldwaltham, Barnes Green, Farlington, West Totton, West Bracknell, Junction Road (Tufnell Park) and Chesterton.
- Upgraded stations at Finsbury Park, Ealing Broadway, Cambridge, Hastings, Wokingham and elsewhere.
- Improvement to interchange facilities, both rail-to-rail and between rail and other modes, at Luton, Three Bridges, Crawley, West Croydon, Twickenham, Horley, Elmers End, Abbey Wood and elsewhere.
- We are working with London Transport, Docklands Light Railway and local government to identify the best option for a new rail crossing between Docklands and North Woolwich.
- Route upgrades including the St Albans Abbey branch, the East Suffolk Line and Braintree branch and the Medway Valley Line.
- Enhanced frequencies on routes in South London to create a South London Metro. We are participating with local authorities and the shadow Strategic Rail Authority in a study to identify options for services in this area.
- Possible light rapid transit systems, including Canvey Island and between High Wycombe and Bourne End.

Other optional schemes

We list below other optional schemes which are included in our Route Strategies but which have not been covered elsewhere in this regional summary, as well as our main proposals for enhancements to freight routes.

NEW PASSENGER RAIL LINKS

Croxley Rail Link
Cambridge–St Ives Rapid Transit
South Hampshire Rapid Transit
East–West Rail Schemes
Romsey–Eastleigh

NEW STATIONS

Reading (Thames Valley Park)
Beaulieu Park (east of Chelmsford)
Southend Airport
Chandler's Ford (near Eastleigh)
Park Barn (near Guildford)
Merrow (near Guildford)
West Bracknell
Chelsea Harbour (West London Line)
Shepherd's Bush (West London Line)
Eastfields (north of Mitcham Junction)
Ascot Road (Croxley Rail Link)
Surrey Canal Road (East London Line Extension)
Hoxton (East London Line Extension)
Haggerston (East London Line Extension)
Dalston (East London Line Extension)
Bishopsgate (East London Line Extension)
Primrose Hill
Chineham
Grazeley

STATION ENHANCEMENTS

Euston
King's Cross
Paddington
Hayes & Harlington
Charing Cross
London Bridge
Bromley South
Sevenoaks

Liverpool Street

Cambridge

Sutton

Victoria

Waterloo

Richmond

Marylebone

Gospel Oak

Tonbridge

Gatwick Airport

DEPOT ENHANCEMENTS

Old Oak Common
Reading

FREIGHT TRAIN GAUGE ENHANCEMENT

West Coast Main Line
Between London and the Channel Tunnel
Felixstowe–Nuneaton
Reading–Southampton/Eastleigh–Portsmouth
West London Line
Clapham Junction/Kew East–Eastleigh

FREIGHT ROUTE IMPROVEMENTS

Wembley and Willesden
Isle of Grain branch
Harwich/Ipswich to Ely/Stratford
Clapham Junction, Hoo Junction and Thamesport
Stratford–Willesden Junction
Gospel Oak–Barking
Dudding Hill Line

NEW FREIGHT TERMINALS

Dibden Bay
Colnbrook
Stewarts Lane





A coherent network

Our guiding objective for London & the South East is to create a strategic framework for developing the rail network as part of an integrated, coherent system of public and private transport.

While providing firm guidelines for action, the framework must be capable of flexible response to the changing needs of all stakeholders.

Within and around London

At the heart of our strategy are the routes which run radially into London. Forming the backbone of the network, they must be capable of handling the highest traffic volumes while consistently delivering the required performance with safety, reliability, speed and comfort.

We have summarised the upgrades to which we are already committed, together with a range of options we are discussing with the shadow Strategic Rail Authority, the train operating companies, local authorities and others. However, we recognise that more radical solutions will be needed to meet the increasing demand for rail travel and to provide new journey opportunities.

Three schemes described in this document offer major benefits for journeys within and through London. Thameslink 2000, CrossRail and the proposed extension to the East London Line will together form a network capable of providing a wide range of new journeys. We are already committed to taking forward Thameslink 2000, subject to a successful outcome at the public inquiry.

These schemes would also help to facilitate orbital travel around London – for example, through interchange between Thameslink and CrossRail at Farringdon. However, we believe that this important need could be met more completely by developing a series of orbital transport hubs in key locations. Offering high-quality interchange facilities, these hubs would knit together the rail and other transport service modes to provide a coherent network around the capital.

Links outside the region

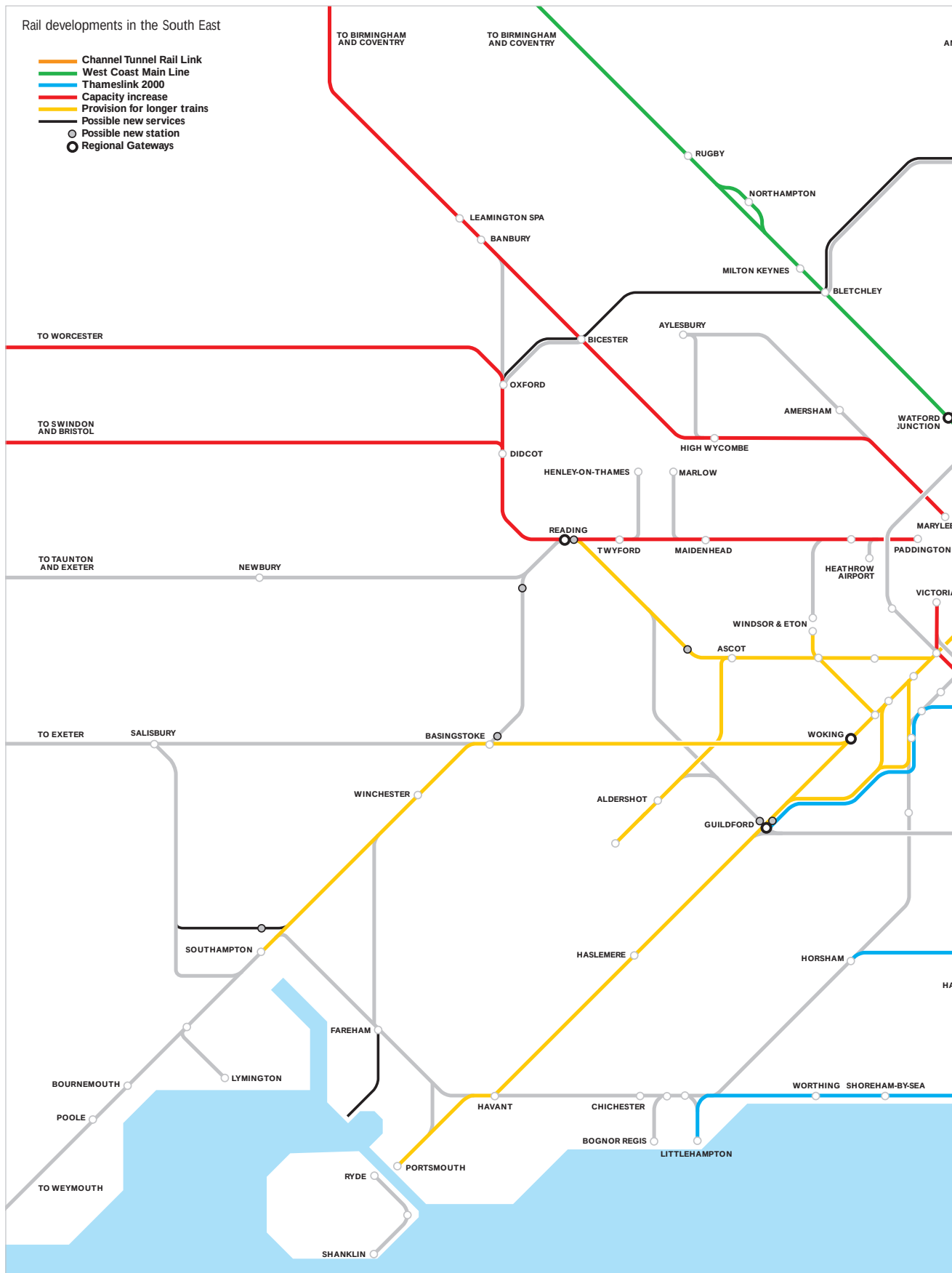
Recognising London's position as capital of England and a world-class city, our vision is to provide appropriately excellent access from outside the region. Modernisation of the West Coast Main Line will vastly improve access to and from the West Midlands, the North West and Scotland. The Channel Tunnel Rail Link, the first stage of which is well under way, will provide high-speed access to mainland Europe. And our proposals for a new network of services serving Heathrow Airport will improve access to the rest of the world.

Key themes

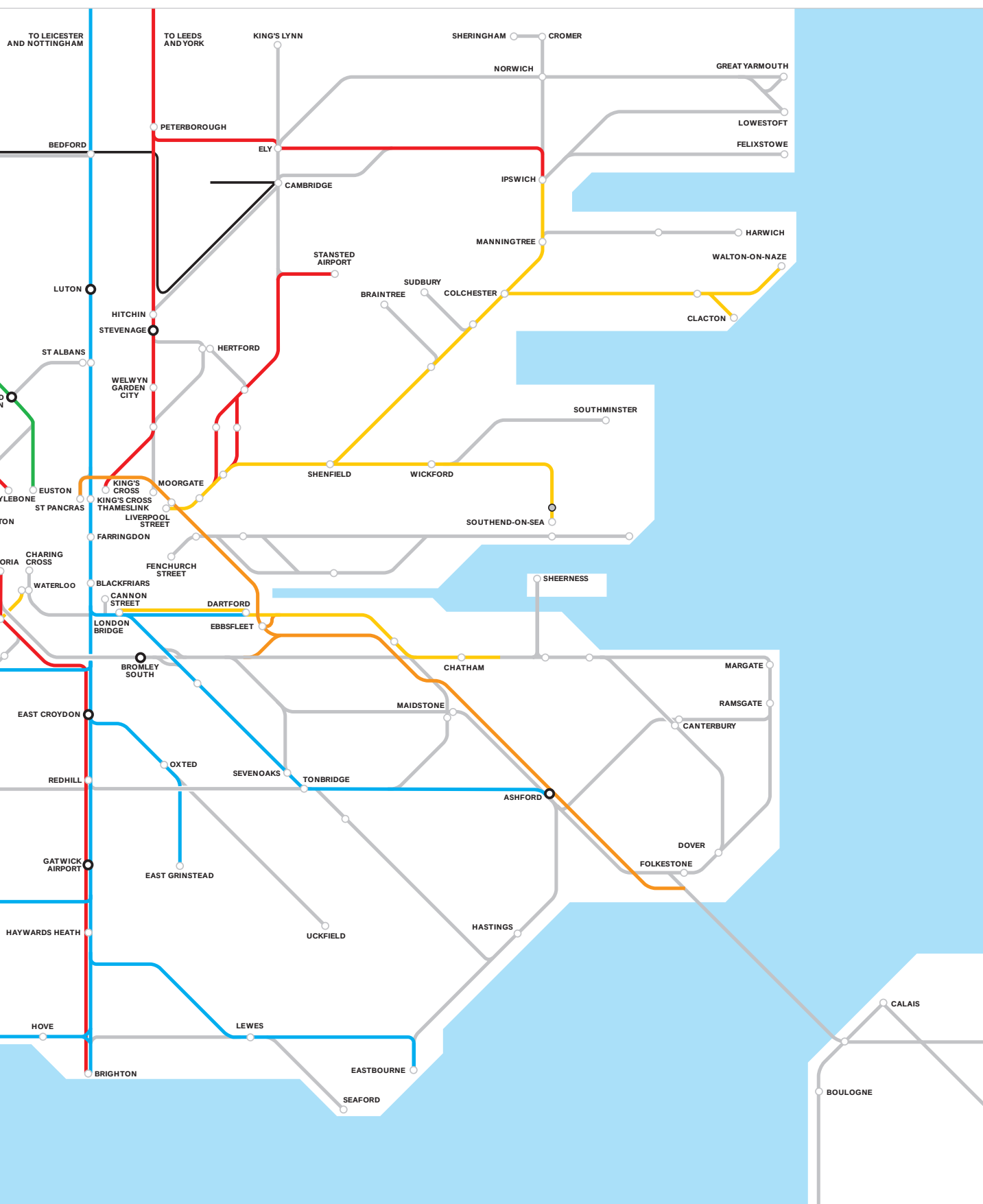
The proposals described in this document and summarised in the maps opposite are our response to the declared needs of all stakeholders in the region's railway.

They are founded on the principle that any future development must consider the network as a whole, and in the context of the other modes of transport.

Finally, we believe that development can only be carried out successfully in full and close collaboration with our industry partners – with all parties sharing the risks, the rewards and the ongoing benefits to the nation's quality of life.

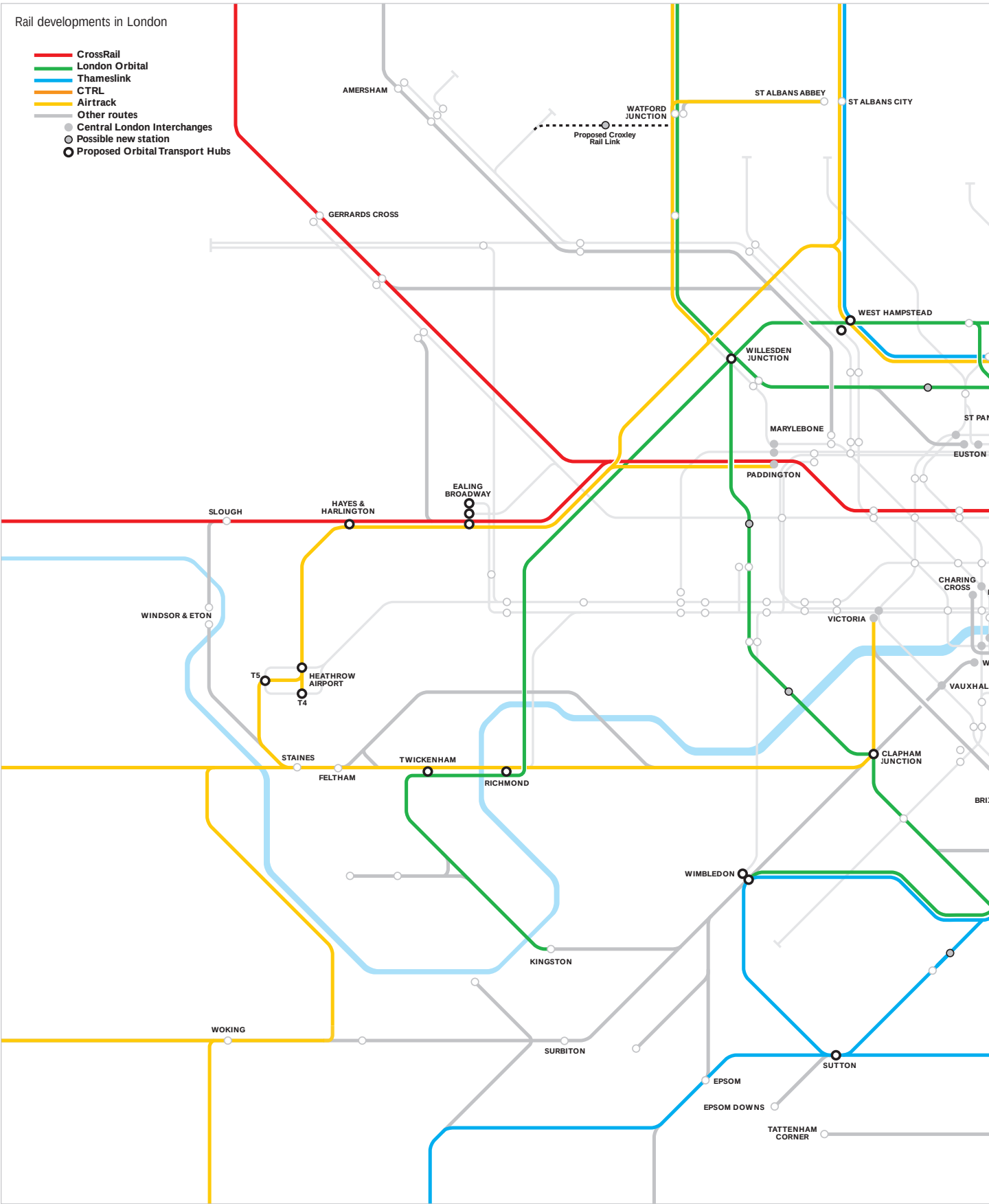


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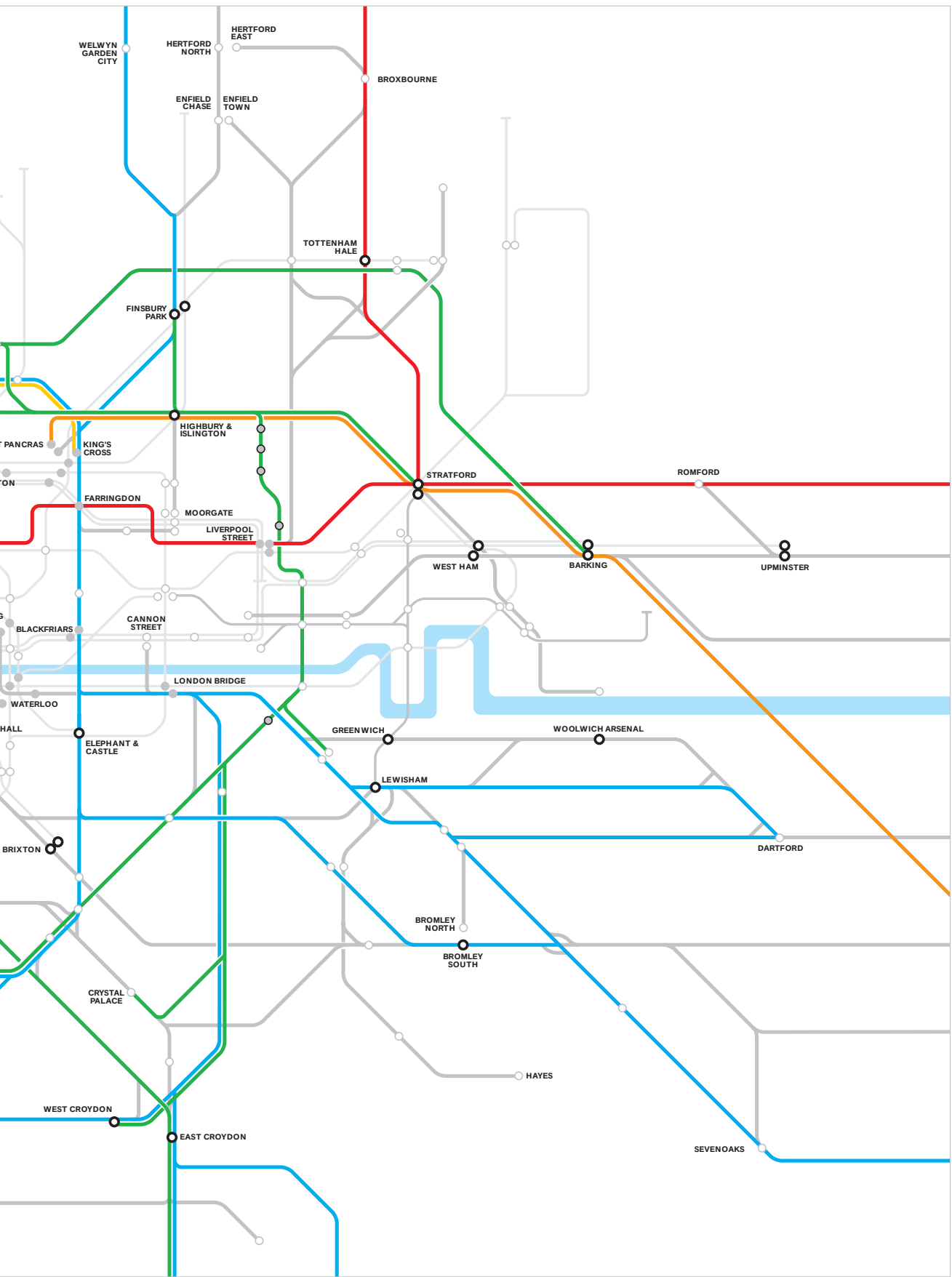


Rail developments in London

- CrossRail
- London Orbital
- Thameslink
- CTRL
- Airtrack
- Other routes
- Central London Interchanges
- Possible new station
- Proposed Orbital Transport Hubs



Not all stations are shown





Expenditure tables

Committed enhancements (£M – 1999/2000 prices)

PROGRAMME OF WORK	COMPLETION DATE	TOTAL	STATUS
West Coast Route Modernisation Phase II	2006/07	1500.0	4/5
Thameslink 2000	2006/07	830.0	4/5
West Coast Route Modernisation Phase I	2002/03	440.2	4/5
CTRL Section One (Waterloo–Fawkham Junction)	2003/04	80.2	4
Maidenhead–Windsor flood relief	2001/02	9.6	5
Marks Tey–Colchester operational flexibility improvements	2006	8.8	Various
Victoria Station	Various	3.5	Various
South West Trains customer information system	2001/02	3.2	4
Victoria Carriage Road Upgrade	2000/01	2.5	Various
First Great Western customer information systems & security	2000/01	1.5	4/5
Stratford Station enhancements	2002	1.0	Various
Ipswich Station enhancements	2001	0.8	Various
Platform extensions for Class 170	2001	0.5	Various
Class 375 route clearance	2000/01	0.4	4
Train Protection Warning System – First Pilot	2000/01	0.4	4/5

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.

Optional enhancements (£M – 1999/2000 prices)

PROGRAMME OF WORK	TOTAL	STATUS
London commuter area capacity – Southwest	1600.0	1
East Coast Main Line Phase II	930.0	3
Great Western Upgrade Phase III	915.0	1
Great Western Upgrade Phase I	600.0	1–3
East Coast Main Line Phase IV	510.0	2
East London Line extension	500.0	2
Great Western Upgrade Phase II	430.0	1
Brighton Main Line upgrade	360.0	1
Midland Main Line upgrade	350.0	1
East Coast Main Line Phase III	340.0	2
Cheltenham–Honeybourne–Stratford	300.0	0
London Bridge redevelopment	250.0	3/4
East–West Rail Link	240.0	1
King's Cross Station	210.0	2/3
Felixstowe–Nuneaton additional capacity for freight	200.0	1
Southern link to Heathrow	180.0	1
Chiltern upgrade	120.0	2
Oxford: capacity improvements	110.0	0
East Coast Main Line Phase I	110.0	5
London commuter area capacity – South Central	100.0	1
Sheffield area: capacity improvements	100.0	1
London–Stansted route capacity	90.0	4
CrossCountry journey time & frequency improvements	80.0	2
Heathrow–St Pancras Rail Link	64.0	1
Felixstowe–Nuneaton gauge enhancements	60.0	1
Paddington Station	55.0	2

Expenditure tables

Optional enhancements (£M – 1999/2000 prices)

PROGRAMME OF WORK	TOTAL	STATUS
Euston Station	51.0	2
Didcot–Oxford: gauge clearance	50.0	1
Peterborough Station	50.0	1
London commuter area capacity – Southeast	50.0	2
Cotswold Line: additional capacity	50.0	0
Colnbrook Euroterminal	40.0	3
Bristol/Reading–Plymouth: speed raising	40.0	0
Great Western Main Line: journey-time improvements	40.0	1
Stansted Airport second tunnel	30.0	1
Charing Cross: improved station facilities	26.2	1
Old Oak Common: depot upgrade	20.1	2
South London: journey-time improvements	20.0	1
Euston–Watford Junction (DC Lines): journey-time improvements	5.9	1
Victoria Station	5.0	1
Waterloo Station	4.5	1
Fenchurch St–Upminster–Grays–Southend Central: journey-time reduction	3.1	1
Thames Valley Park: new station	2.0	1
Hythe: proposed new station	1.5	1
Barking Reach: new station	1.5	1
Hanwell Bridge Loops: electrification	0.6	1
Iver: proposed freight siding	0.5	1
Thames Trains car park improvements	0.5	
Hayes Station: gateway development	0.5	1
Car park strategy – Great Western Trains	0.3	1
Car park extensions – Thames Trains	0.3	1
Route clearance for Class 365/375	0.2	2
Twyford Station car park enlargement	0.1	1

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.



For further information about our plans for
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see our website: www.railtrack.co.uk

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Developing railways in the Midlands

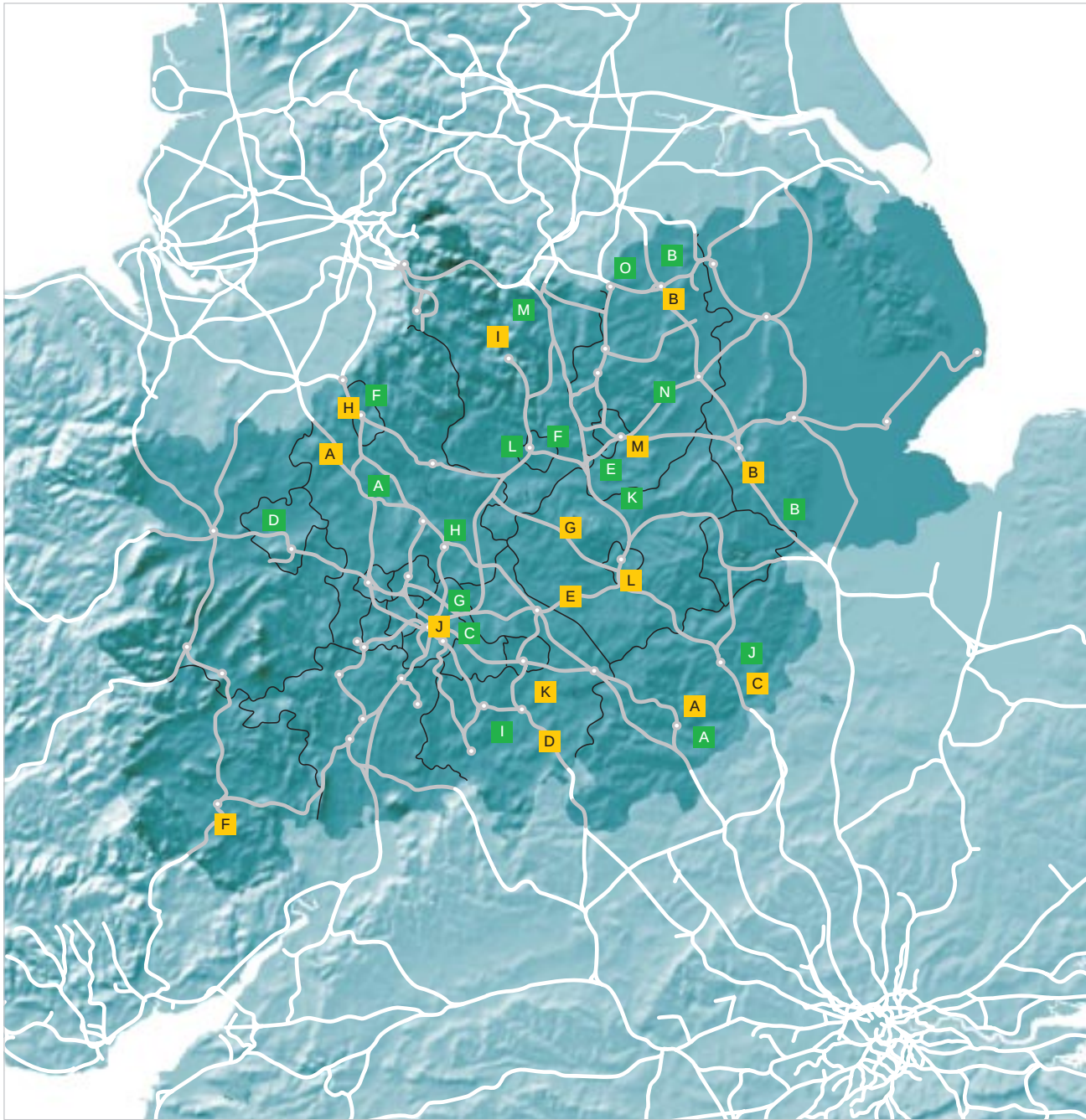


RAILTRACK



Developing railways in the Midlands





Base map ©MAPS IN MINUTES™ 1997

The map opposite highlights some of the improvements to the rail network in the Midlands, to which Railtrack is either committed, or for which it is actively developing proposals. These projects range in size from enhanced passenger facilities at local stations to major upgrades of complete routes, but all are designed to contribute to the development of the rail network to meet the future transport needs of the people of the Midlands.

COMMITTED PLANS

A	West Coast Main Line: route modernisation
B	East Coast Main Line: enhancement works
C	Proof House Junction: remodelling to enhance capacity
D	Wolverhampton–Shrewsbury: additional platform capacity at Wellington
E	Trent Junction: develop remodelling scheme
F	Nottingham–Crewe: improved linespeeds
G	Aston Station: passenger lifts installed
H	Lichfield City Station: car park extension
I	Warwick Parkway: new station
J	Kettering Station: enhanced station facilities
K	East Midlands Parkway: new station
L	Derby Station: new footbridge to improve access to Pride Park
M	Chesterfield Station: station renewal
N	Carlton Station: platform gauge work
O	Shireoaks Station: redevelopment

OPTIONAL PLANS

A	West Coast Main Line: additional works
B	East Coast Main Line: Phase II of upgrade
C	Midland Main Line: enhancement feasibility study
D	Chiltern Lines: capacity upgrades
E	Birmingham–Leicester–Peterborough: resignalling to improve journey times and capacity
F	Marches Line: additional capacity
G	Ivanhoe Line: develop the reopening of Leicester–Burton Line
H	Stoke-on-Trent–Caldon Low: potential reopening for freight traffic
I	Matlock–Buxton: potential reopening of line
J	West Midlands: improve capacity
K	Kenilworth: possible new station
L	Leicester area: additional capacity
M	Nottingham Station: improved capacity and flexibility

Developing railways in the Midlands

This document is one of six regional supplements to Railtrack's Network Management Statement for the year 2000. It sets out our vision for the development of the rail network in the Midlands, covering: the role of the rail network in the economic and social development of the region; the improvements to which Railtrack is committed during the next ten years, ranging from maintenance and renewal of the existing network to major projects; our vision of how the network could be developed beyond those commitments – and a discussion of how such developments could be achieved, in partnership with our stakeholders.

CURRENT DEVELOPMENTS

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Regional background

The rail network serves a wide range of different travel needs in the Midlands region, from fast inter-regional journeys to rural stopping services as well as carrying major volumes of freight traffic.

The network totals about 2,250km, of which some 975km are electrified. There are 248 stations, including one major station at Birmingham New Street.

A number of key north–south rail routes traverse the Midlands including the West Coast Main Line, the Midland Main Line, the East Coast Main Line and the routes from Derby to Bristol and Manchester to the South Coast, both of which pass through Birmingham.

There are a number of interurban services such as those between Birmingham and Stansted via Leicester, and between Liverpool and Norwich via Nottingham. Suburban and local services operate between centres such as Nottingham and Mansfield, Birmingham and Chester, while rural populations are served by local trains such as those from Nottingham to Skegness, Lincoln to Peterborough and Derby to Matlock. In the West Midlands conurbation, high-frequency suburban services are sponsored by Centro, the West Midlands Passenger Transport Executive.

Passenger train services in the Midlands region are provided by the franchised operators Central Trains, Chiltern Railways, Connex South Central, First North Western, Great North Eastern Railway, First Great Western, Midland Mainline, Northern Spirit, Silverlink, Thames Trains, Virgin Trains, and Wales & West Railway.

Significant volumes of freight traffic also use the Midlands network carrying coal, steel, aggregates and general merchandise. There are intermodal terminals at Daventry and Hams Hall. Freight operators using the network are Direct Rail Services, EWS and Freightliner.

Development progress

There has been significant expansion of the West Midlands network since 1994, including two new railways:

- Birmingham Snow Hill–Smethwick – the Jewellery Line – opened in 1995
- Nottingham–Worksop – the Robin Hood Line – opened in stages between 1994 and 1998.

New passenger services have been introduced between Leicester and Loughborough, Wolverhampton and Walsall, and from Hednesford to Stafford. We restored double track on the Chiltern Line between Bicester North and Princes Risborough, enabling additional train services to run between London, Bicester, Banbury and Birmingham.

Major new freight terminals were opened at Daventry and Hams Hall, a new station at Willington, and new maintenance depots at Birmingham Soho and Nottingham Eastcroft. We completed major improvements to depot facilities at Derby Etches Park and Tyseley during 1998, and the refurbishment work at Worcester depot is due for completion by the end of March 2000.

On the West Coast Main Line work has started on upgrading the route for more and faster trains. This has included significant track and structures renewals. Seventeen new footbridges have been erected so far to replace footpath crossings. We have also started preparatory work towards remodelling the track layout on the eastern approach to Birmingham New Street. On the East Coast Main Line we have installed additional signalling to create more operational flexibility, and replaced point and crossing equipment to improve performance and create the opportunity for higher linespeeds. We also increased the length of a freight loop at Retford to accommodate 775m long trains.

On the Midland Main Line we have carried out a number of upgrade schemes to facilitate increased train frequencies in 1999. A new junction incorporating a second track was installed at Wigston, and platform 5 at Derby Station and platform 6 at Nottingham Station were reopened to passenger trains.

Station improvements

Our Station Regeneration Programme has continued throughout the year. Market Harborough has been awarded a prestigious Ian Allen National Railway Heritage Award, and at Birmingham New Street we have made major improvements in the passenger environment at platform level. Whitlocks End Station was completely rebuilt to modern standards.

At Nottingham, we have been carrying out a £1.8M station improvement project in partnership with Central Trains, Midland Mainline, Nottingham City Council and The Railway Heritage Trust. The work has included refurbishment of the main dispersal bridge, staircases and platform canopies, and renovation of toilets, waiting rooms, the Travel Centre and the Booking Office.

Railtrack's committed plans

Train protection

We are implementing a system of train protection that will mitigate against the risk and consequences of signals passed at danger or overspeeding at certain speed restrictions. We will fit the lineside equipment for the Train Protection and Warning System (TPWS). The legal requirement is for fitment by December 2003, but we are working to accelerate this programme and fitment on Midlands routes is programmed to start during the year 2000 and be complete by December 2002.

Capacity and performance

WEST COAST MAIN LINE Infrastructure works and timetable alterations will provide reduced journey times, increased frequency and improved reliability between the West Midlands and London. Maximum linespeed on the fast lines will rise to 125mph by May 2002 and to 140mph by May 2005. Nuneaton will be remodelled, and additional tracks will be provided along the direct Rugby to Stafford Trent Valley route between 2002 and 2007. We will also renew the signalling equipment throughout the route between 2000 and 2005.

PROOF HOUSE JUNCTION, BIRMINGHAM Remodelling to reduce conflict and increase capacity will be carried out from August to September 2000.

EAST COAST MAIN LINE We are preparing for a proposed upgrade of the route to allow faster and more frequent main-line services and to create capacity for future growth. Track, signalling and electrical supply equipment are being progressively upgraded, and the river bridge at Newark over the River Trent will be replaced during autumn 2000.

WOLVERHAMPTON-SHREWSBURY The bay platform at Wellington Station is to be brought back into use to enable additional local services to run, and we are undertaking linespeed improvements to shorten journey times for fast trains.

Stations and transport integration

ASTON STATION We will install new lifts to improve access for people with impaired mobility.

LICHFIELD CITY STATION We are planning to expand the car park to provide 200 additional spaces.

WARWICK PARKWAY We are working closely with Chiltern Railways on the design and construction of Warwick Parkway Station, which Chiltern is funding.

KETTERING STATION Investment totalling £4M, including grants, will provide extensive restoration of the Grade II listed building, a new 200-space car park, full disabled access and improved customer facilities.

DERBY STATION In partnership with Midland Mainline and the local authority, we are building a footbridge from the station to the Pride Park development, providing easier access to leisure and business facilities and Derby County football ground. Approximately 200 more spaces are to be provided in the station car park.

CHESTERFIELD STATION Also in partnership with Midland Mainline and the local authority, we have begun a £2M station renewal scheme which has attracted £500,000 of European grant.

CARLTON STATION We will undertake survey and design work to bring the platform within current industry standards for height and stepping distance.

SHIREOAKS STATION We will spend £400,000 on redeveloping the station and platforms.

Working with others

We support the Government's Integrated Transport Policy that encourages a shift from private to public modes, and we will work to ensure its successful implementation.

We believe that rail transport has a key role to play, but we will always take a realistic view of its suitability as a solution to a particular transport problem. All transport modes – whether by rail, road, air or water – have their strengths and weaknesses and none can be ideal in every situation. We will work objectively with local authorities and others to help choose the solutions that best meet passenger and freight customers' needs.

Non-financial benefits

Given the high capital cost of railway infrastructure and equipment, the number of development schemes likely to offer a commercial rate of return on investment will inevitably be limited.

However, there will be many instances in which new rail services or facilities would provide significant social, environmental or other non-financial benefits. Although these can be valued financially, they do not directly generate funds to cover investment. In such cases, a partnership approach will be needed, involving Railtrack, the train operators and local authorities or passenger transport executives (PTEs), with each partner contributing a proportion of the total cost.

Local Transport Plans

Local authorities are required to produce five-year Local Transport Plans (LTPs), setting out their specific proposals for public transport and highways within the policy guidelines defined by the Regional Development Agencies. These proposals are submitted to the Department of the Environment, Transport and the Regions, which may allocate grant aid for schemes which qualify. Selection is based on issues such as improved accessibility to public transport, better integration between modes and environmental benefits.

We are helping local authorities to draw up their transport plans – partly to ensure that rail proposals are realistic and feasible, but also to try and maximise their potential benefits by identifying synergies with our own development plans for the network.

The Rail Passenger Partnership fund

LTP grants cover capital investment in rail infrastructure up to £5M per scheme. Larger amounts will be allocated through the Rail Passenger Partnership (RPP) fund administered by the shadow Strategic Rail Authority (sSRA).

This provides revenue support for new rail services or facilities over a number of years, which may be used to underwrite capital investment made by commercial organisations such as Railtrack or the train operators. The sSRA has committed £105M over the next three years to RPP funds, and a number of partnerships between Railtrack, train operators and local authorities have been set up nationally to develop submissions for grant.

Customers and the sSRA

These are some of the rail network development proposals which have been put forward by the train operating companies as Customer Reasonable Requirements (CRRs) and by the shadow Strategic Rail Authority as Incremental Output Statements (IOSs).

Route 1: West Coast Main Line

Throughout the West Coast Main Line, our customers require additional capacity, improved journey times and enhanced service opportunities. The sSRA has recently requested further development of the proposal to provide additional tracks on the Coventry–Birmingham Line to provide additional capacity and operational flexibility.

Route 2: East Coast Main Line

On the East Coast Main Line, our customers and the sSRA are seeking improved linespeed and capacity.

Route 5: Midland Main Line

The sSRA is looking for us to provide additional capacity throughout the route, and improved journey times for key travel flows on the route. We are investigating the upgrading of the Beeston–Mansfield Junction section to provide additional tracks for passenger trains to increase operational flexibility. Requests for freight improvements include improvements to depot access and additional freight capability throughout the route.

Route 7: Derby–Bristol and Didcot via Birmingham

Customer requirements for enhancements to Route 7 include car-parking facilities and track remodelling and the provision of new crossovers in the Bordesley–Tyseley area to enhance both capacity and operational flexibility. Among the proposals from the sSRA are the upgrading of the route to accommodate longer freight trains and further measures to provide both capacity and operational flexibility.

Route 9: Birmingham and Coventry–Peterborough

On Route 9, we have been requested to reconnect the Coventry colliery for freight traffic, and the sSRA has asked us to examine measures to improve capacity, linespeed and operational flexibility.

Route 10: Crewe–Newport via Shrewsbury

Route 10 developments include examining the potential for increasing freight-load capability throughout the route and bi-directional working at Hereford to provide additional capacity and flexibility. The sSRA has also requested that we investigate opportunities to improve journey times on this key north–south route.

Route 11: Wolverhampton–Chester, Aberystwyth and Pwllheli

Route 11 requirements include the reinstatement of a platform at Wellington to provide additional capacity. The sSRA is proposing regular-interval fast services and enhanced local services between Shrewsbury and Wolverhampton.

Route 13: Manchester–Sheffield and North Lincolnshire

For Route 13, we are investigating additional capacity for both passenger and freight services, and improved Sheffield–Manchester journey times.

Route 27: Cotswolds

The sSRA has requested that we develop schemes to provide improved capacity and operational flexibility between Oxford and Worcester.

Route 30: West Midlands local routes

Customer requirements include improvements to station facilities and increased freight capability. The sSRA has proposed initiatives such as train turnback facilities at both Kidderminster and Stourbridge Junction, and further additional capacity between Birmingham and Dorridge.

Route 31: East Midlands local routes

The sSRA's proposals for this route include the provision of additional capacity and the reduction of journey times.

Route 33: Manchester to the coast

We have been requested to clear this route for new trains, and to provide both additional capacity and improved journey times to and from Buxton.

Route 43: Freight-only routes

Aspirations for this freight-only route include enhancements to allow larger loads to be carried on freight trains and electrification of the route between Nuneaton and Walsall via Sutton Park.

Local authority aspirations

Stations

Throughout the region, local authorities are developing plans for possible new stations to provide additional service opportunities and to open up the national rail network to currently unserved communities. Enhancements to existing stations include rebuilding of Chesterfield Station, improvements to customer information systems, improvements to interchange facilities at key locations and enhancements to station access and passenger facilities. Additional station capacity is also requested at Nottingham and Leicester.

Integrated transport

Local authorities are promoting integrated transport schemes, ranging from cycle parking and waiting facilities, additional park-and-ride facilities, through-ticketing and joint marketing initiatives, to closer integration of bus and rail timetables. New park-and-ride stations are being developed in many parts of the region, as are light rail schemes. See page 14 for details.

New service opportunities

Proposals have been put forward for the reopening of disused lines, and the upgrade of freight lines for passenger services. These include the East–West Rail Link linking Cambridge, Bedford, Bletchley and Oxford, the completion of Phase II of the Ivanhoe Line between Leicester and Burton-upon-Trent, and the reopening of the Matlock–Buxton railway. Local authorities also support electrification of lines, where this will provide service improvements.

Improved services

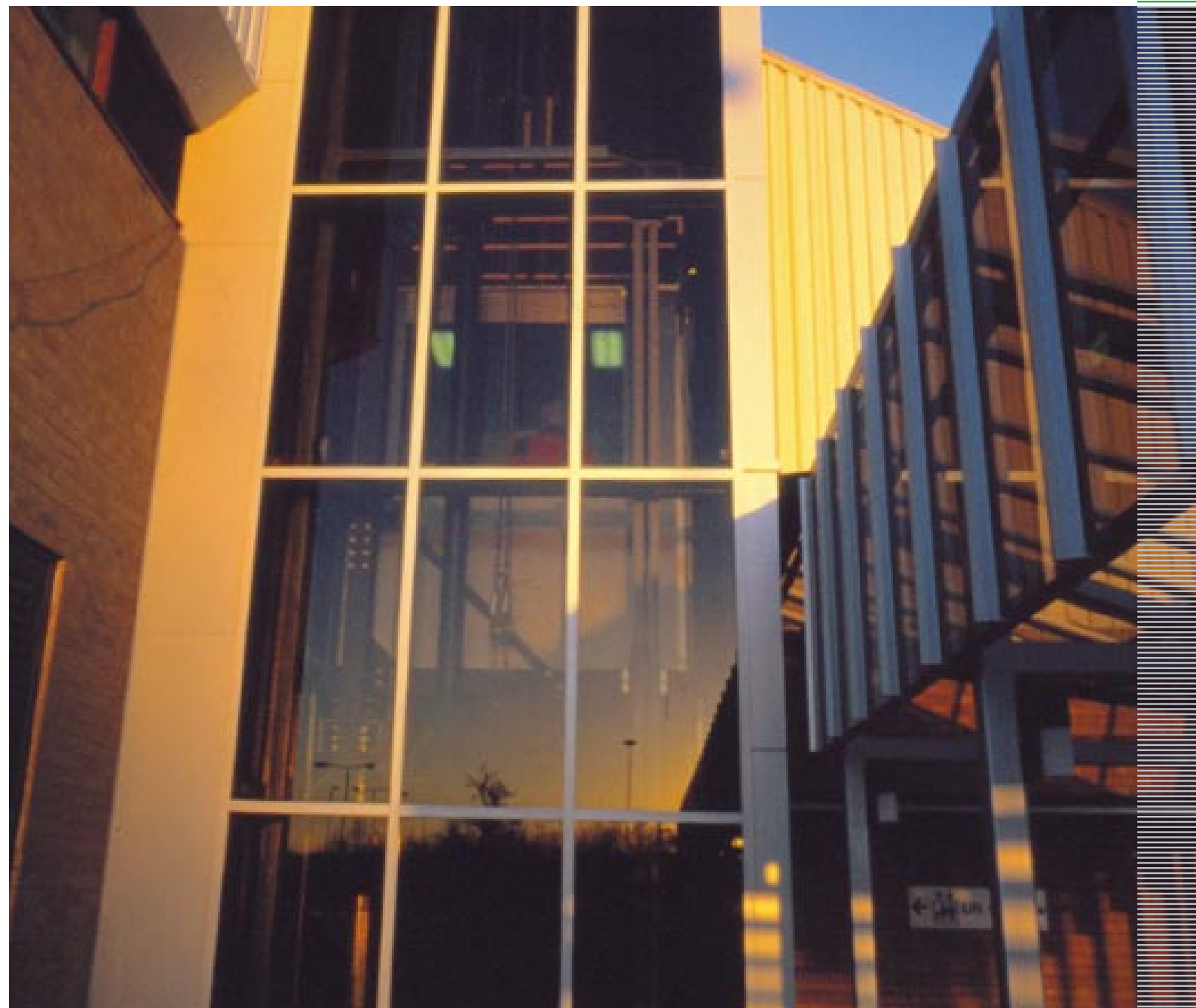
Local authority aspirations include the provision of stronger links with London and other major centres, improved service provision on both commuter and tourist routes, and improved journey times and frequency on both long-distance and local services. Measures to provide additional capacity and timetable flexibility are also strongly supported.

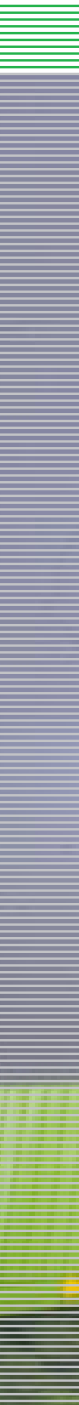
Freight

Local authorities are developing proposals to provide new freight terminal connections to the network to promote rail freight throughout the region. Improvements to existing rail facilities are also planned.









Developing the network

Rail strategy for the Midlands

The main objectives of our strategy for operating, maintaining and developing the rail network are to:

- Operate a safe railway.
- Maximise use of the rail network for passenger and freight, compatible with the levels of reliability and punctuality demanded by the train operators, the Rail Regulator, the shadow Strategic Rail Authority and the travelling public.
- Address locations on the network where capacity constrains growth, and develop affordable, practical solutions.
- Work in partnership with train operators, local authorities and Passenger Transport Executives (PTEs) to develop and expand the rail network.
- Deliver a consistently high level of punctuality and reliability through improved asset reliability.
- Improve maintenance strategy through efficient asset management.
- Integrate our plans with those of other transport initiatives.

The final objective is, of course, a central theme of the Government's transport policy and features in many of our current plans and activities. We outline progress in this direction on the next page.

Integrated transport developments

These are some recent developments towards the goal of a fully integrated system of public transport in the Midlands region.

WARWICK PARKWAY A proposal for a new park-and-ride station is being developed to the north of the present Warwick Station, designed to encourage commuters to switch to rail services from the adjacent M40. The project is being funded by Chiltern Railways.

MIDLAND METRO The first phase of the Midland Metro network between Birmingham and Wolverhampton opened in 1999. Fully integrated with the bus network in terms of ticketing and route planning, it also features easy interchange with the rail network at Snow Hill, Jewellery Quarter and Hawthorns Stations.

SLEAFORD BUS INTERCHANGE Improvements are being made to the station approach road, funded in partnership between Railtrack and the local authority, to enable buses to stop outside the station entrance rather than at the foot of the approach.

WEST MIDLANDS BUS LINKS Two new, dedicated bus links have been launched, connecting with local rail services directly from Sandwell & Dudley Station to Dudley town centre, and from Cradley Heath Station to the Merry Hill shopping complex. Ticketing is fully integrated and the bus links are advertised in rail timetables. **INTEGRATED TICKETING, WEST MIDLANDS** Centro (West Midlands PTE) has introduced bus add-on fares to local rail tickets, allowing single-ticket through journeys involving both modes. In Derbyshire, a local initiative between Central Trains and Trent Buses allows full interavailability between rail and bus on the Derby–Matlock Route. Passengers may now travel one way by train and the other by bus at no extra cost, thereby increasing the frequency of public transport on this route.

LINCOLNSHIRE INTERCONNECT In partnership with Road Car, Lincolnshire County Council is developing a network of express bus services throughout the county, complementing rail services. Simplified route maps have been produced, highlighting interchange points between bus routes and between buses and trains. The Council intends to extend this concept further over the next few years, to create a comprehensive county-wide public transport network.

STATION CAR-PARK IMPROVEMENTS AND EXTENSIONS Work will be carried out at Kettering, Derby, Leamington Spa and Lichfield.

Railtrack's strategy

Our strategy is to develop a world-class, reliable and flexible rail network with capacity to sustain the predicted growth in both passenger and freight markets. We wish to stimulate the use of rail and ensure that it plays a fully integrated role in the region's transport systems.

Key components of delivering this on each route are set out as follows:

West Coast Main Line

We will assess the feasibility of creating additional capacity for growth beyond that we are already committed to deliver. This includes; detailed investigations into a grade-separated junction at Hanslope, additional running lines between Coventry and Birmingham and remodelling of the track layout between Rugeley and Norton Bridge.

East Coast Main Line

We will undertake detailed design work on Phase II of the upgrade, comprising capacity and speed improvements together with upgrading of parallel railways to provide a strategic freight route. Feasibility work on later phases, catering for long-term growth, will also be progressed, along with proposals for possible new stations, loading-gauge improvements and further electrification.

Midland Main Line

Extensive feasibility studies will identify locations where infrastructure work would be needed to allow major upgrading of the route for faster journey times and enhanced capacity. The work includes a £250,000 survey of the track between London and Sheffield and plans to remodel Trent Junction to give greater operational flexibility and capacity.

We are carrying out survey and design work for infrastructure alterations in and around Leicester Station, to provide additional capacity to meet future demand both on the north-south route and for additional freight services on the east-west route from Felixstowe. We will also develop proposals to increase capacity and improve operational flexibility at Nottingham Station.

East Midlands Parkway Station

We are working closely with Midland Mainline, which is funding the project on the design of East Midlands Parkway Station, to the north of Loughborough. The new station will substantially improve accessibility to the main line from the M1 motorway and the surrounding area, and is intended to encourage commuters away from private cars on to rail services.

Chiltern Lines

Capacity upgrades, including reinstatement of double track between Aynho Junction and Bicester, would give opportunities for additional trains between Birmingham, Leamington and London.

Leicester–Peterborough Line

Resignalling to provide faster journey times for passenger services and capacity and gauge improvements for freight services.

Marches Line

Signalling alterations to provide additional capacity and improvements to the length and sizing of freight loops. Further linespeed improvements will enable reduced journey times.

Ivanhoe Line

Together with Leicestershire and Derbyshire County Councils and Leicester City Council, we will undertake further work to develop a viable scheme for reopening the Leicester–Burton Line to passenger trains.

Stoke-on-Trent–Caldon Low

We will continue to work with freight industry partners and local authorities to assess the feasibility of reopening this route to freight traffic. An application has been made for a freight facilities grant.

East–West Rail Link

The proposed East–West Rail Link between Oxford, Milton Keynes, Bedford and Cambridge would provide a new direct link between the South West, Midlands and East Anglia without the need to cross London. As a first stage, a direct service between Bristol, Oxford, Milton Keynes and Bedford has been proposed. The scheme is currently being considered by the shadow Strategic Rail Authority.

Creating the link would require extensive work to upgrade existing passenger and freight routes, reopen closed lines and construct entirely new railways. It would probably take place in stages, focusing initially on the western portion between Oxford and Bedford. The mothballed Claydon–Bletchley section has been safeguarded by the local authority, while the Bletchley–Bedford Line would require major upgrading.

Matlock–Buxton

Working in partnership with local authorities and Peak Rail, who operate on part of the route, we will undertake detailed feasibility and environmental studies on the proposal to reopen the Matlock–Buxton Line. If viable, this would provide a direct link between the Leicester, Nottingham and Derby areas and Buxton and Manchester, as well as improving public transport access to the Peak District.

West Midlands

We are participating with the sSRA, Centro, train operators, 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 rail network 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 rail capacity. A number of options are being evaluated, ranging from the provision of new links to enable additional services to use Moor Street and Snow Hill stations, to the creation of a new tunnel and additional platforms below the existing Birmingham New Street Station to be used by cross-city local services.

We are discussing with the sSRA the provision of additional tracks on the Coventry–Birmingham Route, to cater for the future predicted volume of train movements.

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 sections of 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. This includes the Honeybourne–Stratford Route, 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 King's Norton and Longbridge which may 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.

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. 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 extension of Midland Metro services between Wednesbury, Dudley and Merry Hill.

Railtrack's vision

Railways can make an important contribution to meeting the transport needs of the Midlands.

We will work in partnership with train operators, the shadow Strategic Rail Authority, local authorities and other parties to develop and implement affordable, realistic improvements to the rail network, to meet and sustain the growth in demand that the railways have enjoyed over the last few years.

The major upgrades of the West Coast Main Line now under way, as well as numerous projects throughout the region, demonstrate the rail industry's commitment to improving and expanding the Midlands rail network.

There will be many other exciting opportunities over the coming years. We are determined to see the rail industry exploit them to the full, within the framework of integrated development of the region's transport systems.

Expenditure table

COMMITTED ENHANCEMENTS (£M – 1999/2000 PRICES)

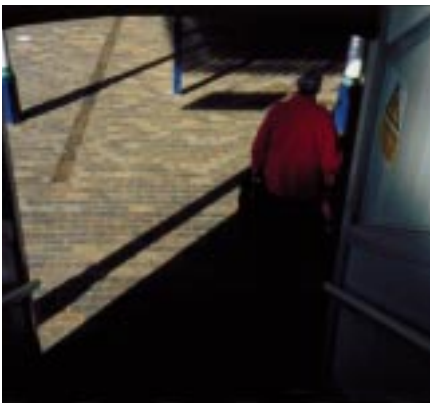
PROGRAMME OF WORK	COMPLETION DATE	TOTAL	STATUS
West Coast Route Modernisation Phase II	2006/07	1500	4/5
West Coast Route Modernisation Phase I	2002/03	440.2	4/5
Caldon Low freight improvements		0.3	4
Aston lifts		0.2	Various
Wellington turnback facility	2000/01	0.1	4

OPTIONAL ENHANCEMENTS

East Coast Main Line Phase II	930.1	3
East Coast Main Line Phase IV	510.1	2
Central Birmingham	500	0
Coventry–Birmingham capacity	370	1
Midland Main Line upgrade	350	1
East Coast Main Line Phase III	340	2
Cheltenham–Honeybourne–Stratford	300	0
East–West Rail Link	240	1
Banbury–Birmingham–Coventry capacity	200	0
Chiltern upgrade	120	2
East Coast Main Line Phase I	110	5
Buxton–Matlock Route reopening	100	0
Sheffield area: capacity improvements	100	1
Cross-country journey-time and frequency improvements	80	2
Stourbridge–Walsall new line	50	0
Nuneaton–Walsall electrification	50	2
Birmingham–Water Orton capacity	50	0
Cotswold Line: additional capacity	50	0
Birmingham–Water Orton capacity	34.2	0
East Midlands Parkway Station	15	2
Birmingham International Station: multistorey car park	12.3	3
Beeston–Mansfield Junction: operational flexibility	5.9	1
Marches Line: route strategy improvements	4.1	1
Castle Donington: freight schemes	3	1
Wolverhampton: multistorey car park	0.5	2
Thames Trains car-park improvements	0.5	

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.





For further information about our plans for the Midlands,
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For a full copy of the Network Management Statement,
contact the Railtrack Helpline on 0845 711 41 41 or see
our website: www.railtrack.co.uk



Developing railways in the North

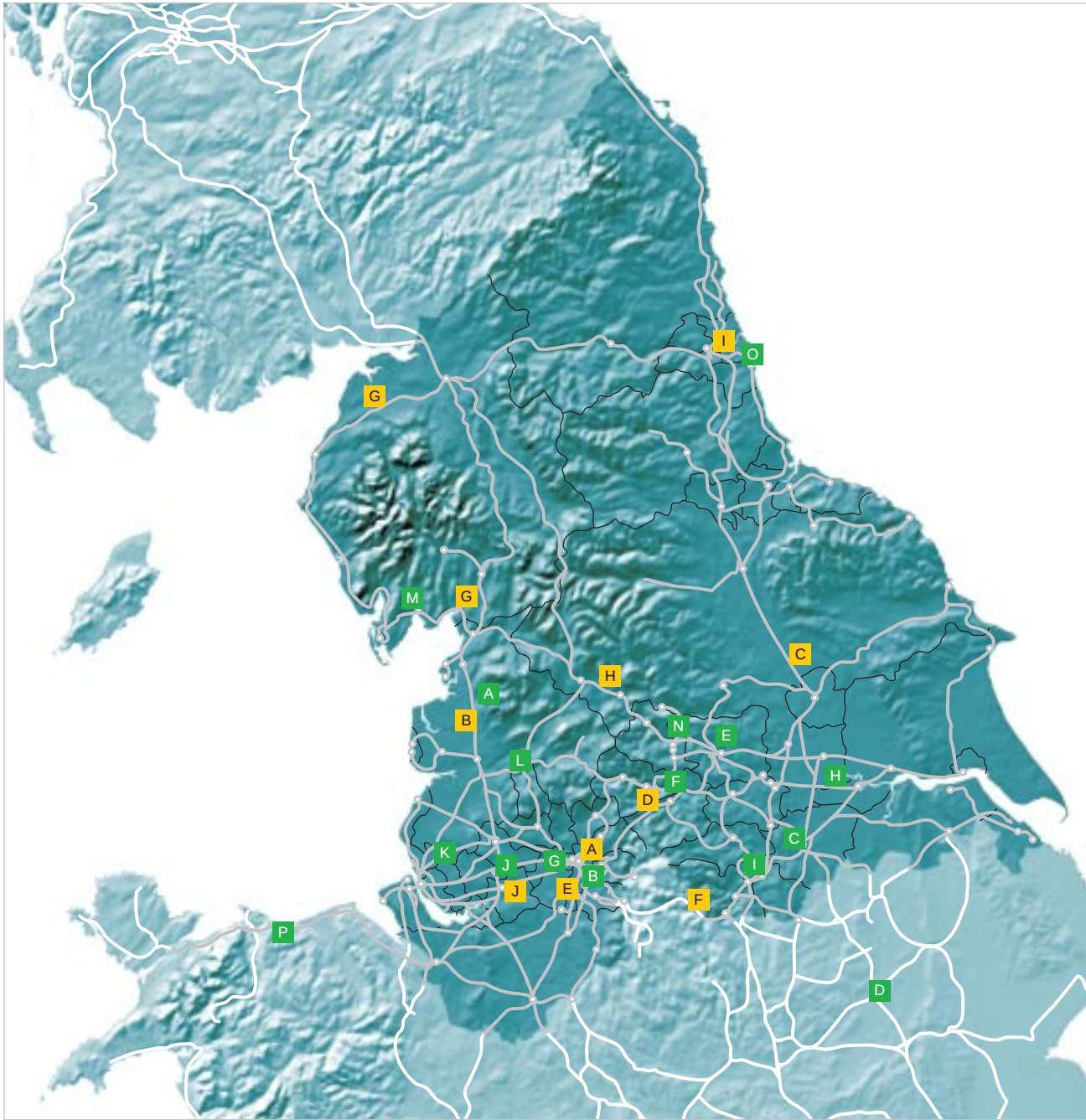


RAILTRACK



Developing railways in the North





Base map ©MAPS IN MINUTES™ 1997

The map opposite highlights some of the improvements to the rail network in the North of England, to which Railtrack is either committed, or for which it is actively developing proposals. These projects range in size from enhanced passenger facilities at local stations to major upgrades of complete routes, but all are designed to contribute to the development of the rail network to meet the future transport needs of the people of the North of England.

COMMITTED PLANS

A	West Coast Route Modernisation: major track and station upgrades throughout route
B	Manchester South: remodelling and resignalling to enhance the line through Stockport
C	Doncaster: remodelling to improve capacity and reliability
D	Newark: bridge reconstruction
E	Leeds Station: Leeds 1st programme of station redevelopment to greatly enhance station capacity and facilities
F	Halifax–Huddersfield: reopening disused track for new passenger services
G	Weaste: branch to Weaste and run-round facilities provided for freight
H	Goole: new station
I	Sheffield: station regeneration
J	Merseyside: enhancements to station facilities and interchanges throughout Merseyside
K	Knowsley: new open access freight terminal
L	Blackburn: redevelopment of station
M	Ulverston: major refurbishment to restore the station
N	Wharfedale and Airedale: route cleared for Class 333 trains northwest of Leeds
O	Sunderland: joint development of light-rail scheme
P	Increased linespeed on North Wales coastline from 75–90mph for the winter 2000 timetable

OPTIONAL PLANS

A	Manchester: options to relieve congested rail network
B	North of Preston: additional freight capacity north of Preston
C	East Coast Main Line: major track and station upgrades throughout route
D	North Trans-Pennine Route: route upgrade including W10w or W11 freight capability
E	Manchester Airport Western Link: extension, greatly enhancing access to the regional airport
F	Manchester–Sheffield and North Lincolnshire: journey-time improvements throughout route and upgrade to Sheffield Station
G	Cumbria: journey-time reductions and additional freight capability
H	Settle–Carlisle line: enhanced capacity, performance and reliability
I	Newcastle and Tyne Dock: reconstruction of bridges to ease loading gauge restrictions
J	New freight centre at Parkside

Developing railways in the North

This document is one of six regional supplements to Railtrack's Network Management Statement for the year 2000. It sets out our vision for the development of the rail network in the North, covering: the role of the rail network in the economic and social development of the region; the improvements to which Railtrack is committed during the next ten years, ranging from maintenance and renewal of the existing network to major projects; our vision of how the network could be developed beyond those commitments – and a discussion of how such developments could be achieved, in partnership with our stakeholders.

Our objective

Railtrack's unique position at the heart of the rail industry enables us to take a strategic and co-ordinated view, in partnership with other stakeholders. They include our customers, regional and national governments, the shadow Strategic Rail Authority, Passenger Transport Executives and the Highways Agency.

Our objective is to develop an effective, integrated and coherent strategic programme to take the railway network, and its associated links with other passenger and freight transport modes, through the first decade of the new millennium and beyond.

CURRENT DEVELOPMENTS		FUTURE DEVELOPMENTS		OUR VISION	
Regional background	2	Options for further development	18	Vision and expenditure	24
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Regional background

The Northern England region of the rail network includes the geographical areas of North West England, North East England, Tyne & Wear and Yorkshire & Humberside. It covers the Trans-Pennine corridor of the North European trade axis spanning Northern England from coast to coast, and has transport links with Derbyshire, North Wales, Scotland and via its ports to both Ireland and Northern Europe. We aim to sustain and strengthen these links building upon our partnerships with local authorities and development agencies in the context of an integrated transport policy.

This area is one of the most densely populated in the UK and is an important axis for three European Union TENS routes. The M62 Trans-Pennine corridor is one of Britain's busiest motorways. The parallel rail route already accounts for some 42,000 passenger train movements across the Pennines each year. Passenger numbers are growing at an annual rate of 12%. This is expected to continue.

The region's increasing demands for transport, and the likely environmental impact, are the subjects of continuing study. It is vital that the transport systems already in place are used to best effect and that regional strategies allow for future capacity requirements. We have carried out a considerable amount of work on our own route strategies for Northern England, particularly in respect of the Trans-Pennine route, since the 1999 Network Management Statement. These present opportunities for both Pennine Regional Assemblies.

Addressing the key needs

It is our aim to build for interurban success with improved journey times and additional stations, working with Passenger Transport Executives and other external stakeholders for the benefit of both passenger and freight transport. Some of these key needs are already being addressed as firm plans or proposals.

In this document, we aim to give an overview of the plans to which we are already committed and the potential for further development of the network. Achieving business growth opportunities in the North of England will require far-reaching strategic improvements in the rail infrastructure. We invite our external stakeholders to join with us to achieve our joint strategic vision – helping to counteract worsening road congestion and promoting the economic growth of the region.

The railway in the North

The rail network in the North of England provides a series of important routes. The train operators serve a wide range of different markets, ranging from high-speed inter-regional services, such as those on the West and East Coast Main Lines, to rural services, such as those serving the Cumbrian Coast and Yorkshire Dales.

There are high-density suburban services such as those in Greater Manchester, Leeds, Merseyside, South and West Yorkshire and Tyneside. Busy interurban services operate to Manchester Airport, and there are numerous suburban and local stopping services.

Freight traffic uses both the passenger network and a widely dispersed system of freight-only lines and local networks that carry about 65% of British rail freight.

Railtrack's investment

Use of the Northern England network has grown significantly in the last few years and we are investing both to sustain the present network, and to develop it to accommodate further growth. The proposals with the greatest potential impact upon the North of England are those relating to the Trans-Pennine routes, the West and East Coast Main Lines and Manchester hub.

Developments have often involved our partners such as Passenger Transport Executives and local authorities (see Working with others, page 13). There will be many other exciting opportunities over the coming years, and we are determined to see the rail industry exploit them to the full, within the framework of an integrated development of the region's transport system.

Route characteristics

Route 1: West Coast Main Line

Designated as a priority 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 of England and Scotland.

The spine of the 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 branch lines.

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.

Route 2: East Coast Main Line

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 around Great Britain.

The route is primarily two track with four tracks in certain sections, mainly at the southern end. The route is electrified throughout.

Route 8: North Trans-Pennine

The North Trans-Pennine route forms the primary corridor across the Pennines linking the main conurbations of Liverpool, Manchester and Leeds to Hull, York and Scarborough and the North East. The route also includes the Wolds Coast 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.

Route 12: Manchester and Crewe to North Wales

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 WCML. 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.

The North Wales 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 13: Manchester to Sheffield and North Lincolnshire

This route links Sheffield to Manchester, 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.

Route 32: Merseyside

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.

The 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.

Route 33: Manchester to the coast

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 northwest 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.

Route 34: Lancashire

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. Preston–Leeds via Burnley 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 Annes. The line from Ormskirk to Preston carries students, commuters and shoppers, though this service currently operates less frequently than hourly. The routes centred on Blackburn from Preston and Colne also serve mainly a mixture of commuters, shoppers and students. The line from Blackburn to Hellifield conveys longer-distance commuters, people visiting East Lancashire area for walking and hiking and visitors to the area around Clitheroe.

Route 35: Cumbria

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.

Route 36: Yorkshire

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.

Route 37: North East England

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. The route also provides a link to the WCML and Scotland via Hexham and Carlisle.

Route 44: Freight-only route

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.

Capacity constrained areas in Northern England

LANCASHIRE In this area, capacity is constrained by single-line sections at Bolton, Blackburn and Ormskirk–Preston.

CUMBRIA Capacity constraints exist on three sections of single line between Barrow and Carlisle, Oxenholme, and Windermere.

YORKSHIRE Leeds–Carlisle is constrained by traffic mix and long signalling sections. Knaresborough–York has two single-line sections. Shipley Junction is running near capacity, and Milford Junction is constrained by conflicting moves.

MANCHESTER TO THE COAST Capacity constraints south of Manchester and in the Preston–Bolton corridor. Salford Crescent–Preston also faces capacity constraints.

NORTH EAST TO WEST COAST Carlisle–Newcastle section is running near to capacity due to traffic mix and long signalling sections.

EAST COAST MAIN LINE Capacity constrained by speed mix of traffic, flat crossings and platform capacity at key locations within and outside the Northern region.

MANCHESTER Capacity constrained by mixed traffic converging between Deansgate and Cheadle Hulme, with bottlenecks at Deansgate and Piccadilly.

MERSEYSIDE Conflicts at Sandhills Junction.

WIRRAL Signalling headways and junction conflicts at Bidston and Hooton.

WEST COAST MAIN LINE Capacity constraints at Warrington, Stockport and Ordsall Lane.

CREWE Capacity limited by the number of trains converging on infrastructure at Crewe.

Development progress

Route 1: West Coast Main Line

We are progressing the complicated design work of the major £164M Manchester South scheme through to implementation, due to start on 3 June 2000. The scheme aims to provide a more modern layout with a new 21st century signalling system. The core route to Mossend and Weaver Junction to Garston now has W10 gauge clearance and Class 92 electric locomotives are cleared to operate between Wembley and Mossend and from Crewe to Manchester.

We have constructed 17 new footbridges along the route. Station improvements include a dramatically improved passenger environment at Manchester Piccadilly, an external passenger lift and other works at Birmingham International and major modernisation of Birmingham New Street platforms.

Route 2: East Coast Main Line

We have committed significant resources to planning for this line over the next decade. Phase 1 of the ECML upgrade is well under way in the Leeds area, with work on structures, a new control centre and the start of major works at Leeds Station itself. Phases II–IV of the upgrade are well into feasibility and design.

Work has started on the £8.2M major bridge reconstruction over the Trent Navigation at Newark. A complete reconstruction of the bridge at Newark will be completed by end of 2000 and we have taken the opportunity to upgrade the bridge, consistent with our long-term strategy. We have also undertaken many other infrastructure renewals to improve performance and reliability throughout the route, including the Doncaster to Lincoln line.

All station regeneration works on this route will be completed by March 2001. The extensive £25M programme at Newcastle Station is nearing completion, in time for the station's 150th anniversary celebrations in August 2000. In partnership with the Railway Heritage Trust, we have completely rebuilt and restored the south barrel roof. Other work includes platform resurfacing, office refurbishment, car-park improvements, new lifts in partnership with NEXUS, and Newcastle Airport has installed the escalator connection to the Tyne & Wear Metro Station.

Route 8: North Trans-Pennine

Since the 1999 Network Management Statement, we have developed and published our aspirations for the route in a document called Trans-Pennine: The Next Generation. These aspirations centre on high-speed, regular-interval express services with capacity for freight traffic as well as an increase in PTE-sponsored local services.

During the year we have carried out extensive work on the WYPTE-funded scheme on the new Halifax-Huddersfield line and for the new station at Brighouse, working closely with WYPTE to produce the most affordable 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 provides new capacity and routing for other potential traffic flows.

Station regeneration work has been completed at most stations along the route. We also completed significant structural works this year, including a complete replacement of Red Doles Bridge near Huddersfield at a cost of £750,000 and brickwork repairs in Standedge Tunnel, near Marsden costing £350,000. We have completed work on the Hessle foreshore, an embankment on the Humber Estuary where the railway runs very close to the water. Work continues on a series of track renewals on the Wolds Coast between Seamer and Beverley. This is making excellent use of the new stone-blower train developed in conjunction with our contractor by Railtrack, which overhauls track ballast to improve passengers' comfort. To maximise the benefits of this work, Northern Spirit has implemented improvements to its trains.

Route 12: Manchester and Crewe to North Wales

A major new train depot costing £17M has opened at Chester to service the current and planned fleet of First North Western trains. 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.

Route 13: Manchester to Sheffield and North Lincolnshire

At Sheffield Station, we are starting work to regenerate the Grade II listed structure. Costing around £7.2M, the work will include a new footbridge, canopy repairs and new roofing. The scheme also includes three new lifts and a disabled toilet, all developed with the potential for this station to serve as a national pilot location for disabled facilities and access.

Remodelling work on St James' Junction at Doncaster, on the line to Sheffield, is well under way and due for completion this year. The work will double the line, releasing capacity between Sheffield and Doncaster. We have spent over £200,000 during 1999/2000 on the track at Aldwarke, a key strategic junction north of Rotherham which routes the majority of passenger and freight flows into Sheffield from the north. There have been similar performance upgrades at other key junctions in the Sheffield area.

In the Sheffield area, we have put in place initiatives to reduce trespass and vandalism. We have also applied special maintenance techniques to improve performance – for example, our renewal of the level crossing at Denby, near Conisbrough, has solved a long-standing problem of failures and train delays. We have completed the station regeneration work at most stations except Sheffield itself. Further progress has been made to ensure an innovative new design-and-build scheme at Goole. Stations in the Hope Valley have been tackled in partnership with Derbyshire County Council, which has contributed to additional enhancements.

At Conisbrough, we have installed a new footbridge in conjunction with the Earth Centre, connecting the station with this popular attraction and helping the Centre's long-term aim of actively encouraging visitors to use public transport.

Route 32: Merseyside

Significant station refurbishment works have continued throughout the route, including the renewal of Liverpool Lime Street roof and major car-park developments at St Helens Junction. Our work with Wirral Council, EWS and Mersey Docks and Harbour Board to bring freight trains to Birkenhead docks has resulted in an application for European Objective 1 funding.

Route 33: Manchester to the Coast

A new externally funded station was built at Horwich Parkway this year and is now being well used by passengers. Funded by GMPTE, with contributions from the retail park developer and Bolton Wanderers Football Club, it also allows special trains to serve the Reebok Stadium on match days.

Our SRP works have started at stations to the north of Manchester. Work on the route to the south of Manchester will start during 2000/01 and will be completed by March 2001.

Route 34: Lancashire

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.

In the last year, 22 further stations have been refurbished and the remainder will be completed during the next year.

Route 35: Cumbria

The Carnforth Station Trust has a proposal to renovate the station and is in the process of securing external funding. To assist this scheme, Railtrack has agreed to delay the SRP and integrate the works with the Trust's proposal. Railtrack will support the scheme with additional funds.

We are engaged in track renewal work targeted at improving track quality by replacing jointed track with continuously welded track.

Route 36: Yorkshire

The winter of 1999/2000 saw 18 miles of track replaced, heralding the first year of a multimillion-pound project to upgrade the Settle–Carlisle line, which has seen a major upturn in business.

Enhancement and regeneration works at Halifax and Huddersfield stations are nearing completion. We have already spent £100,000 on a scheme to introduce new Class 333 electric trains to the Airedale and Wharfedale lines, which will offer improved speed and reliability. We have reconstructed one bridge at Shipley, at a cost of £750,000, and carried out major strengthening and steelwork repairs to another at a cost of £500,000, both of which will improve reliability and linespeed.

Route 37: North East England

Implementation of the ground-breaking Sunderland Direct Project, at a cost of £98M, will extend the Tyne & Wear Metro for 18.5km from Newcastle to Sunderland and South Hylton. (See also Railtrack's committed plans in this document.) This partnership with NEXUS, Railtrack, ERDF, and UK central government has funded this exciting scheme.

As described under Route 2, the £25M programme of work at Newcastle Station is nearing completion. At Middlesbrough, we have completed a £2M package including significant improvements to the retail facilities. All our station regeneration works on this route will be completed by March 2001. We have also carried out feasibility studies for several freight proposals.

The Durham Coast RPP bid will introduce more trains between Hartlepool and Newcastle. In partnership with Northumberland we are investigating services for passengers on the Blyth and Tyne, and with Durham, Sunderland and Tees Valley for potential passenger services at stations on the Leamside.

Route 44: Freight-only route

Interest in developing freight schemes remains high and there are several firm proposals. During the year, we completed works to reopen a coal-handling site at Woolley, near Barnsley, and to reinstate direct access to Redcar Ore Terminal. We improved access to Widnes terminals and the RMC quarry at Dove Holes and we have carried out infrastructure works to improve drainage at Peak Forest and undertaken rerailing work in Dove Holes tunnel.

Railtrack's committed plans

These are some of the plans we are already committed to undertaking.

Route 1: West Coast Main Line

- We are committed to both phases of the West Coast Route Modernisation, which will greatly improve punctuality and journey times throughout this vital national link. Work specifically benefiting the North of England includes substantial improvements to Manchester Piccadilly Station.
- Manchester South remodelling and resignalling scheme, which will greatly enhance the line through Stockport, is on schedule for completion by October 2001.
- Our station regeneration work, due for completion by 2001, is continuing throughout the route including various improvements at major stations.

Route 2: East Coast Main Line

- This route will benefit from the Leeds 1st scheme, described under Route 8.
- Remodelling of the track layout at Doncaster South Yorkshire junction will provide improved capacity and reliability.
- Our committed reconstruction of Newark Bridge by the end of 2000 will benefit journey times on all services.

Route 8: North Trans-Pennine

- At Leeds Station, the major Leeds 1st project will improve platform accessibility for all passengers by 2002. Four new platforms and the existing ones will be linked by a new overbridge, lifts and escalators. Platforms will be resurfaced, lighting renewed and new customer information systems installed. The main station area will be transformed by a new, higher and brighter roof.
- During the year, we have carried out extensive work on the WYPTE-funded scheme on the new Halifax–Huddersfield line and for the new station at Brighouse working closely with our client to produce the most affordable solution to meet local needs.
- Clearance of the Wharfedale and Airedale routes to run Class 333s.

Route 12: Manchester and Crewe to North Wales

- We are implementing schemes 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.
- We are currently implementing a scheme to increase the linespeed on the North Wales coastline from 75–90mph for the winter 2000 timetable.

Route 13: Manchester to Sheffield and North Lincolnshire

- Class 170 trains cleared for the route between Manchester and Sheffield.
- A new station is to be built at Goole and we are starting the regeneration of Sheffield Station, a Grade II listed building, in April 2000 at a cost of £7.2M.

Route 32: Merseyside

- We are developing a station interchange at Aintree, in partnership with the local authority and Merseytravel. This will provide a bus interchange, improved car parking and increased passenger access for the racecourse.
- Station improvements include better facilities at Liverpool Lime Street and the renewal of lighting, emergency lighting, heating and ventilation at Liverpool's five underground stations.
- Two new stations are being built on the city lines at Wavertree Technology Park and Lea Green, with the support of MPTE and ERDF.

Route 33: Manchester to the Coast

- We are developing a new open-access freight terminal to be built at Knowsley.
- Station regeneration work at Manchester Victoria will include renovating roofs, buildings and platforms.
- Developed plans to substantially improve passenger and staff facilities at Ashton-under-Lyme Station in partnership with GMPTE and First North Western.

Route 34: Lancashire

- The centrepiece of this route's Station Regeneration Programme is the innovative redevelopment of Blackburn Station. Developed in collaboration with industry and external partners, the scheme includes a modern roof and station facilities.

Route 35: Cumbria

- We will undertake major refurbishment to restore Ulverston Station.
- Works to regenerate the remaining stations on the route will be complete by March 2001.

Route 36: Yorkshire

- The route's Station Regeneration Programme will approach its conclusion with projects at Cattal, Hammerton, Knaresborough, Settle, Hellifield, Clapham, Giggleswick and Wennington, and Bentham.
- Route clearance works, including platform extensions at Bradford Forster Square and Ilkley, will enable Northern Spirit to operate new Class 333 trains to the northwest of Leeds in 2000.
- The Halifax–Huddersfield line reopening, described under Route 8, will also benefit customers using this route.

Route 37: North East England

- The ground-breaking Sunderland Direct project co-funded by Railtrack, DETR, ERDF and NEXUS (Tyne & Wear PTE), comprises an 18.5km extension of the Tyne & Wear Metro from Newcastle to Sunderland and South Hylton. On completion in late 2001, it will enable up to six Metro trains per hour to run in each direction. The project will entail completely refurbishing four stations along the route and building eight new stations. Sunderland station will also benefit from a major upgrade.
- RPP funding on the Durham coast will result in an increased frequency of service between Hartlepool and Newcastle from May 2000.

Route 44: Freight-only route

- We are working with customers to understand the best future role of these lines and are partners in several key freight studies.

Working with others

We work closely with local authorities and regional assemblies to achieve integrated transport strategies, regularly sharing information obtained from our ongoing development work on Route Strategies to help Local Transport Plans, RPP bids and transport corridor studies. We look forward to continuing these relationships.

We also work in partnership with Passenger Transport Executives and local authorities to develop innovative schemes to grow the rail business, make the network more attractive and identify areas where rail can provide viable alternatives or better interchanges, encouraging less reliance upon road transport.

Customers and the sSRA

The shadow Strategic Rail Authority schedule identifies three types of output improvement – reduced journey time, additional capacity and improved operational flexibility. Full details of the sSRA's proposals are available in the Network Management Statement. The following are some of the schemes we plan to progress:

- Journey-time reductions identified by the sSRA include reducing Leeds–Harrogate journeys by two minutes and providing a 62-minute service between Manchester and Blackpool.
- Capacity improvement proposals include increasing capacity on the Leeds–Carlisle line by removing temporary speed restrictions on Ribbleshead and Kirkby viaducts, and providing an additional fast service between Sunderland and Middlesbrough.
- Operational flexibility improvements include the possibility of reopening the Olive Mount Chord for freight traffic. We also plan to develop the ability to combine existing services in Yorkshire to provide a through service from Sheffield to York via Wakefield and Pontefract.

Local authority aspirations

Local authorities provide information on improvements they would like us to develop. The following are their common areas of interest as detailed in their Local Transport Plans:

STATIONS Local authorities across Northern England have aspirations for new stations serving communities which are currently not served by the rail network. Enhancements to a number of existing stations are also proposed, involving improvements to facilities, car parks, security and interchange facilities.

INTEGRATED TRANSPORT Provision of integrated transport schemes feature in all local authority plans, in particular through improvements in interchange facilities.

NEW SERVICE OPPORTUNITIES Proposals are under development for new services on a number of lines which are currently not open for passenger trains. In some cases, this involves reopening disused lines, and in others it involves upgrading freight lines for passenger use. As an example, we are working with Greater Manchester Passenger Transport Executive to develop a Metrolink proposal for the Oldham loop and on the Blythe and Tyne in Northumberland.

IMPROVED SERVICES All local authority aspirations include improved service provision on both local branch lines and main line services. In general, the aspirations are for improved frequencies, although measures to support improved journey times and timetable flexibility are also included.

FREIGHT There are a number of proposals to improve freight services in the region, including the provision of new intermodal freight terminals, freight gauge enhancements, and improvements to existing freight facilities.









Options for further development

Route 1: West Coast Main Line

We have major plans for Liverpool Lime Street including reglazing works, buffer stop renewals and a new customer information system. At Manchester Piccadilly, substantial redevelopment of the station concourse is planned. This includes considerably enhanced passenger facilities, improved access to the station and improved passenger access and waiting facilities for platforms 13 and 14.

We are examining the potential for additional freight capacity north of Preston, which would involve the provision of additional slow lines over Shap and Beattock summits, together with freight loops at various locations. Bidirectional lines between Lancaster and Carnforth would increase capacity for both freight and passenger services.

Route 2: East Coast Main Line

Phase II of the proposed upgrade, focusing on a major track enhancement in the Leeds area, will advance to design and development this year – see Railtrack's committed plans (Route 8) in this document. This is the first tranche of work on the main line and will provide capacity for the short-term aspirations of our train operators, including catering for new tilting trains operating at speeds up to 125mph. The frequency of off-peak London-bound express trains is expected to increase to five trains per hour. We are also developing improvement plans for all GNER stations.

Phase II will deliver many of our Customer Reasonable Requirements – notably those relating to our freight customers' forecast growth. A feasibility study into gauge clearance for high-gauge freight routes in the area is nearing completion and from it we will develop a programme of work. The Leeds 1st project includes double tracking the Whitehall curve, a line which enables freight trains to be routed around the Leeds Station area. Together with the reconfiguration of trackworks at the west end of Leeds, this will substantially increase the potential for freight traffic, including onto the Settle–Carlisle line.

Route 8: North Trans-Pennine

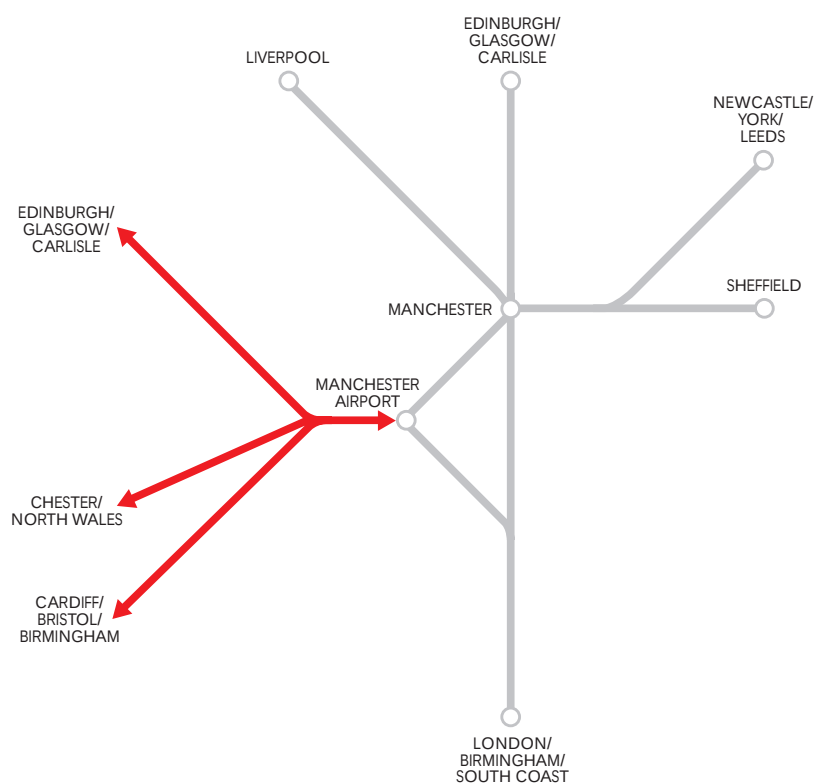
The Leeds 1st project is part of our first step in developing the North Trans-Pennine Route. We envisage a journey time of 45 minutes on the Leeds–Manchester section, with similar reductions on other parts of the route. On the axis between Tyne/Tees/Immingham and Manchester/Liverpool/Seaforth, there is potential for a significant increase in freight volumes. We are currently undertaking a detailed study of the markets and costs of a Trans-Pennine high gauge (W10w or W11) route.

Route 12: Manchester and Crewe to North Wales

We propose an extension of the Manchester Airport link westwards to join the Altrincham–Chester line. Together with upgrading the Sandbach–Northwich line for passenger traffic, this would dramatically improve access to the airport from the south and west and provide a new route into Manchester from the south.

Services from the south and west could link up at Manchester Airport with those running northwards through Manchester creating new journey opportunities, for example, Cardiff to Leeds and Birmingham to Blackpool.

New service opportunities facilitated by the Western Link



Access to the airport from Chester and North Wales would be greatly enhanced, with additional service opportunities from Liverpool. Improvements to the link between the West Coast lines at Hartford would provide direct access to the airport from the north. This would open up opportunities for circular services between the airport, Manchester Piccadilly and Liverpool or Chester, enabling service frequencies to be doubled without additional paths through key corridors.

We believe this concept provides tremendous opportunities for businesses and communities alike, with no undue construction risks and minimal disruption to the travelling public. While the costs are unlikely to be fully funded by farebox revenue, the social benefits are considerable. We will be publishing a discussion document in April 2000.

For freight, the former Parkside colliery site is of regional and international strategic importance, situated at the cross-roads of the North West, the junction of the WCML and Chat Moss railway line and the M6 and M62. It could play a major role in achieving modal switch from road to rail.

The maritime connections of the North via Birkenhead Docks are very important for freight. As part of our vision, we are working with partners to achieve the return of rail freight traffic. We are also examining options to identify a third major Anglo-Scottish freight route on existing railway lines. This could play a major role in national movement of freight, including the Sheffield hub. The northeast ports are all rail connected and have capacity for further freight opportunities.

Route 13: Manchester to Sheffield and North Lincolnshire

Manchester South resignalling and Stockport Station area remodelling will improve journey times, while work at South Yorkshire Junction will ease constraints at Doncaster. We have completed pre-feasibility work on options to double the single-track junction at Dore. This will vastly improve capacity in the area. The identified solutions are now being progressed through full feasibility which will be complete this summer.

Route 32: Merseyside

We are proposing to address capacity constraints at Sandhills Junction with timetabling and signalling measures, and we are in discussion with our industry partners on options to remodel Hunt's Cross. Further options for the route include station and capacity enhancements.

Route 33: Manchester to the Coast

As described in the Route characteristics section of this document, the rail network around Manchester city centre is congested. Finding a single optimum solution to the city centre's rail congestion is not feasible at present, given the uncertainties about growth patterns and the potential impact of franchise replacement. To help inform the debate, we have identified some possible infrastructure changes, each offering a potential solution to a different set of growth scenarios.

OPTION 1 Provide additional platform capacity at Manchester Victoria and construct a new chord at Ordsall Lane. This would enable services currently running into Manchester Piccadilly to be rerouted through Victoria, freeing extra capacity at Piccadilly for services from the south and east.

OPTION 2 Reinstate the former Midland Junction curve linking Manchester Piccadilly and Victoria stations to the east. This would enable some through services to be routed to Piccadilly and then round to Victoria, freeing capacity into Manchester from the south and east as well as vital paths on the Piccadilly-Oxford Road-Deansgate corridor. This option would also require a flyover at Ordsall Lane and additional platform capacity at Victoria.

OPTION 3 Install two additional tracks from Ashburys to Manchester Piccadilly, with two additional platforms on the east side of Piccadilly Station. This would allow some additional capacity into Piccadilly from the south and east without requiring any existing services to be rerouted.

OPTION 4 Install two additional tracks between Slade Lane and Piccadilly, with platforms 15 and 16.

Each option assumes an element of rerouting of some existing services to optimise the use of the revised layout. Early studies suggest that while the first option may offer the lowest costs, it is likely that the optimum

solution will involve a combination of infrastructure enhancements and service rerouting options. We recognise that extensive discussion with stakeholders will be required to consider the options in detail and develop an industry solution.

Route 35: Cumbria

Aspirations for developments to the Cumbrian route include journey-time reductions between Oxenholme and Windermere, additional freight services, and a new loop at Salthouse which would mean that freight services would not have to run round in Barrow before propelling into Ramsden Dock.

Route 36: Yorkshire

Development options for Yorkshire are closely tied to the Leeds 1st proposal (Route 8) and the East Coast Main Line upgrade (Route 2). Other options include increasing capacity from Hare Park Junction to Stourton, near Leeds, and the development of the Settle–Carlisle line.

Route 37: North East England

Schemes under development on the North East England routes include the East Coast Main Line upgrade plus links to the Durham coast and the rail network of this region (see Route 2), and the development of a primary freight route catering for 775m long trains at a gauge of W9.

Route 44: Freight-only route

Options to improve capacity on these routes include either providing loops or increasing linespeed at Hull Docks and the investigation of new connections for ABP at Immingham. There are many strategic sites where ownership of infrastructure is shared by Railtrack and EWS and third parties. At these sites, such as Healey Mills, South Humberside and Hull, we are already progressing shared plans for development.

Overall route strategies

Route 1: West Coast Main Line

Our strategy for delivering a high-performance, high-capacity railway between London, the Midlands, North West England and Scotland is firstly, to operate, maintain and renew the route in the most timely, least disruptive and most efficient manner; secondly, to deliver our committed major investment programme; and thirdly, to listen to, analyse and plan for the future needs of the markets and operators that the route serves.

Route 2: East Coast Main Line

Our strategy for this route is to deliver our planned major upgrade of the route to accommodate the substantial increase in both passenger and freight demand which we anticipate over the next 25 years. At the same time, we plan to improve the network to enable train operators to deliver the significant improvements in the quality and reliability of the services that their customers and stakeholders demand.

Route 8: North Trans-Pennine

We are seeking to improve access to the network through developing parkway stations and to upgrade the route to provide extra capacity and reliability required for an increase in both freight and passenger services. Historic and predicted growth are both strong and the motorway network in this area is increasingly congested.

Route 12: Manchester and Crewe to North Wales

The options to develop the Airport Western Link and Parkside strategic freight facility would play a major part in helping to stimulate the regional economy. Our plan for this route is to provide the infrastructure to meet anticipated growth and stimulate further growth through higher quality passenger and freight services. We will invest in infrastructure to improve reliability, performance and journey times, assisting the tourism, business and freight economies of North Wales.

Route 13: Manchester to Sheffield and North Lincolnshire

For this route we intend to support the large number of service opportunities identified by our customers by developing capacity around the Sheffield node and by providing journey-time improvements on the main transport corridors.

Route 32: Merseyside

We aim to build on the existing strengths of the rail network to enhance the role of the railway, and our investment plans will enable us to provide an attractive alternative to private transport.

Route 33: Manchester to the Coast

We will continue to focus on the performance and reliability of our infrastructure in order to develop the route for the growth in traffic. In Manchester, we will work to provide a flexible infrastructure to meet the future industry needs. We are working collaboratively with external partners to develop the important role of integrated transport in the region, and are looking to provide the region with the optimal solution for the Oldham Loop and associated Metrolink initiative.

Route 34: Lancashire

The basis of our plans is to continue to improve the quality and performance of the network, helping to generate new custom for the railways. We are supporting our freight customers in their aspiration to recapture cement traffic from Clitheroe up to Scotland.

Route 35: Cumbria

We will continue to work with our customers and partners to secure growth in passenger traffic and to develop the freight capability on this route, as options for enhancement become economically viable.

Route 36: Yorkshire

We are examining the possibilities of increasing 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. We are looking to provide a network of high-quality routes serving the major node at Leeds and in rural areas served by rail to explore better integrated transport with LTPs.

Route 37: North East England

Reduced passenger journey times are an important part of our vision for routes in the North East and we are working with the sSRA, PTEs and train operators to ensure that we target the most beneficial schemes for the industry. A successful Rail Passenger Partnership bid (RPP) will see enhanced frequency on the Durham coast between Hartlepool and Newcastle from May 2000.

Route 44: Freight-only route

Freight-only lines provide vital links between traffic origin points, terminals and the rest of the network. We will continue our programme of heavy maintenance to improve the routes and are keen to play a full role in unlocking the potential of freight sites. We will also seek to open up these lines to passenger services where viable.

Vision and expenditure

We are geared to delivering a high-performance network for Northern England, serving the region's national, intercity, suburban, freight and local requirements. The reality of that vision is demonstrated by the large and ambitious portfolio of schemes to which we are already committed.

We have developed exciting proposals for a number of major schemes such as the Manchester Airport Western link, Leeds 1st, the East and West Coast route modernisation programmes and an upgrade to the North Trans-Pennine route. Supporting such flagship schemes are numerous smaller schemes to open the network further by providing new lines and stations to serve communities not currently served by the railway. There is the opportunity for external stakeholders to explore these via partnership funding initiatives.

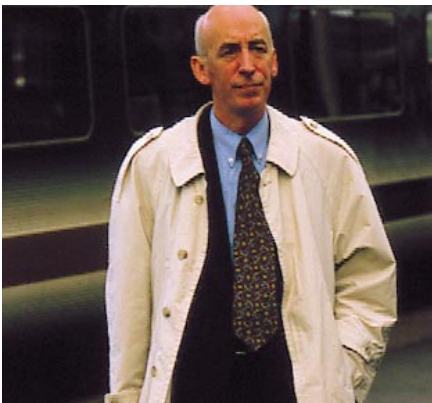
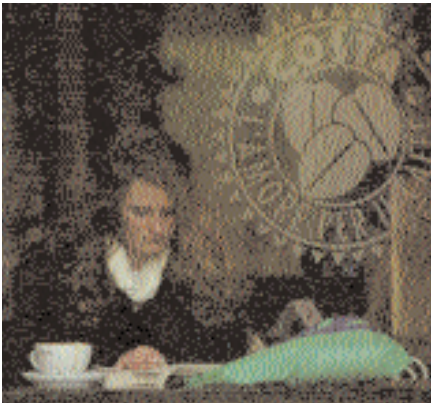
COMMITTED ENHANCEMENTS (EM – 1999/2000 PRICES)

PROGRAMME OF WORK	COMPLETION DATE	TOTAL	STATUS
West Coast Route Modernisation Phase II	2006/07	1500.0	4–5
West Coast Route Modernisation Phase I	2002/03	440.2	4–5
Sunderland Tyne & Wear Metro extension (partnership scheme)	2002/03	98.0	5
Leeds Station	2001/02	41.1	4–5
Huddersfield–Halifax new service (WYPTE funded)	2000/01	5.0	5
East Coast Main Line Route upgrade: Doncaster South Yorkshire Junction	2000/01	2.7	5
Knowsley: proposed new freight terminal	2001/02	1.4	4
Class 333 operation	2000/01	0.8	Various
Chester–Bangor journey-time improvement	2000/01	0.8	5
Reinstatement of Eccles–Weaste Line	2000/01	0.5	5

OPTIONAL ENHANCEMENTS

East Coast Main Line Phase II	930.1	3
East Coast Main Line Phase IV	510.1	2
Manchester area capacity Phase I	370.0	1
East Coast Main Line Phase III	340.0	2
North Trans-Pennine route upgrade	110.0	3
East Coast Main Line Phase I	110.0	5
Manchester area capacity strategy Phase II	100.0	1
Sheffield area capacity improvements	100.0	1
Cross-country journey-time and frequency improvements	80.0	2–3
Manchester Piccadilly Station	35.0	4
Liverpool: Underground Phase II	15.8	5
York Station	10.0	1
Allerton interchange	10.0	2
North Trans-Pennine: Church Fenton remodelling	6.0	1
Stockport Station	5.0	2
Immingham terminal improvement	2.6	1
Hull Docks strategy	0.6	1
Bidston–Woodchurch: electrification feasibility study	0.3	1

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.



For further information about our plans for the North of England, contact Mike Cowman, or Nick Pollard at the addresses below.

For a full copy of the Network Management Statement, contact the Railtrack Helpline on 0845 711 41 41 or see our website: www.railtrack.co.uk

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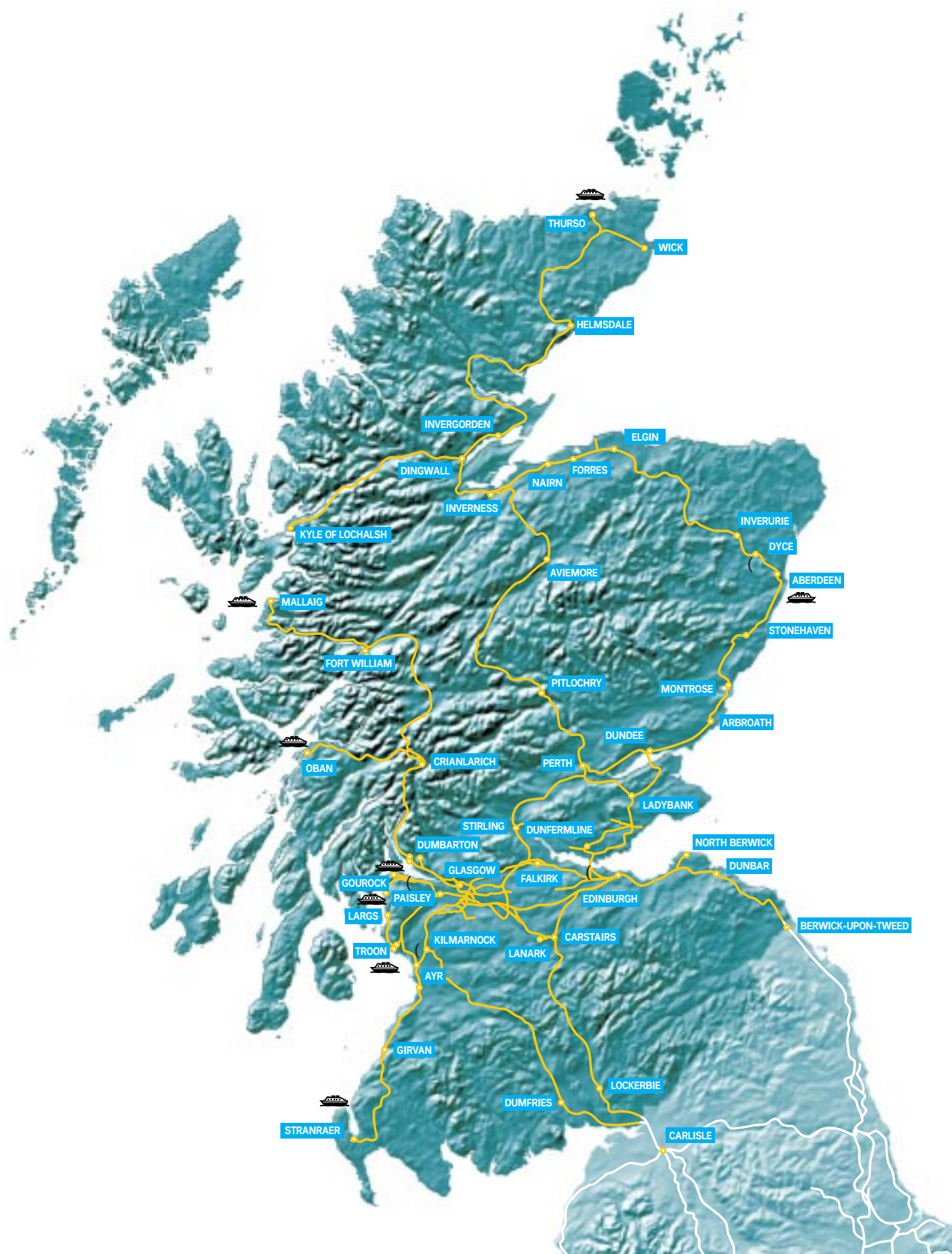
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Railtrack gratefully acknowledges the contribution and assistance of our industry and local authority partners in developing the strategy as laid out in this document.



Developing Scotland's Railway





Base map ©MAPS IN MINUTES™ 1997

The award-winning Heilenman's Umbrella at Glasgow Central, restored to its former glory by Railtrack.



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Images courtesy of: Ralph Hodgson, Chris Close, Peter Ashley, National Railway Museum
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Developing Scotland's Railway

Responding to comments that were made following the 1999 Network Management Statement, when we published a separate edition for Scotland, we have changed this year's format. This has allowed us to publish this document – Developing Scotland's Railway – which should be read with Developing Rail Services in Scotland, which gives details of our Route Strategies for the Scottish network. Developing Scotland's Railway is more comprehensive than previous publications, setting out how the various industry players work together in Scotland, what has been achieved and is being accomplished as well as paving the way for the future. A summary of Developing Scotland's Railway is available.

These documents are published to coincide with the Railtrack PLC Network Management Statement, a statutory document that details Railtrack's present and planned operations and investments across Great Britain. To obtain copies of these publications, please contact Railtrack Scotland, Corporate Affairs Department, 1st Floor, Buchanan House, 58 Port Dundas Road, Glasgow G4 0LQ, see our website www.railtrack.co.uk or call the Helpline on 0845 711 41 41.

Feedback and consultation is important for the development of our ten-year statement. This is conducted by consultations with our customers, SPT, RUCC and other stakeholders. We would like to receive responses on Developing Scotland's Railway and the vision it presents. These written responses should be received by us by 3 July 2000, addressed to: Janette Anderson, Director Railtrack Scotland, Developing Scotland's Railway Consultation, at the address above, or fax: 0141 335 3572.

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Foreword



The railway in Scotland is currently undergoing a significant renaissance. More and more people are using trains as their preferred mode of transport, and increased volumes of freight are now being carried on our network. This growth is predicted to continue, with an estimated 30% increase in passengers and a trebling of freight traffic over the next ten years.

This growth is also set to be matched by unprecedented levels of investment as Railtrack and others in the railway industry in Scotland – train operators, rail users, local authorities, local communities and the Scottish Executive – work together to develop Scotland's railways for the future.

As one of the country's leading transport businesses, Railtrack in Scotland has a simple stated aim: 'to manage and develop safe, reliable and efficient railways for the people of Scotland.'

We are committed to play a leading role in shaping this future and will do so through a planned and innovative approach, which provides for sustained growth and improved train performance and service.

We are also immensely proud to be the guardians of the country's rich railway heritage and will continue to plan our investments in a way that builds on and enhances our unique infrastructure.

This publication, together with 'Developing Rail Services in Scotland', is intended to illustrate the scale and scope of the railway network in Scotland and to give details of our current range of activities and operations.

Importantly, it also sets out our vision for the future and points to what we seek to achieve with all our partners within the next decade.

Simply put, this vision aims to give Scottish rail passengers and freight users more trains, shorter journey times and a better overall experience of using the railway network:

- Facilities and services at our stations will be vastly improved so that all passengers – the young, the elderly and the disabled – better enjoy travelling by rail, and the stations themselves will be important transport hubs within local communities.
- The quality of our track network will be capable of running some of Europe's most advanced rolling stock offering passengers a brand new journey experience and allowing more freight trains to carry more goods by rail.
- We will have redressed much of the decay of our national railway infrastructure paying heed to our heritage, social and environmental responsibilities.

It is indeed an exciting and challenging time for all of us in the railway industry. For our part, in Railtrack Scotland, it is a time we welcome and a time we relish. We will not, however, succeed on our journey to develop safe, reliable and efficient railways for Scotland alone and will only do so with the commitment and enthusiasm of us all.

I do hope that you will join us.

JANETTE ANDERSON

Director Railtrack Scotland

Achievements over the last 12 months



- More passenger trains**
- 9,672 more passenger trains (3.6% increase)
 - 15 minute Edinburgh–Glasgow service by ScotRail using new TurboStar trains



- More freight trains**
- 1,612 more freight trains (4.7% increase)
 - 2.5bn freight tonne km moved by rail – the average train is approx 1,000 tonnes



- Better train performance**
- Delays forecast to be reduced by 12.7%



- Track quality**
- 6% improvement in track quality



- Safety**
- Advancement of TPWS and AWS schemes (total planned expenditure of £28M)
 - SPAD prevention measures
 - Installation of traffic cameras at eight level crossings



- Contracts agreed**
- New five-year maintenance contract
 - Strategic alliance between Railtrack and First Engineering



- Track and signalling renewals**
- 47km rail – up 20.5% on target
 - 39km sleepers – up 105% on target
 - 20km ballast on target
 - Signalling renewed 50km – on target



- Structures**
- West Coast Main Line upgrade
 - The renewal of two viaducts over the River Clyde, two other road bridges and the demolition of a fifth in a £10M investment programme



- Stations regenerated – 290 stations completed out of Scotland's 334 total, eg**
- Glasgow Queen Street Station roof
 - Bishopbriggs station buildings completely rebuilt
 - Renewal of Glasgow Central roof at a cost of £29M



- Station facilities**
- CCTV installed at 49 more stations
 - New CCTV control centre opened at Dunfermline
 - New car parks at Falkirk High and Croy
 - Baby-change facilities installed at 77 stations
 - Improved access for the mobility impaired



- Train depot facilities**
- One new carriage washer with four more in 2000/01 making six out of nine depots with modern plants
 - Controlled-emission train-toilet emptying equipment at Haymarket, Corkerhill, Ayr, Shields and Yoker



- Involvement in the community**
- Staff have supported various charitable programmes, including giving time to help refurbish Milestone House AIDS Hospice in Edinburgh
 - Matched funding support has been made available to the National Trust for Scotland and Perth YMCA

Our railway today

In this section, we identify the elements that collectively comprise Scotland's railway. We explore our achievements, how the industry is growing, performing and working in partnership.

Railtrack is at the heart of the railway network, aiming to provide a high standard of infrastructure and the safe management and development of our railway. As the custodian of the railway infrastructure, we are able and willing to take the lead in determining the shape and size of the railway network in Scotland for the years to come. We support Government policy on integrated transport and social inclusion as well as the wider environmental agenda. We believe that this will be best accomplished in partnership with all industry players, train operators, government, both national and local, all of the transport bodies with their various responsibilities and, not least, the public at large.

The last six years have witnessed nothing less than a revolution in how railway travel is provided in Great Britain. This included the first of the five-year regulated control periods, (1996 to 2001). In this time, Railtrack Scotland has invested £479M on renewing and improving the existing infrastructure and methods of delivering train paths as well as redressing much of the backlog of renewals outstanding from the last few decades. During this time, there has been a significant growth of 25% in train travel both in the form of passengers using existing trains and additional train services. There has also been an increase of 20% in freight trains and goods carried. All this we welcome, but it has made additional demands on the existing infrastructure.

We now look forward to the next control period starting in April 2001. During this period, we will not only continue with unprecedented levels of investment to renew and enhance the infrastructure, but also look forward to increasing the capacity and capability of the network.



Safety

The tragedy near Paddington on 5 October 1999 was a watershed for the rail industry. That incident, which tragically claimed the lives of 31 people and injured many more, created a fundamental review of safety management in the industry.

A number of audits and inquiries have subsequently begun. These include the formal public inquiry chaired by Lord Cullen, an investigation into safety management conducted by the Health and Safety Executive (now published), a Railtrack review of safety by DuPont and an investigation into Train Protection Warming Systems by Sir David Davies. The combination of these investigations is likely to make many recommendations about the management of safety within the rail industry.

Safety and associated risk assessment have always formed an integral part of both day-to-day maintenance and renewal work.

Following the incident, two enforcement notices were issued by the Health and Safety Executive which included a requirement for work to be undertaken at signals at Westerton in Glasgow and Jamestown in Fife. Improvement works have been carried out at both locations. We are undertaking a review of risk assessments at complex bi-directional junctions to ensure that the appropriate safety measures are built in. Significant changes to the timetable are also now subject to risk assessment by Railtrack.

The National Safety Taskforce, established by Deputy Prime Minister John Prescott MP, is looking at the safety processes in place. The taskforce is working to spread the Confidential Reporting System, CIRAS, developed in Scotland, throughout the rest of Great Britain. A senior manager is being appointed within Scotland to manage the programmes of work arising from the reviews of safety arrangements. We are working with all train operators to reduce the number of Signals Passed at Danger – SPADs. The industry in Scotland runs a SPAD mitigation forum every month where each SPAD that has occurred over that time is discussed and actions to mitigate them are initiated.

Within our safety plan, we are addressing a number of key issues. These include:

- The safety culture and behaviour in our business.
- The safety of the travelling public.
- The safe operation of trains.
- The safety of our staff and contractors who work on the infrastructure.
- The safety of our operational interface with the wider community.

Changing the safety culture and behaviour in our business

RAISING THE PROFILE OF SAFETY EVEN FURTHER A conference is planned in the spring of this year, bringing together those in the forefront of managing safety at the point of delivery, including signalling staff, inspectors and managers. The objective for this is to identify cultural and behavioural issues and initiate improvements.

INCREASED MANAGEMENT AWARENESS AT SIGNALLING LOCATIONS Safety tours by senior management are being increased.

KEY SAFETY MEASURES SHOWING THE INDUSTRY'S SAFETY RECORD

INCIDENT/EVENT	ACTUAL NUMBERS			NORMALISED PER MILLION TRAIN KM			SUMMARY OF MAIN ACTION PLAN
	1994/95	1998/99	1999/00#	39km 1994/95	42km 1998/99	44km 1999/00#	
PEOPLE							
Fatalities							
• Trespass & vandalism	10	9	5	0.256	0.214	0.114	Additional fencing, policing & education
• Passengers	1	1	0	0.026	0.024	-	As per SPADs and derailments
• Contractor staff	0	0	0	-	-	-	Programme of improved working practices
• Level crossing user	0	1	0	-	-	-	User-worked crossing risk assessment
• Railway staff	1	0	0	-	-	-	Use of personal protection warning systems
Accidents to staff at work resulting in three days or more off work	97	51	49	Not a factor of train km			Total revision of safety management systems
TRAINS							
Signals passed at danger	37	52	52	0.949	1.238	1.182	Details on page 8
Derailements on running lines	7	4	6	0.179	0.095	0.136	Programme of preventative works to reduce broken rails & landslips
Collisions & buffer stop incidents	6	0	1	0.154	-	0.023	As for SPADs
Level Crossing Incidents							
• Train/vehicle collisions at level crossings	5	4	3	0.128	0.952	0.069	Installation of traffic cameras
• Traffic light infringements	n/a	72	48	-	1.714	1.091	Installation of traffic cameras
• Near-miss vehicles & pedestrians	n/a	17	37	-	0.405	0.841	User-worked crossing risk assessment
EQUIPMENT							
Bridge strikes	267	183	187	Not a factor of train km			Increased provision of signs, education programme
Broken rails	153	113	94	3.923	2.690	2.136	Enhanced programme of maintenance work and rail renewals

Data is projected forward to the end of March 2000 based on information in December 1999

The safety of the travelling public

CCTV AND HELP POINTS AT STATIONS In partnership with ScotRail, SPT and local authorities, we have installed CCTV at 49 stations across Scotland over the last year including the opening of a new central monitoring centre for the east of Scotland, and increasing the scope of the west of Scotland control room. An application by Railtrack Scotland in partnership with five local authorities for Challenge Funding has been submitted to the Scottish Executive to help install CCTV at a further 15 stations in Scotland. This facility also provides help buttons at stations where passengers can speak to an operator for personal safety reasons or to request train information.

TACTILE STRIPS As part of our Station Regeneration Programme, we have provided new tactile strips at the platform edge of many stations to reduce the risk of slipping and to assist disabled passengers.

Safe operation of trains

SIGNALS PASSED AT DANGER A risk assessment conducted in early 1999 by Railtrack and ScotRail listed seven locations in Scotland where improvements could be made to reduce the risk of a SPAD occurring. Improvements completed include signal reminder devices and SPAD magnets. In addition, the resiting of a signal at Westerton and the placing of a warning board and SPAD magnet at Bearsden Station have been completed.

THE TRAIN PROTECTION WARNING SYSTEM (TPWS) The TPWS installation programme has been accelerated and will be complete by the end of 2002 with a greater number of signals being fitted with the system than originally required in the planning guidelines drawn up with Her Majesty's Railway Inspectorate. In total, £23M will be spent in Scotland installing the safety system at over 1,400 signals, 88 buffer stops and at specific speed restriction sites. Within the same timescales, the rolling stock using the routes will need to be modified.

THE AUTOMATIC WARNING SYSTEM (AWS) We have accelerated our plans to complete the installation of AWS across all passenger routes in Scotland. The Aberdeen to Inverness route and the line from Ayr to Stranraer are the only two routes not yet fitted with the AWS system. We intend to commence installation during 2000, with a total investment of £5M.

The safety of our staff and contractors who work on the infrastructure

A reduction in lost-time accidents through an ongoing and robust training and development programme for all staff.

CIRAS – Safety awareness is critical to the success of our industry and we actively encourage staff across the industry to raise points of concern. The Scottish rail industry funds the Confidential Incident Reporting and Analysis System (CIRAS) operated by the University of Strathclyde. The CIRAS system is to be spread throughout the rest of the rail network in Britain.

A Contractor's Safety Forum ensures that all contractors and sub-contractors have appropriate safety skills to work on the railway and the Scottish Rail Industry Communications Forum assists signallers, drivers, possession planners and others to work together to have a better understanding of each other's issues and to establish better communication with each other.

Safety of our operations as it interfaces with the wider community

TRESPASS AND VANDALISM We are working with the British Transport Police and others to help eliminate trespass and vandalism in both urban and rural parts of the network. For example: Operation Rhino was held during the autumn in which we assisted the BT Police to have greater mobility to follow and apprehend offenders. This spring, a pack containing information on railway safety will be sent to all schools located within two miles of a railway in Scotland. A three-fold increase in expenditure of fencing renewals is planned as well as the provision of CCTV at a number of trespass and vandalism black spots. We have installed the first Home Office-approved traffic cameras at level crossings on Britain's rail network. Cameras have been placed at eight locations including Kingsknowe and Dingwall.

TOP Cornton level crossing, Stirling; three of the 61 recorded misuses at this crossing in the first nine days of traffic cameras becoming active.

BOTTOM Checking that the railway is safe is a task carried out in all weathers, including this inspection of route clearance following night-time snowploughing on the Far North Line.



Growing the railway network for tomorrow

Since 1994, Scottish passenger rail usage has grown by 25% and freight rail usage has grown by 20%. This growth has been accommodated with the introduction of new rolling stock as well as using the existing coaches and infrastructure more intensively. It is predicted that rail travel in Scotland will continue to grow over the coming decade by 30% with freight trebling in growth. The challenge for Railtrack and our partners is to ensure that the network is fully equipped and capable of accommodating these growth figures without diminishing safety, performance and reliability.

The present challenges we face include:

- The predicted increase in the number of trains on the network and differing train speeds.
- Attracting more passenger and freight business to existing train services and increasing the size of trains.
- The increased number of passengers using station facilities.
- Maintaining and renewing a more intensively used railway.
- The future funding of the predicted growth.

There are a number of solutions to meet these challenges:

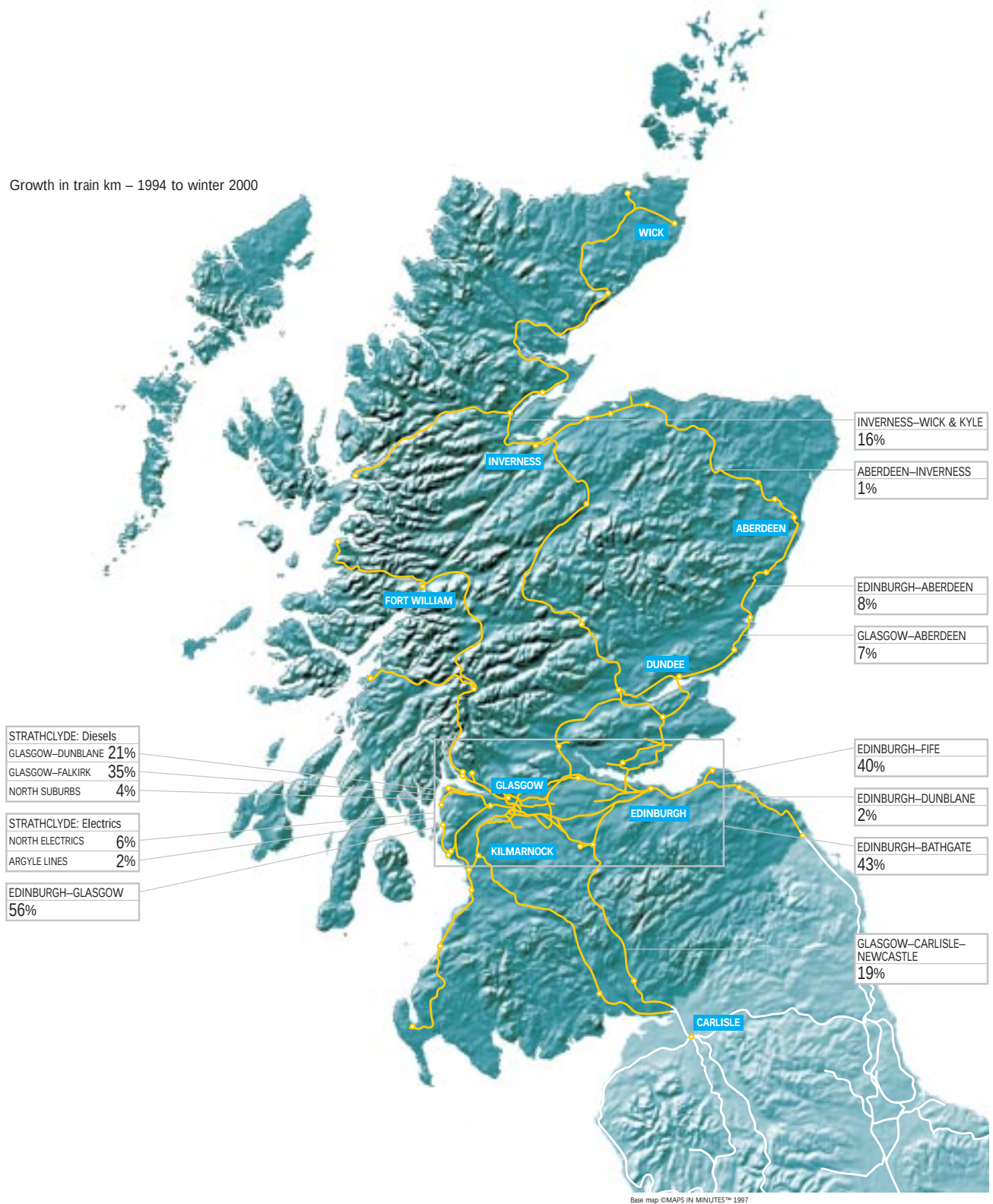
- Operating longer passenger trains which would provide more effective use of staff and infrastructure, although longer platforms may be necessary.
- Upgrading track and structures, widening the gauge, and constructing longer loops and sidings.
- Expanding the capacity of the network through signalling upgrades and additional tracks and loops.
- Building additional stations, platforms and car parks.
- Modernising station facilities to improve access, communications and the environment.
- Maintaining and monitoring the infrastructure using state-of-the-art technology to remedy potential faults before they occur using modern machinery and techniques to more effectively utilise shorter working periods.
- Developing innovative funding packages with partners to provide social and economic benefits.

As can be seen from the table, over the last five years, train km operated have grown substantially.

1000s OF TRAIN KM OPERATED PER YEAR WITHIN SCOTLAND

OPERATOR	1995/96	1999/2000	% CHANGE
Express services	8407	9717	15.6
East Coast local	3463	4159	20.1
South West	1805	2193	21.5
Rural routes	2515	2648	5.3
Strathclyde passenger electrics	11390	11605	2.0
Strathclyde passenger diesels	4298	4737	10.2
Caledonian sleepers	645	645	0
West Coast services	737	737	0
East Coast services	2220	2475	11.5
Virgin CrossCountry	1723	1723	0
Freight	4183	4721	12.9
TOTAL	41390	45360	9.6

Growth in train km – 1994 to winter 2000



We carry out a detailed examination of the effects of growth through our Route Strategies. Analysis of future growth and the effects on capacity have been identified and examples of this are set out below:

GLASGOW TO CARLISLE VIA DUMFRIES (G&SW) This has some long sections of single track controlled by manually operated signal boxes. Previously, this route had been predominantly used by passenger trains with the occasional passage of a freight train. Since 1994, there has been a significant increase in the number of freight trains. Due to the long lengths of single line and the mixture of faster-moving passenger trains and slower, heavier freight trains, the throughput of the line, (ie its capacity) is limited to three trains per hour each way. To accommodate the additional traffic, signal boxes have been opened for longer hours. As a next step, a new loop at Thornhill is currently being constructed with the intention to provide additional crossovers and further capacity improvements at Dumfries.

GLASGOW TO PAISLEY Additional trains between Glasgow, Irvine and Ayr are planned in 2001. To accommodate these, it will be necessary to construct a new timetable which will use all of the existing capacity. A longer-term solution is expected to be that additional track, signalling and associated structures will be needed between Shields and Paisley, increasing the existing two tracks to three or four.

ECML – BORDER TO EDINBURGH WAVERLEY Projected passenger growth on this route is anticipated to increase by up to 100% over the next 15 years. To meet this demand, it is proposed to increase service frequency and introduce 125mph tilting trains to reduce the journey time from Edinburgh to London. This will encourage additional passenger growth. The freight demand is also projected to double in five years and treble within ten. To increase capacity, it will be necessary to improve the flexibility of the route for the mix of traffic. To achieve this, additional or longer loops would be required at Drem, Grants house and Innerwick. The introduction of bi-directional signalling between Tweedmouth and Edinburgh would give greater flexibility. The installation of a new feeder station at Innerwick is currently under consideration which would increase the power supply capacity of the route.

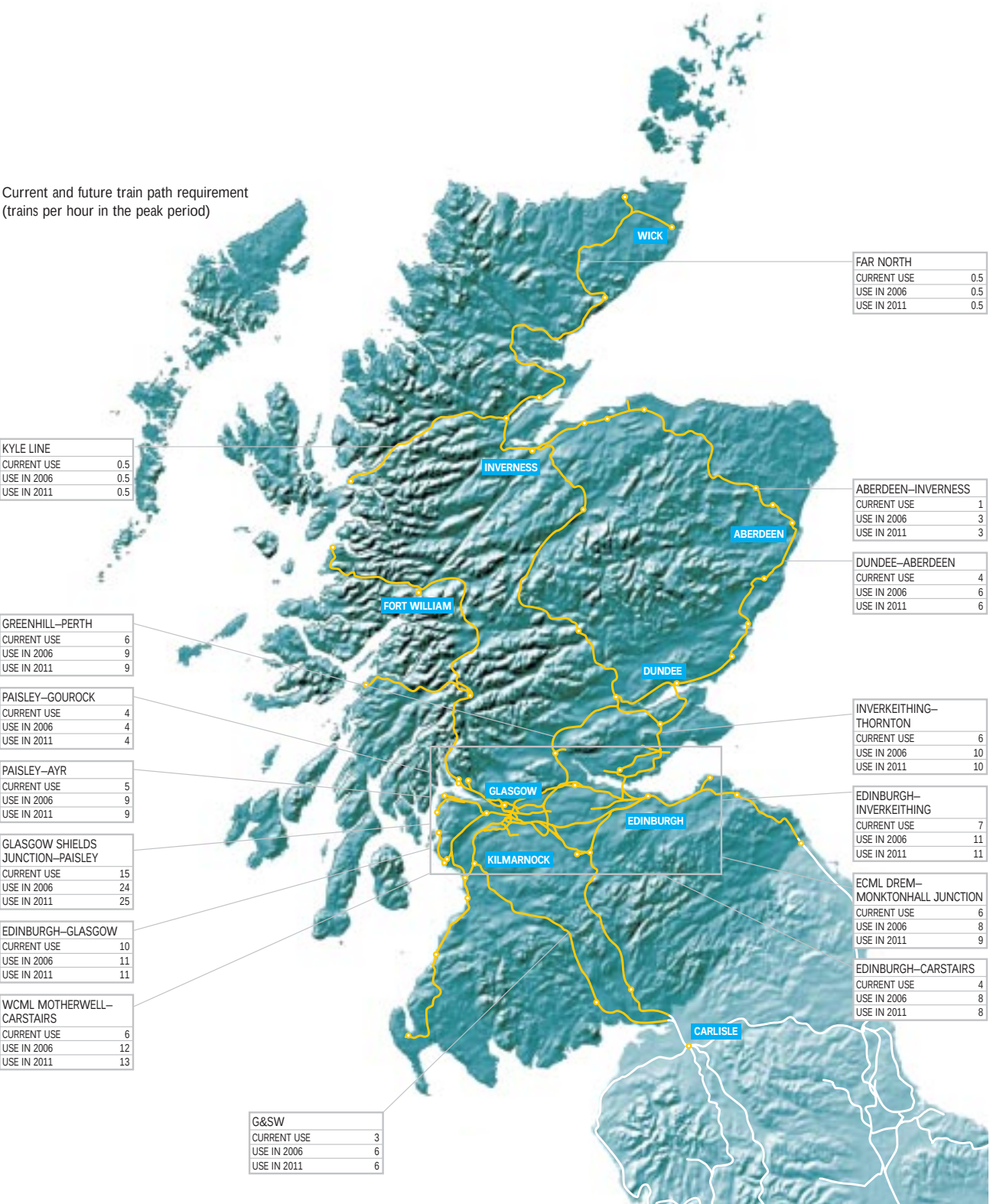
EDINBURGH WAVERLEY There are many proposals to provide new services in and around Edinburgh. Most require that trains pass through or terminate at Edinburgh Waverley. To do so will require additional through-platforms as well as improved facilities. A proposed new station layout would provide a significant increase in the number of through-platform faces, increasing the number of trains that could be accommodated. A dedicated booking hall and passenger facilities area would be provided above the operational station with full access to platform level. The provision of the highest quality of passenger environment and overall travel experience will be key to the success of this scheme.

PRINCES STREET GARDENS, EDINBURGH The predicted growth in passenger traffic using the western approaches to Waverley Station will severely test the capacity of the four-track section between Haymarket and Edinburgh Waverley. The limit of the current capacity is expected to be matched by demand in 2004. This has clear implications for performance in what can be a critical section for many services. To address this problem, we are reviewing the signalling arrangements in Princes Street Gardens with an expectation that minor improvements will be delivered in a short timescale. An Incremental Output Statement (IOS) has been lodged to review the operation of the west end of Waverley with a view to being able to operate platforms 14 and 15 in parallel.

FORTH BRIDGE The link between Fife and the south is a key artery for the commuter market into Edinburgh, long-distance passenger services and freight traffic. Growth is occurring in all of these areas and this will inevitably lead to a squeeze on the available capacity on the approaches to and over the Forth Bridge. We are currently developing a scheme to improve the signalling in the area to reduce the headways and increase capacity. Capacity over the Forth Bridge will benefit from this initiative. The reopening of the Stirling to Longannet route will release more paths on the Forth Bridge which may be exploited by further passenger services.

STIRLING TO LONGANNET The introduction of the 15-minute frequency service on the Edinburgh to Glasgow route has utilised much of the available capacity on this line. The introduction of 100mph services has heightened the potential conflict between those services and coal traffic heading from the west to the Longannet power station on the north side of the Forth. Railtrack is working in partnership with the Scottish Executive and the local authorities of Stirling, Clackmannanshire and Fife to develop a scheme to reopen the line between Stirling and Kincardine. This will not only provide a route into Fife capable of handling longer and heavier freight traffic, it will also reduce the demand for paths on the Edinburgh and Glasgow and provide much welcome relief to the growing capacity problem on the Forth Bridge. The resultant additional freight traffic between Larbert and Stirling will be accommodated by signalling alterations.

Current and future train path requirement
(trains per hour in the peak period)



Base map ©MAPS IN MINUTES™ 1997

Specific examples of schemes which have been implemented or which are currently being developed include:

ADDITIONAL CAPACITY IN FIFE The number of passengers travelling between Fife and Edinburgh has increased over the last few years. To cope with this and improve performance, ScotRail increased the length of some peak-hour trains. Fife Council has funded a new station at Dunfermline Queen Margaret and an additional train per hour between Edinburgh and Cowdenbeath provides capacity for an extra 2,000 passengers per day. The new station and additional trains would have reduced the available capacity of the line. The solution was to alter the signalling to improve the headway. This was achieved by converting some signals from two to three aspect and providing additional signals.

COWLAIRS RESIGNALLING The condition of the signalling equipment at Cowlairs required it to be replaced. As well as rationalising this and other mechanical boxes into one new centre and improving reliability of the equipment, the opportunity has been taken to improve the capacity at Glasgow Queen Street providing flexibility in the system and thereby facilitating ScotRail's new TurboStar 15-minute interval service between Queen Street and Edinburgh Waverley.

The same project delivered new axle-counters (devices which detect trains and their movements) in Glasgow Queen Street Station. New technology imported from Germany was used for the first time. ScotRail now has the flexibility to use two, three, four, five or six coach trains. Bi-directional signalling was also installed between Queen Street and Cadder and this has already helped the performance of the 15-minute service to be sustained.

BARRHEAD TO KILMARNOCK SPT has identified that by providing a half-hourly service to Kilmarnock, passenger numbers will rise. The existing route between Barrhead and Kilmarnock is constrained to three trains each way in a two-hour period over the 26km of single line which currently only has one loop to pass trains at Lugton. An additional loop at Stewarton/Dunlop would increase the capacity to two trains per hour and facilitate the half-hourly service. The cost of providing new tracks and signalling with the associated earthworks, structure alterations and drainage is approximately £8.5M. Feasibility studies have been enabled by SPT who have asked that the improvements are undertaken as part of the IOS programme currently under consideration by the ssRA and Railtrack.

PROVISION OF LOOPS AT THORNHILL As a result of the additional freight traffic currently using the G&SW, a new southbound loop is being installed at Thornhill north of Dumfries. It will be controlled using the existing signalling and completed in June 2000. The benefits will be that additional trains are able to be timetabled with the confidence that reliability will not be put at risk.

Journey-time reductions

Improved facilities and comfort of trains are welcomed by all customers; however, what most customers really want are faster journeys. ScotRail, GNER, Virgin and SPT have identified reductions in journey times as one of their key requirements. This objective is supported by the ssRA. The more significant requirements have been identified.

ScotRail has introduced new TurboStars between Edinburgh/Glasgow and Aberdeen this year which have the capability of travelling at speeds of 100mph. With both ScotRail and GNER operating trains capable of higher speeds, they wish to reduce the journey times on the route. Unfortunately, the route north of Edinburgh is not well designed for high-speed trains because it has many curves. Railtrack's track engineers have taken the lead, with the support of the International Union of Railways (UIC), in examining the 'curving rules' which govern the speeds at which trains are allowed to travel over the curved track. Extensive surveys and the analysis of results from test trains fully supported by both ScotRail and GNER have identified that seven minutes can be taken off the journey time by utilising both the curving rules and the better characteristics of trains. GNER is proposing to operate tilting diesel trains north of Edinburgh to further reduce journey times as part of their franchise renewal bid.

Ongoing improvements to the infrastructure will lead to another ten-minute reduction between Edinburgh and Aberdeen, targeted for summer 2001. This will be accomplished by a variety of works which have been identified in seminars where key local people such as drivers, signallers, maintenance and operating staff contributed their views on where improvements would have the most benefit. Further reductions will require additional work such as: the rationalisation of track at Dundee and Ladybank Junction, level-crossing upgrades, structural improvements and possibly the construction of a southbound loop at Laurencekirk.

We are committed to delivering a five-minute reduction in the journey time between Edinburgh and Inverness by October 2000, by making better use of the existing infrastructure. We believe that a 1hr 50min journey between Aberdeen and Inverness is possible provided a suitable funding package can be put in place.

SPT aspirations include reductions between Glasgow Central and Ayrshire, Gourock and Lanark using the capability of the new Class 334 electric trains accompanied by infrastructure improvements.

PROPOSED AND ASPIRATIONAL JOURNEY-TIME REDUCTIONS*

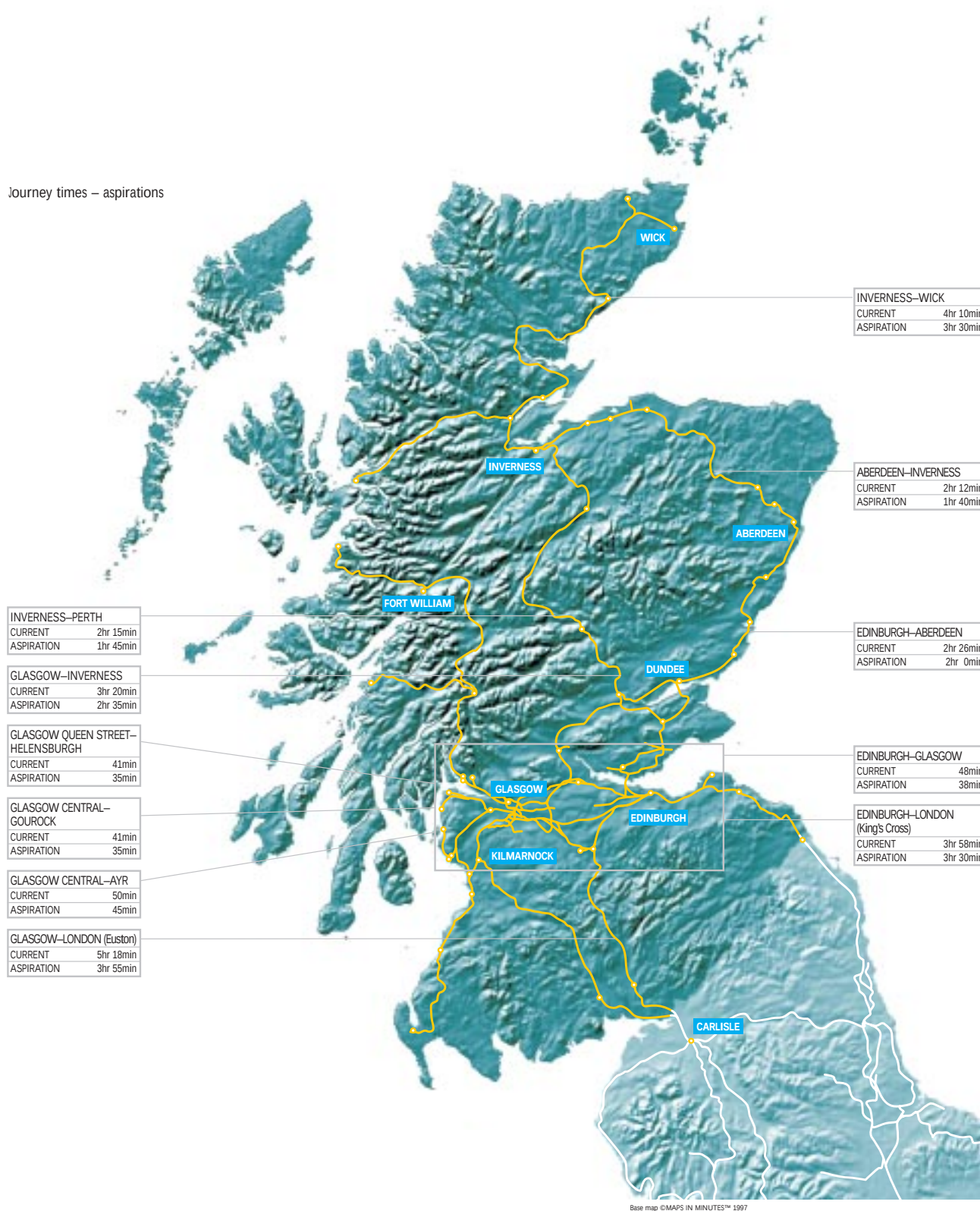
JOURNEY	CURRENT TIME	PROPOSED TIME IN 2006	ASPIRATION**
Edinburgh–Glasgow	48min	45min	38min
Edinburgh–Aberdeen	2hr 26min	2hr 15min	2hr
Aberdeen–Inverness	2hr 12min	1hr 50min	1hr 40min
Inverness–Perth	2hr 15min	2hr 10min	1hr 45min
Glasgow–Inverness	3hr 20min	3hr 10min	2hr 35min
Glasgow Central–Ayr	50min	50min	45min
Glasgow Central–Gourock	41min	41min	35min
Glasgow Queen Street–Helensburgh	41min	41min	35min
Inverness–Wick	4hr 10min	3hr 50min	3hr 30min
Edinburgh–London (King's Cross)	3hr 58min	3hr 40min	3hr 30min
Glasgow–London (Euston)	5hr 18min	3hr 55min	3hr 55min

* Subject to appropriate funding arrangements being agreed

**This could include a revised stopping pattern and new technology

More details on committed journey times can be found in the Developing Rail Services in Scotland document.

Journey times – aspirations



Making the trains run on time

PASSENGER TRAIN PERFORMANCE AS AT FEBRUARY 2000

CHARTER GROUP	ACTUAL	CHARTER TARGET %
ScotRail Express	94.2	92
ScotRail East	91.5	90
ScotRail South West	94.9	92
ScotRail Highland	96.7	92
ScotRail Central	92.5	90
Strathclyde Passenger Transport	95.9	94
Caledonian Sleeper services	88.4*	99
Virgin West Coast	83.1*	90
GNER East Coast	87.2*	90
Virgin CrossCountry	82.2*	90

*Results include an element of the journey outwith Scotland

The Railtrack performance of the railway network in Scotland is set to improve by some 12.7% this year. This is 7% better than the target agreed with the Regulator for 1999/2000. It means more trains running on time and fewer delays to users. This has been achieved at the same time as a 3.6% increase in passenger trains and a 4.7% increase in freight traffic. To ensure that this momentum is continued, we are currently planning our performance target for 2000/01 to be a further 4% improvement on 1999/2000.

Some 2,200 passenger trains travel on the Scottish rail network each day. Our efforts and plans are geared towards making sure they all arrive on time. In general, train services across Scotland during the last year have been among the most reliable and punctual. ScotRail is consistently the best-performing mainland operator in Great Britain. We have put plans in place to sustain and improve this standard of performance following the introduction of new services over the past 12 months.

The adjacent table identifies the performance achieved jointly by the passenger train operator and Railtrack between April 1999 and February 2000. It compares the actual results to the targets as defined by the 'charter' agreed with the SSRA.

Examples of infrastructure improvements which have benefited train performance include:

POINTS RELIABILITY PROJECT This analysed the various failures of points equipment and is now delivering actions to eliminate these failures at all the strategic sets of points in Scotland.

IMPROVEMENTS TO JUNCTIONS The early renewal of selected components as well as enhanced maintenance at other key locations, has improved reliability.

SIGNALLING COMPONENTS Replacing track circuits with axle-counters to avoid failure by the effects of sea water spray in Ayrshire, premature renewal of insulated joints and improvements to detection equipment at the approaches of the level crossings.

LINESIDE DRAINAGE Completion of various schemes in Ayrshire, on the Edinburgh & Glasgow line and between Edinburgh and the Forth Bridge, to alleviate problems where repeated flooding caused delays.

SELECTIVE RERAILING Short lengths of rail renewed following the increased frequency of ultrasonic testing.

BRIDGE STRIKES Additional painting of road bridges to alert road-vehicle drivers to low bridges.

Area production/delivery groups

In order to improve performance and reliability further on the network, Railtrack has established teams at the key infrastructure locations of Perth, Edinburgh, Yoker and Motherwell. These teams are led by a manager responsible for day-to-day performance and supported by an infrastructure contracts manager, a safety expert, engineers, and staff from First Engineering – our maintenance contractor. As well as being responsible for the day-to-day operation of a safe and reliable infrastructure, these joint teams commit to improving performance each year by reducing train delays.

Modern equipment means that weather problems affecting the railway can be speedily dealt with, as here on the West Highland Line with a snowblowing machine in operation.



Maintenance and renewals

INFRASTRUCTURE
4190 track km
3836 signals
857 level crossings for road vehicles
38905 structures
5178 bridges
80 tunnels
217 viaducts
10 train maintenance depots
334 stations
1295 track km of electrified railway
5375km of fences

Over the past year, Railtrack Scotland has spent £219M on maintaining and renewing the nation's rail infrastructure. This has contributed to reduced journey times, increased capacity, improved facilities for freight traffic, modernised and regenerated stations, and helped to develop integrated transport solutions.

Maintenance and renewals

A step change has taken place over the past 12 months in the way in which the infrastructure is managed and maintained, with the prime objectives of improving and maintaining safety and performance. Initiatives have included:

Track

- An improved process of maintaining and renewing track to target maximising benefits and minimising disruption.
- Enhanced programmes of maintenance and rail examination to improve track quality.
- Additional testing and rerailing to reduce the number of broken rails.
- The development of a programme to fit equipment that can detect train-wheel deformities that could lead to defective rails.
- A £3M track renewal programme on the Fife Circle between Dunfermline and Glenrothes with Thornton. This replaced 50-year-old jointed track with continuously welded rail giving the commuters of Fife a smoother ride with better reliability. The track works have enabled a major reduction of infrastructure delays to passengers and freight trains on the Fife Circle and have removed a number of temporary speed restrictions on the route.

Signalling and electrical

- The fitting of uninterruptible power supplies to key signalling equipment using state-of-the-art technology.
- A programme to improve track circuit reliability through various trackside maintenance activities and installing more reliable track circuits.
- The detailed development and design work to permit the renewal of vital signalling equipment at Glasgow Central, Polmadie, Rutherglen and Mossend.
- The completion of a major programme of point-heater maintenance and renewal work resulting in fewer incidences of frozen points and associated failures.
- The installation of bird deflector strips at specific bridges where there is overhead electrical equipment.

Structures

- Aerial photography which enables the early identification of potential landslips in cuttings and embankments covering 2,700 route km.

The implementation last year of Scotland's first stage of upgrading the West Coast Main Line with the replacement of Float viaduct south of Carstairs.



Netting installation to rock cuttings at Croy, to prevent loose material falling onto the track, as part of Railtrack's upgrade of the Edinburgh–Glasgow route for the 15-minute frequency ScotRail service.



A strategic alliance

To help better enhance our day-to-day performance and gain efficiencies in time and cost, a strategic alliance has been formed between Railtrack Scotland and First Engineering Ltd. This five-year agreement specifies the levels of maintenance, train performance and track quality in Scotland and instigates a new approach to joint working between staff in both companies. As train performance targets rise, the alliance seeks to continually reduce delays due to infrastructure problems.

The alliance also actively seeks to identify where investment should be jointly focused to improve our infrastructure and find more effective ways of working together.

A new maintenance approach

A team to develop the way ahead for joint maintenance working has been established at Yoker near Glasgow, to establish and implement new ways of delivering maintenance. Expected improvements are in the areas of planning, scheduling and implementing maintenance activities with the elimination of duplication and waste. It is envisaged that new skills will be developed from this work which will then be used across the rest of the country.

Renewal suppliers

In the last year, new working arrangements have been encouraged with many of our suppliers to ensure that our investment is delivered safely, more efficiently and over a shorter period of time.

The emphasis of this is to work collaboratively with suppliers to deliver shared objectives by seeking the most effective working partnerships.

The development to full partnership/alliance working will be progressed further in the coming year to obtain the best value for money from our investments. Early examples include the provision of resignalling works at Mossend with Jarvis, and the work to stabilise the effects of the mining subsidence at Wallyford being carried out by Kvaerner.

SUMMARY OF MAINTENANCE AND RENEWALS INVESTMENT FOR 2000/01

SPEND TYPE	OUTPUT-BENEFIT	£M
Track renewals	Improved track quality	29.0
Station and depot works	Maintenance of existing facilities	3.5
Renewals to overhead equipment	Improved reliability	5.0
Signalling equipment renewals	Improved reliability	22.0
Station Regeneration Programme	Improved stations	20.0
Remote monitoring and other plant	Improved performance	1.0
Repairs to signal boxes and operational buildings	Reliability and environmental benefit	1.5
Forth and Tay Bridges	Maintenance of existing facilities	8.5
Structure renewals	Improved performance	17.5
SMA and other telecom renewals	Improved reliability	11.0
Maintenance	Sustained performance	65.0
TOTAL		184

TOP Upgrade of the Edinburgh–Glasgow route with track renewals work being carried out during a weekend in Queen Street tunnel.

BOTTOM First Engineering has made a significant investment in infrastructure maintenance equipment, such as this track welding plant producing a high-quality rail weld.



Enhancements

A major programme has been carried out, often as a requirement of train operators.

- The single largest renewals project during 1999 was a £10M investment on the West Coast Main Line modernisation. During a five-day closure, four major bridges were reconstructed including two over the River Clyde. A mile of track was replaced, a bridge demolished and a significant amount of 'standard' maintenance work was carried out. These works are part of preparing the route for the introduction of Virgin Trains' new high-speed tilting trains in 2002 which will reduce journey times between Scotland and London to 3hr 55min and provide more frequent services.
- Significant alterations to the Edinburgh–Glasgow route to assist with the introduction of ScotRail's Class 170 TurboStar trains. This included the completion of resignalling works at a cost of £25M, station improvements, additional car parking at stations, passenger information and security systems as well as improved depot facilities allowing the use of on-board toilets that do not discharge onto the track. At the same time, maintenance and renewals were brought forward to avoid future disruption and allow faster journeys on Sundays.
- Freight facilities grants of £12.2M were awarded by the Scottish Executive for new sidings at New Cumnock and Grangemouth. The TDG Nexus plc terminal at Grangemouth is due to be opened in May 2000 and will generate five trains a week rising to ten within a year.
- The installation of a loop at Thornhill which will become operational in June 2000, increasing the line capacity and reliability.
- Planning of work for new freight depots at Dyce and Craiginchies to the north and south of Aberdeen has been completed.
- The completion of structure clearance works between Mossend Yard and Fort William to ensure that the existing, and increasing, volume of paper traffic from Corpach to southern England and Belgium remains on rail.

SUMMARY OF ENHANCEMENTS FOR 2000/01

SPEND TYPE	£M
Provision of TPWS & AWS	14.0
Passenger improvements	14.0
Freight growth	9.0
TOTAL	37.0

Improving the journey experience for passengers

One of our key aims is to facilitate and invest as necessary in an improved journey experience for all passengers. This means much better facilities and services at our stations, a comfortable and safe journey, punctual trains, and good links with other modes of transport.

Stations

Stations are at the heart of many communities and are often at the hub of local transport links. We have already carried out a number of major improvements to stations throughout the country in both rural and urban settings, and this significant programme of work is set to continue in future years. Our plan is to further improve stations to create a safe and secure environment with improved access for all passengers and users, better information, improved levels of comfort, modern and clean toilet and waiting facilities, and to further develop services such as catering and retailing.

The Station Regeneration Programme (SRP) has been Railtrack's main programme of works at stations. Work started in 1997 and by 2001, all stations in Scotland will have been visited under this scheme and brought up to a benchmark standard. By the end of March 2000, 290 out of Scotland's 334 stations will have been completed by the SRP scheme.

Station projects which have been a particular success are listed below.

- Glasgow's Queen Street Station has been substantially improved. The roof has been given a £15M overhaul and work continues this year to complete a programme of renewal to platform surfaces. The platforms will be laid with high-quality limestone and edged with tactile strips.
- Croy Station ticket office has been rebuilt offering modern ticket office facilities. The reconstruction included the provision of an additional 60 car-parking spaces, the installation of CCTV and information help buttons, improved platform access, and improvements to the bus turning circle adjacent to the station platform.
- The refurbishment of Wick and Thurso stations in time for the 125th anniversary of the route. The programme of work has provided the passengers of the Far North Line with a greatly improved station environment.
- A particular effort was made to ensure that restoration of Crianlarich Station was sympathetic to the surrounding environment. The station now has a classic railway feel to it providing modern facilities at the same time. Railtrack also refurbished the station cafe offering further benefits to passengers.
- Refurbishment of the 'Heilenman's Umbrella' at Glasgow Central was completed in April last year. The work involved reglazing, improvements to the shop fronts and upgrading of the street lighting.

Additionally the programme includes the refurbishment of the train maintenance and cleaning depots, enabling investment such as improved train-washing facilities. Corkerhill Depot has benefited particularly from a £2M package.

Upon completion of the regeneration programme we will have created a basis to improve stations and the facilities offered over the next ten years. We will ensure that the high level and quality of the fabric of the stations is maintained and that improved facilities will be added such as better customer information and security measures together with mobility-impaired access.



Our SRP scheme this year has completed work throughout Scotland with the absolute minimum of disruption to passengers and services in order to deliver a high-quality finish.
TOP Glasgow Central completion due April 2000. BOTTOM Crianlarich completed June 1999.



PROPOSED IMPROVEMENTS TO FACILITIES AT SCOTLAND'S STATIONS

	TARGET – NUMBER OF STATIONS WHERE FACILITIES SHOULD BE PROVIDED	MARCH 2000	2001 TARGET	2005/06 TARGET	2010/11 TARGET
CCTV	260	82	114	194	260
Car parks	202	191	192	197	202
Disabled parking	202	23	45	197	202
Taxi ranks	93	93	93	93	93
Unassisted disabled access	334	214	224	274	334*
Step-free access to the ticket office	143	129	143	143	143
Lifts	20	7	12	20	20
Customer information system (audible)	334	328	334	334	334
Customer information system (visual)	80	47	56	68	80
Induction loops for the hard of hearing	143	143	143	143	143
Toilets for the disabled	73	62	73	73	73
Baby change facilities	77	77	77	77	77

*Current requirements are to complete this target by 2020

Integrated transport

Railtrack Scotland is determined to see integrated transport furthered in Scotland; we are prepared to take the lead in pursuing and developing projects with partners to create improved connections and facilities. The train operating companies together with SPT in the west of Scotland, are taking the lead in terms of integration for the travelling public. Over the past year, we have conducted surveys for integrated transport schemes at 30 locations throughout Scotland, including Dyce, Glasgow Queen Street, Gourock, Inverness, Paisley Gilmour Street, Musselburgh, Stirling and Thurso. Five projects have already been completed at a cost of almost £250,000 resulting in better access, improved car parking and integration with buses. Croy Station provides a good example of integrated transport in the Scottish rail network. There is now an airport bus connection from Inverkeithing Station to Edinburgh Airport.

In partnership with East Lothian and Falkirk Councils, integrated timetable boards are being installed at rail stations and bus stops in these areas providing a vital first step to improving integration. This is something we, in partnership with ScotRail, would like to take forward with all of Scotland's local authorities.

Developing Scotland's rail freight potential

Scotland's rail freight traffic has continued to grow albeit at a more gradual pace this year. In 1999/2000, there was a 4.7% growth in the amount of rail freight carried on the Scottish network following a 16% annual growth in the previous years.

To ensure that Scotland's railway can meet the needs of the freight industry and the Scottish Executive's policies, we are planning our investments on the basis of a trebling in the amount of freight carried on the network over the coming decade. Details of our plans and vision for freight traffic are contained in Developing Rail Services in Scotland and in the *Our Railway Tomorrow* section of this document.

Rail freight is still maturing; however, after years of continued decline, action must be taken in the industry to ensure that the rail freight potential is developed and not lost. This requires a programme of modernisation and growth of the infrastructure, improved reliability times, modern rolling stock and depots, ease of access for business and partnership.

A major part of our plans to expand the network is the designation of the Third Anglo-Scottish Freight Route which includes the Glasgow and South West line in Scotland. Upgrading work to cope with increased traffic would permit more flexible train-pathing arrangements between Carlisle and Kilmarnock, and allow larger, heavier and longer trains on the route. A programme of providing additional loops and constructing double track is being developed to increase capacity. The reopening of sidings and the finding of suitable loading and unloading locations will attract additional tonnage not only to the Third Anglo-Scottish Freight Route but to all lines.

The Scottish Executive this year announced a policy of transferring freight from the Scottish road network to rail. To help facilitate this, the Executive has developed the Freight Facilities Grant (FFG) scheme for Scotland, and a number of major and strategic awards have been made this financial year making a total so far of the equivalent of 14 million lorry km to be transferred to rail. The FFG scheme is based on environmental benefits and is critical to the development of rail freight where start-up costs do not permit a fully commercial venture. We currently have an FFG application with the Scottish Executive for the reopening of the route from Stirling to Dunfermline via Alloa for freight which will see a potential 5 million lorry km taken off the roads. These will be replaced by 15 loaded train movements a day, which has the potential to increase to 23 per day within two years.

It is extremely important to the further expansion of the freight market to ensure that robust links with the rest of Britain and Europe exist. The upgrading of the G&SW route as part of the third Anglo-Scottish corridor would help achieve this. In February, we published options providing many different routes for freight to travel from Glasgow to London, with journey times ranging from 11 to 18 hours. The costs for these options range from £550M to £1.6bn. With the freight operators, we will now study the options in greater detail to deliver journey-time improvements, enhanced gauge clearance, train lengths and weight. Once this has been completed, we will announce the next steps towards the third Anglo-Scottish freight corridor.

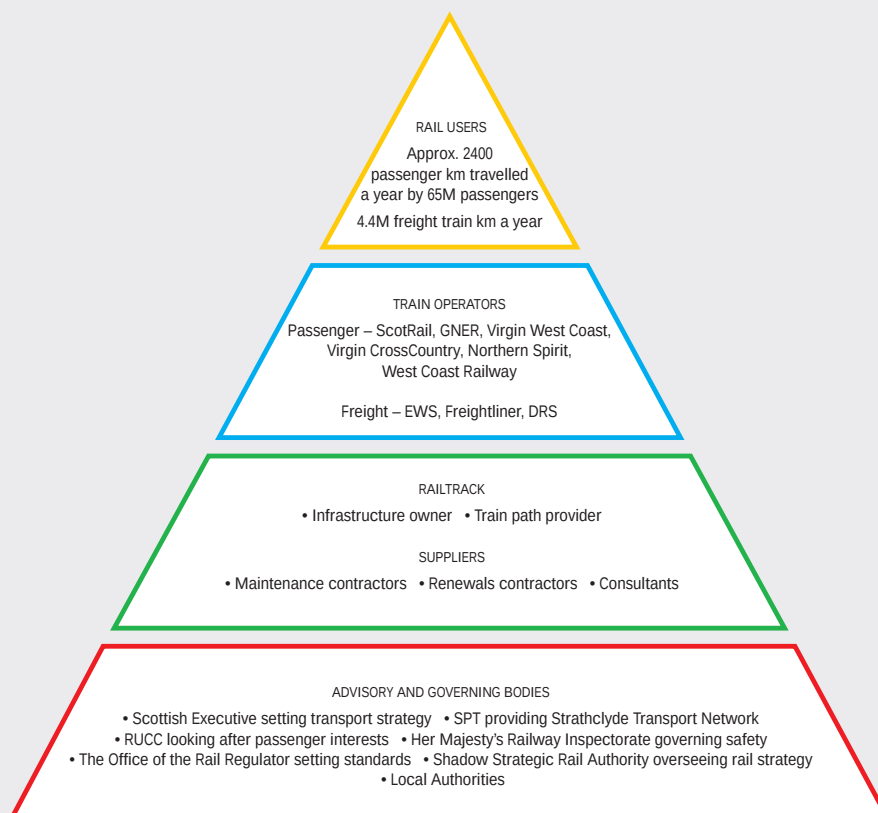
We hope all partners, within and outwith the industry will work with us, to ensure that our target of trebling freight can be achieved.

Integration of road and freight – transfer of container traffic at a depot near Glasgow.



A partnership approach

The way in which Scotland's railway is managed and developed both today and in the future is critical to the successful operation of the network and its future growth. The list of railway partners in Scotland is long. We are pleased to have regular dialogue with them and believe that this is crucial and of benefit to our customers and rail users.



We are keen to build on the excellent relationship built up over many years with both Strathclyde Passenger Transport and with the local authorities across Scotland. Regular meetings with them at all levels take projects through from ideas often leading to the completion of works as either free-standing schemes or as enhancements to existing renewal works.

Schemes are varied and range from the more complex such as reopening the route from Larkhall developed with the SPT, or the construction of a new station at Dunfermline Queen Margaret financed by Fife Council to straightforward schemes such as the installation of cycle lockers at stations in Aberdeenshire.

Strathclyde Passenger Transport

Over the past ten years, the SPT network has experienced a 12.5% increase in passenger numbers with 7.7% being achieved in the last two years alone.

Infrastructure options are currently being developed with SPT, including feasibility studies considering platform extensions on the East Kilbride and Ayrshire routes to accommodate longer trains as well as expanded park and ride provision at a range of locations. Other solutions include the provision of an increased train frequency on the Ayrshire route, planned for 2001, together with the benefits that the Larkhall to Milngavie project would bring to passengers on that corridor. These benefits include a doubling of the train frequency to and from Milngavie, a 50% increase in services from Hamilton through the Argyle line and the opening of four new stations.

A key objective of SPT is the need to make stations safe and secure, and the continuing development of CCTV provision has had a clearly measurable effect in reducing crime at those stations already linked. So far, 64 stations across the SPT network are equipped and further expansion is a primary SPT aspiration. This will help deliver tangible improvements for the travelling public.

Improving access for all passengers is another key SPT aspiration. One example is the installation of passenger lifts at Paisley Gilmour Street at a cost of £1.3M. This project is jointly funded by Railtrack and SPT. Similar funding arrangements will deliver accessibility improvements at Port Glasgow.

Other current projects being actively developed by SPT in partnership with Railtrack and ScotRail include:

- The reconstruction of Partick Station with significantly improved interchange facilities with lifts provided from street level to the railway platforms.
- Provision of a new station at Gartcosh in association with North Lanarkshire Council.
- Studying opportunities for the reduction in journey times over key route corridors including Ayrshire, Inverclyde and Lanarkshire.
- Improvements to access at Anniesland, Motherwell, Glasgow Central Low Level, and several stations in East Renfrewshire, the latter in association with East Renfrewshire Council.
- Investigation of electrification of the Rutherglen to Coatbridge route, which will permit electric services from Whifflet to Glasgow.

Railtrack in the community

Railtrack Scotland takes its social and environmental responsibilities seriously and works with many local groups and organisations. One example of this is the 'Neighbourhood Engineers' scheme which makes school children aware of our engineering and operational activities. This is being done through opportunities in job experience, technical visits, industrial awareness days and by giving assistance with selected school projects. We believe that this provides an excellent opportunity to inform children of the development of our railways and more importantly, to emphasise the dangers of trespass and the hazards caused by vandalism on the railway.

For the second year running, we participated in 'The Partners in Giving' project. Our staff travelled to the Milestone House AIDS Hospice in Edinburgh where they were involved in decoration and refurbishment of the building and its gardens. Staff held fund-raising events such as parachute jumping and quiz evenings to raise funds for materials to carry out the work. All funds raised were matched by Railtrack, thereby enabling the work to be completed.

We have worked with local authorities to jointly fund schemes. Stonehaven in Aberdeenshire has benefited from this approach providing disabled access and improvements to the station environment such as improved car parking. On a smaller scale, we partnered the provision of information boards at stations, cycle lockers and environmental improvements. We also provided financial assistance to the Arches Theatre at Glasgow Central Station and to The Friends of the Kyle Line to commence refurbishment of rooms at Kyle Station to be used as a museum and gift shop. Railtrack continues to work with the Argyll Transport Trust at Bridge of Orchy to allow the station building to be converted into a hostel.

The interaction between people and the railway does not only happen in stations, depots and offices. The majority of the 4,179km of track which we operate in Scotland runs adjacent to land which we do not own. We are working to ensure that we fulfil our social obligations and have good relations with our lineside neighbours in all of our operations. Issues and queries about our activities can be taken 24 hours a day by the Railtrack Helpline, at a local call charge rate, on 0845 711 41 41.

Managing our environmental impact

We take our environmental responsibilities very seriously and to complement the inherent environmental benefits of rail, we are improving our performance in key areas such as:

- Awareness training for staff
- Developing relations with the Scottish Environmental Protection Agency and local authorities
- Commitment to purchase timber sleepers from sources accredited by the Forest Stewardship Council
- Piloting the reuse of spent ballast as aggregate for the construction industry.

Railtrack works with the British Transport Police in order to educate children on the importance of rail safety and the dangers of trespass and vandalism.





Train operators

ScotRail

Within Scotland, 95% of passenger services are operated by ScotRail, which is a major player in the Scottish transport scene, accounting for over 60 million passenger journeys per year. About 99% of ScotRail's 2,000 trains a day operate entirely within Scotland.

ScotRail has a clear vision that focuses on improving service delivery. Key objectives are to grow rail's market share in the corridors on which they operate, to improve the management and environment of their stations and to continue to improve their existing performance record.

ScotRail's parent company, National Express Group's (NEG), principal franchise commitment was to introduce 47 new trains during 2000, nine for use on the Edinburgh to Glasgow route and 38 new trains on the SPT network. ScotRail subsequently exceeded this commitment by ordering a total of 64 new trains, to allow for growth and service expansion at a total investment of some £200M.

The new TurboStar trains are now in service on ScotRail's prime interurban routes between Edinburgh and Glasgow Queen Street and Edinburgh and Aberdeen.

ScotRail operates the overnight services between Scotland and London over the West Coast route. The sleeping cars have recently undergone a refurbishment programme with berths and toilet facilities for the disabled. 'Club cars' with reclining seats are now available.

For the future, ScotRail holds a firm aspiration for journey-time reductions on a number of routes. Improvements have been delivered on the Edinburgh to Glasgow and Edinburgh to Aberdeen corridors to coincide with the introduction of new rolling stock. Railtrack and ScotRail are also jointly addressing the potential for improvements on other routes, most immediately between Aberdeen and Inverness, and Edinburgh/Glasgow and Inverness.

Railtrack is working closely with ScotRail to ensure that the network is ready to accept these new trains and the associated service enhancements. For example, on the Edinburgh to Glasgow and Edinburgh to Aberdeen corridors, significant works have been carried out to regenerate stations and improve track, drainage, signalling and electrical equipment at key locations. Similar joint working is under way on the Glasgow to Ayr, Largs and Ardrossan corridors in advance of the introduction of ScotRail's new Class 334 trains.

Northern Spirit

This year has seen the reinstatement of direct services between Leeds and Glasgow via Carlisle with one train a day in each direction.



GNER

GNER provides high-speed, long-distance services, between London King's Cross and Edinburgh, with some trains extending through to, and from, Glasgow Central, as well as Aberdeen and Inverness. Scotland has benefited from the commitment to increase frequency of services and investment at Dunbar and Edinburgh Waverley stations. Dunbar now has a new customer lounge and platform waiting shelter. A new first-class lounge and travel centre at Edinburgh Waverley is now complete following a total refurbishment.

GNER continues to seek improvements to all aspects of customer comfort and safety, including car-park expansion, accessibility, interchange with other modes of transport as well as working with Railtrack to improve performance and achieve passenger charter. Depots at Edinburgh, Craigentinny and Aberdeen Clayhills are being maintained and upgraded to facilitate these operations.

Working in conjunction with Railtrack, GNER proposes to significantly upgrade all aspects of the journey on the ECML. This will include:

- Improved service frequency and journey times, using tilt-train technology. This would mean a 50% increase in the services between Edinburgh and London, resulting in benefits to performance and reliability.
- The development of a parkway station at Musselburgh, on the outskirts of Edinburgh.
- Journey-time reductions between Edinburgh and Aberdeen giving a two-hour journey.
- Further improvements to station facilities and additional car parking.

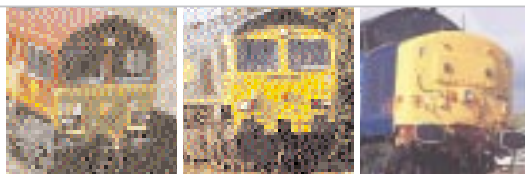
Virgin West Coast and CrossCountry

Virgin West Coast operates a high-speed, frequent service between London Euston and Glasgow Central and Virgin CrossCountry trains provide long-distance services between Glasgow, Edinburgh and Aberdeen to various destinations south of the border. Virgin West Coast is currently looking at a number of developments in Scotland in conjunction with Railtrack, which include additional car parking at Motherwell, options for integrated transport and disabled access at various stations, and providing a first-class waiting lounge facility at Glasgow Central. In conjunction with Railtrack and its other rail industry partners, Virgin is continuously striving for improvements in punctuality and reliability. Virgin CrossCountry is pursuing similar activities with the focus more on developments at Edinburgh Waverley (improved waiting facilities, better access) as well as wheelchair access at Lockerbie Station.

Customers in Scotland will see a step change in services by both operators in 2002/03 with the introduction of:

- New rolling stock including tilting train technology for West Coast providing customers with reduced journey times, increased service frequencies and new standards of passenger comfort and service.
- New tilting and non-tilting diesel trains for CrossCountry, thus increasing the frequency of service departures, reducing journey times, providing clockface departures and improving performance and reliability.





English Welsh & Scottish Railway (EWS)

EWS is the biggest rail freight operator in the UK. It has traditionally been dominant in the bulk markets of coal, steel and aggregates but is expanding into the developing markets of consumer goods, food, drink and international traffic.

The focal point of EWS operations in Scotland is Mossend Yard and Euroterminal near Motherwell with subsidiary locations at Ayr (Falkland), Fort William, Inverness, Aberdeen and Edinburgh (Millerhill).

EWS growth strategy is to triple its business in ten years with a substantial percentage of this in the developing markets.

They have achieved a UK first by conveying supermarket traffic on rail, between Bellshill and Inverness for Safeway. Other customers won over to rail include Lovat Water and Superdrug. Railtrack and EWS are currently planning a joint upgrade of Mossend Yard.

Coal still forms a large percentage of the rail movements in Scotland whether it be for internal consumption or transportation to southern destinations.

Freightliner Ltd

FREIGHTLINER LTD is the largest intermodal rail operator in the UK. It is the prime mover of maritime container freight and operates a network of services between inland terminals and the major container ports.

The hub of Freightliner operations in Scotland is the Coatbridge Terminal which is the busiest inland terminal in Great Britain. Freightliner's plan is for controlled growth in a competitive market by focusing on customer care, quality and service reliability.

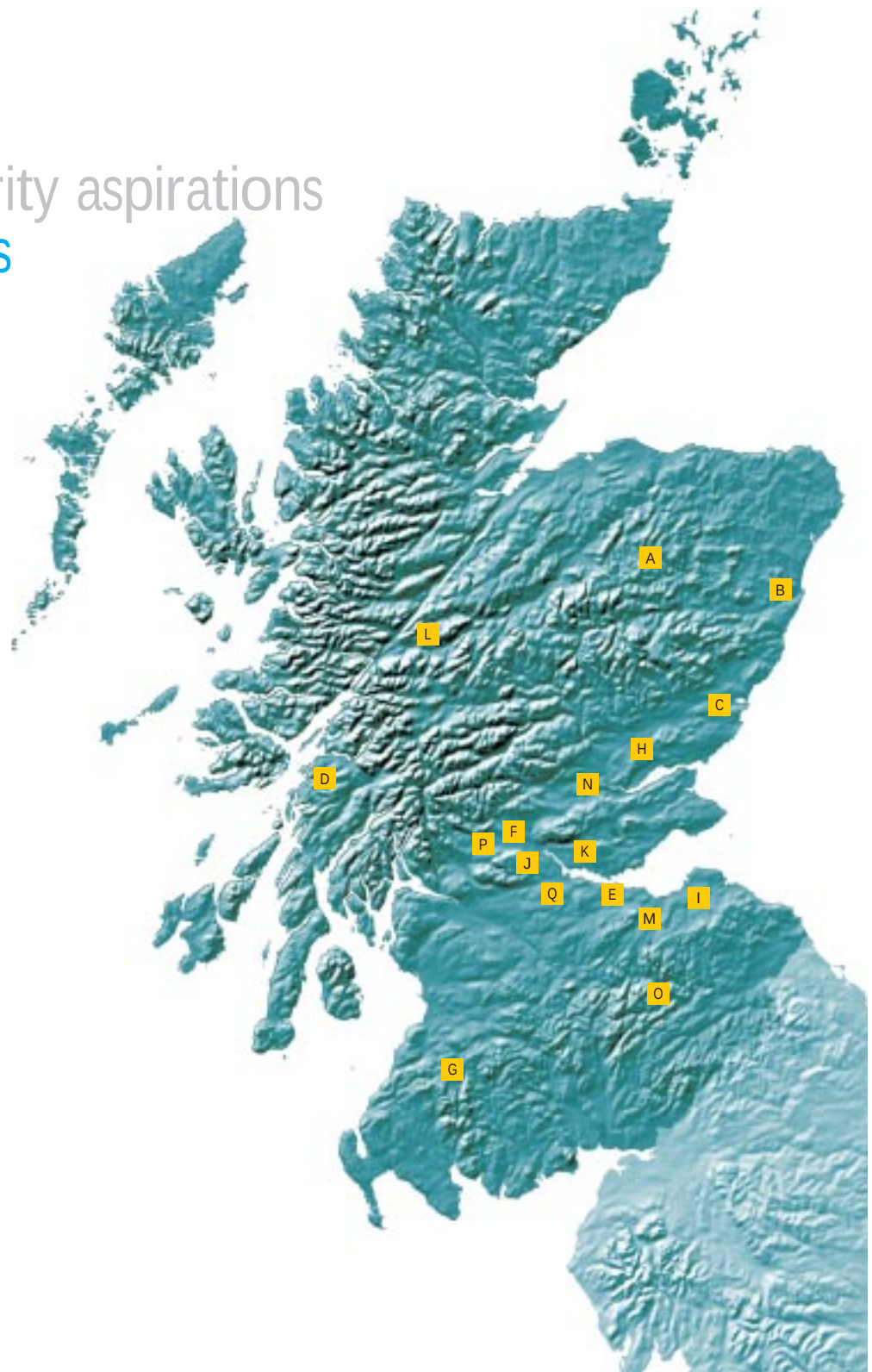
Operations within Scotland are expanding with Fort William, Deanside (Glasgow) and Grangemouth now being served. Other locations will be brought on stream as the business grows.

New ventures include entering the car transport and heavy-haul markets.

Direct Rail Services

DIRECT RAIL SERVICES (DRS) is the rail transport division of British Nuclear Fuels Ltd and is mainly concerned with carrying nuclear materials to a variety of locations throughout Britain. Locations served within Scotland are Hunterston and Torness.

Local authority aspirations and progress



Base map ©MAPS IN MINUTES™ 1997

A Aberdeenshire Council

Journey-time reductions between Aberdeen and Inverness
[Targeting 5min reduction by 2001](#)

Edinburgh–Aberdeen electrification/enhancement
[10min journey-time reduction for May 2000 timetable](#)

Inverurie–Stonehaven (cross-Aberdeen local service)
[Subject of a joint cost-benefit assessment](#)

Installation of cycle lockers at all stations
[Completion March 2000](#)

Transport interchange Inverurie
[Discussion ongoing with Railtrack](#)

Station facilities improvements
[Ongoing](#)

New station at Kintore
[Linked with cross-Aberdeen service](#)

Reopening of Laurencekirk Station

Freight development
[Management group in place. Rail Freight Development Officer to be appointed](#)

B Aberdeen City Council

Journey-time reductions and route upgrade between Aberdeen and Inverness
[Targeting 5min reduction by 2001](#)

Edinburgh–Aberdeen electrification/enhancement
[10min journey-time reduction for May 2000 timetable](#)

Improved freight gauge from Aberdeen to Channel Tunnel
[Northeast Scotland rail freight group established](#)

Inverurie–Stonehaven (cross-Aberdeen local service)
[Subject of a joint cost-benefit assessment](#)

Aberdeen Station transport interchange (Guild Street)
[Improve Dyce interchange and facilities](#)

Station developments
[Development of freight-handling facilities](#)

C Angus Council

Edinburgh–Aberdeen electrification/enhancement
[10min journey-time reduction for May 2000 timetable](#)

Transport integration at Carnoustie with additional car parking
[Discussion ongoing with Railtrack](#)

Accessibility at Montrose and Carnoustie
[At pre-feasibility](#)

Transport integration at Monifieth
[Discussions ongoing](#)

D Argyll and Bute Council

Strategic review and development of freight facilities in the Oban and Lorne area
[Progressing](#)

Heritage issues at station buildings
[Options for Taynuilt being developed](#)

Station facilities improvements
[Ongoing](#)

E City of Edinburgh Council

Edinburgh Airport Link
[Pre-feasibility study](#)

Journey-time reductions between Edinburgh and Aberdeen
[Targeting 10min by 2000](#)

ECML upgrade
[Progressing](#)

WCML upgrade
[Progressing](#)

Shotts Line improvement
[Long-term strategy under review](#)

Waverley Line reopening
[Scottish Executive study completed](#)

Edinburgh CrossRail
[Funding agreed, scheme being progressed](#)

Edinburgh suburban reopening
[Ongoing](#)

Park and ride car parks

CERT
[Discussions about implementation are ongoing](#)

Haymarket lifts
[Railtrack proposing for 2000/01](#)

Dalmeny car-park extension
[Developer involvement](#)

Edinburgh Park new station
[Linked to CERT](#)

Edinburgh Waverley development
[Parliamentary hearing completed](#)

Forth Bridge visitor centre

Road access to Craigentinny Depot
[Discussions ongoing](#)

CCTV at all stations
[Curriehill and Dalmeny are proposed for the next stage](#)

Station improvements
[Ongoing](#)

Improve transport interchanges eg Haymarket
[Discussions under way](#)

F Clackmannanshire Council

Stirling–Alloa–Dunfermline reopening for freight
[Railtrack FFG submitted and seeking funding partners](#)

Stirling–Alloa passenger service

G Dumfries and Galloway

Freight improvement and growth

Stranraer journey-time reductions

Rail access to the proposed Glenmuckloch open-cast coal site
[Ongoing](#)

Kirkconnel Station improvements
[Progressing](#)

New freight terminal for timber in the Lockerbie area
[Progressing](#)

New freight terminal at Dumfries
[Progressing](#)

Reactivation of freight terminal at Stranraer

Stranraer Station relocation and interchange
[Progressing 2000–02](#)

Transport integration at Dumfries
[On hold](#)

New stations: Eastriggs, Dunragit, Thornhill and Beattock
[Demand study by Council](#)

Accessibility improvements at Lockerbie
[Progressing](#)

H Dundee City Council

Broughty Ferry Station Regeneration
[Progressing](#)

Dundee Station environmental improvements
[Progressing](#)

Radical upgrading of Dundee Station coinciding with upgrade of Waterfront

I East Lothian Council

ECML upgrade
Progressing

Half-hourly service to North Berwick
Trial service on Saturdays to commence May 2000 timetable

Dunbar local service

Reopening of Haddington Branch
On hold

East Linton new station

Musselburgh Parkway Station
Driven by GNER

Car-park improvements at North Berwick, Prestonpans,
Longniddry and Drem
Progressing

Cycle lockers/stands at stations
Progressing

CCTV at all stations
Longniddry, Drem, Prestonpans and North Berwick would be
included in the next stage

Accessibility at Prestonpans
Feasibility

J Falkirk Council

Grangemouth passenger service
On hold

Freight developments

Improved station accessibility
Work at Falkirk High in 2000

Car-park improvement: Falkirk High, Larbert and Polmont
Completion planned by 2001

CCTV at all stations
Further work, with Larbert and Falkirk Grahamston in
next stage

New station at Bonnybridge and Laurieston
On hold – site safeguarded

K Fife Council

Stirling–Alloa–Dunfermline reopening for freight
Railtrack FFG submitted and seeking funding partners

Journey-time reductions between Edinburgh and Aberdeen
Targeting 10min by 2000

Journey-time reductions between Edinburgh and Perth
Being evaluated

Aberdeen to Edinburgh electrification

Link to Edinburgh Airport
Pre-feasibility

Direct connection to/from the South and Alloa at
Dunfermline

Freight access across Tay Bridge
Options being evaluated

Intermodal freight hub at Halbeath or Thornton
Pre-feasibility

Development of Markinch Station as an interchange location
Pre-feasibility – discussions under way

Rosyth Europarc rail link

Splitting of Fife Circle services
Pre-feasibility

New station – Kirkcaldy East
On hold

Accessibility at Inverkeithing and Rosyth
Progressing

Car-park extensions at various locations eg Dunfermline
Progressing

Relocation of Burntisland Station
Feasibility complete

Heritage issues at North Queensferry

Inverkeithing interchange
Progressing 2000/01

New stations at Wormit and Newburgh
On hold – sites are safeguarded

CCTV at all stations
Leuchars, Cupar and Glenrothes would be included in
next stage

Improved cycle facilities at stations in Fife
Study under way

L Highland Council

Journey-time reductions on Far North Line
Ongoing

Journey-time reduction between Inverness and
Edinburgh/Glasgow
Ongoing

Journey-time reductions between Inverness and Aberdeen
Targeting 5min reduction by 2001

Beaulieu new station
Awaiting outcome of application for RPP funding

Turntable at Fort William and Mallaig
Progressing

Accessibility improvement at Dingwall

Transport interchange at Aviemore, Kingussie and Fort William

Community involvement in stations
Discussion ongoing with prospective tenants

Modal shift to increase freight use of WHL
Ongoing

Commuter services to Tain, Nairn and Aviemore

New stations at Tomatin and Culloden

M Midlothian Council

Route to the Borders
Scottish Executive study completed

Edinburgh CrossRail
Funding agreed. Scheme being prepared

Biston Glen extension
Study complete

N Perth and Kinross Council

Journey-time reductions Glasgow–Edinburgh and Inverness
Railtrack working towards 5min reduction by 2001

Journey-time reductions between Edinburgh and Perth

Perth Freight Terminal

Oudenarde new station
On hold – site safeguarded

Perth Station redevelopment
Railtrack developing a solution

Transport interchange at Perth
Linked with Perth Station redevelopment

Gleneagles Station improvement
To be carried out as part of SRP in 2000/01

Cycle lockers at all Perth and Kinross stations
Progressing

CIS at all stations in Perth and Kinross

O Scottish Borders Council

Route to the Borders

[Scottish Executive study completed](#)

Kielder freight route for timber traffic

[Scottish Executive study completed](#)**P Stirling Council**

Stirling–Alloa–Dunfermline reopening for freight

[Railtrack FFG submitted and seeking funding partners to take forward](#)

Stirling Forthside development

[Development stage](#)

Freight developments

Transport interchange at Stirling

Accessibility at Dunblane

Additional car parking at Stirling and Bridge of Allan

CCTV at all stations

[Next stage of CCTV to include Stirling, Dunblane and Bridge of Allan](#)

New station at Bannockburn

Q West Lothian Council

Shotts Line improvement

[Long-term strategy under review](#)

Bathgate to Airdrie rail link

[Council to feedback outcome of RDS study](#)

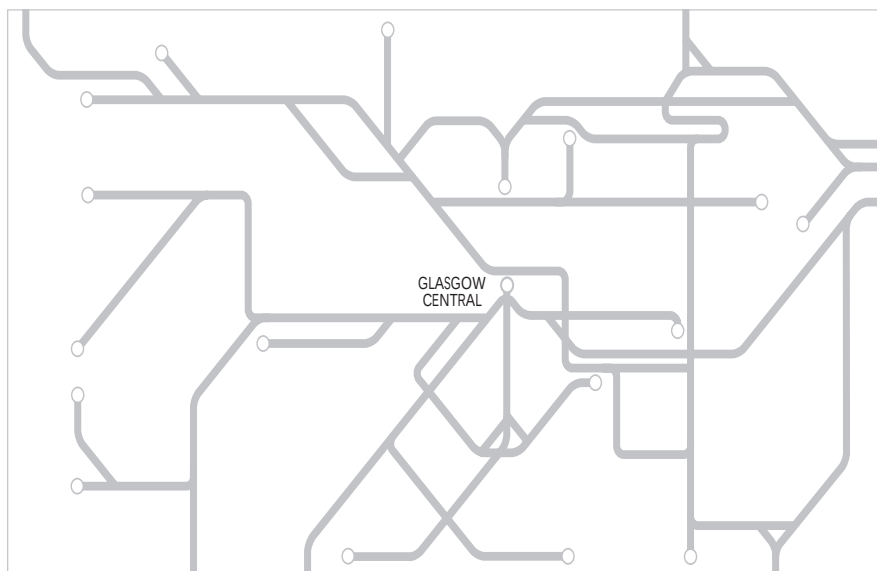
West Calder interchange

[Discussion ongoing with developer, Railtrack and Council](#)

Fauldhouse bus/rail link

[Work in progress](#)

CCTV at stations

[Next stage would include West Calder](#)**Strathclyde Passenger Transport**

Glasgow Airport link

[Under evaluation](#)

New line Larkhall–Milngavie & Anniesland

[Application for PPP funding being processed](#)

Rutherglen–Coatbridge electrification

[Feasibility study being considered](#)

Glasgow Central platform capacity

[Option study in progress](#)

Barrhead–Kilmarnock additional capacity

[Feasibility work completed – could be adopted as an IOS](#)

Programme of new stations

[Prioritisation being carried out](#)

Paisley Canal electrification

[Under consideration](#)

SPT car-parks extensions and improvements

[Prioritisation being carried out](#)

Station enhancement and accessibility

[Ongoing](#)

Partick Station redevelopment

[Design contract due to be awarded](#)

Paisley Gilmour Street lifts

[Completion March 2000](#)

Largs Station reconstruction

[Completion planned June 2000](#)

New station at Gartcosh

[Funding agreed by Scottish transport fund](#)

New station at Howwood

[Planning permission application being considered](#)

Ayrshire service improvements

[Planned summer 2001](#)

Additional Sunday services

[Ongoing programme](#)

Journey-time reductions

[Under evaluation](#)

Glasgow Central low level lifts

[Completion Sept 2000](#)

Lifts at Rutherglen

[Under consideration](#)

CCTV

[Ongoing programme](#)

Cycle lockers

[Ongoing programme](#)

Our railway tomorrow

In this section, we set out some options for Scotland's railway over the next two five-year control periods – using 2006 and 2011 as milestones. We identify the process for determining which developments are considered, identify some of the enhancements that could be adopted and discuss how funding could be achieved.

In the previous pages, we have shown the scale and scope of our railway network today. We have identified the main players in our industry, given details of our achievements and outlined the expectations and aspirations of our key partners and customers who will play their part in improving our network.

We have also explained the approach we adopt to the way we carry out our business, the investments we have made and plan to make in consultation and negotiation with our partners and we have shown the capability and capacity of the network now and in the future.

We now look forward – to our vision of the railway we seek to develop in Scotland over the next ten years. It will be significantly different from today and it will be a railway fit for expansion as we move further into the 21st century.

Our Vision

Our vision can be stated very simply:

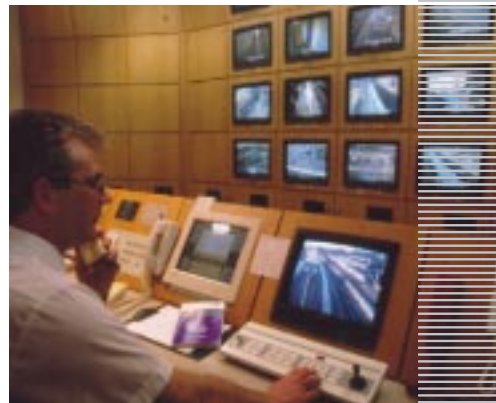
SUSTAINED GROWTH OF THE RAILWAY NETWORK Through a robust and innovative programme of maintenance and renewal of track, signalling and structures, we will build and develop routes, stations and associated infrastructure which is capable of supporting the expected 30% growth in passenger traffic and a trebling of freight traffic.

MORE TRAINS AND SHORTER JOURNEY TIMES Working in partnership with our train operating customers, we will meet the demands and expectations of our rail passengers and freight suppliers to provide more trains and shorter journey times.

A BETTER JOURNEY EXPERIENCE Utilising the most modern, safe and efficient working practices, we will provide a much improved service for all rail users. Our stations and depots will be among the best in Europe, trains will be more punctual, the journey will be smoother and our train links will be better integrated into other forms of transport.



SCOTRAIL SERVICE	PAISLEY GS	PT 1	GLASGOW AIRPORT	JOHNSTON	PT
GLASGOW	GREENOCK C	GREENOCK W	WATFORD	GOL	FRONT
SCOTRAIL SERVICE	P'SHIELD E	6	76 PK	ORR	FLORIDA K
PARK	CROFTFOOT	BURNSIDE	KIRK	NEUTON	
SCOTRAIL SERVICE	BARRHEAD		STEWARTON		KILMARNOCK
AUCHINCLOSS	NEIL CUNNING	KIRK	WILKINSON	DUNFRIES	ARMY
GRN	CHARLIE				
SCOTRAIL SERVICE	BARRHEAD	DUNLOP	STEWARTON	KILMARNOCK	KILMARNOCK
TRON	PRESTWICK	INT AIRPORT	PRESTWICK	AVR	RAYTOL
BARRHILL	STRAITHFERN				
SCOTRAIL SERVICE	PAISLEY GS	FOR	GLASGOW AIRPORT	JOHNSTON	
GLASGOW	JOHNSTON	KILMARNOCK	TRON	BARRHEAD	PRESTWICK
AIRPORT	PRESTWICK	NEIL CUNNING	AVR		
SCOTRAIL SERVICE	P'SHIELD W	76 PK	ORR	FLORIDA K	P'SHIELD E
LANGSIDE	CATHART	PT	FLORIDA	CROSSHILL	QUINN PK
					P'SHIELD E



Sustained growth of the network

Our vision for more passenger trains and more opportunities to move freight from road to rail is underpinned by our customers' aspirations to develop key rail links between Scotland's major towns and cities and rural communities with connections to the rest of the Great Britain network and European destinations.

PASSENGER TRAFFIC The level of growth expected is the largest level of increase in rail usage for many years. Our work on assessing these levels of growth was combined with that carried out by the Scottish Executive using their Central Scotland Traffic Model and has allowed us to examine the potential social environmental and economic benefits of providing additional rail services in Scotland.

A recent analysis indicated a fast direct service between Edinburgh and Glasgow Central via West Calder would provide a significant rise in the numbers of people using the train in addition to the numbers already using the present Edinburgh to Glasgow routes, whereas constructing a new rail link between Dunfermline and Livingston would result in little reduction in car usage.

We are currently progressing a number of developments which will help us meet the predicted growth patterns over the next ten years.

These include increasing the capacity on the Edinburgh to Inverkeithing route through signalling alterations and the provision of an additional passing loop on the Aberdeen to Inverness line.

Using a joint Railtrack/ATOC model, a GDP of 3.5% per annum and assuming that a fuel-price escalator continues, a growth of 35% on urban routes is forecast as an average for Great Britain. This is in line with the assumptions on which our Route Strategies are based.

FREIGHT TRAFFIC The transfer of more freight traffic from road to rail is one of our key objectives. On average, we expect this to increase to 50M tonnes each year for the next ten years. This will have the effect of transferring approximately 4,000 lorry movements from our roads per day and help to provide an efficient and safe solution for the transport of goods across the country.

We are actively engaged with our partners in the freight operating businesses to help them fulfil their customers' aspirations for increased volumes of goods on our network.

Currently, we are working on a number of developments to enhance the freight network in the next five–ten years. These include: the reopening of Stirling to Dunfermline via Alloa route and enhancements to Kilmarnock to Dumfries to Carlisle route as part of the creation of the Third Anglo-Scottish Freight Route.

More trains and shorter journey times

Much progress to permit more trains and shorter journey times on the network within Scotland, and, to and from Scotland, has already been made. The success brought through the ScotRail 2000 programme has shown significant benefits to the daily passengers using the Edinburgh to Glasgow Queen Street 15-minute interval service. Other successes to date have included the additional frequency of trains on the East Coast Main Line and on other services between our major towns and cities.

In the next two control periods, our customers have ambitious plans to continue and quicken the pace of this expansion of services.

For example, the SPT aims to increase the number of passengers by 50% on a number of their routes. To achieve this, they have already funded feasibility studies for many schemes including a new rail link to Glasgow Airport and an increased frequency between Barrhead and Kilmarnock. They are also keen to see reduced journey times from Glasgow to Ayr and Lanark. We are developing in partnership with the SPT and the Scottish Executive, a new route from Larkhall to Hamilton allowing additional trains.

Other plans include a two-hour journey time between Aberdeen to Edinburgh, a 3hr 55min service between Glasgow and London on the West Coast Main Line, and a 3hr 40min service from Edinburgh–London over the East Coast Main Line.

Railtrack is committed to working in partnership with the train operators to achieve their objectives and specifically has put in place a programme of maintaining, renewing and enhancing the rail infrastructure to help provide more trains and shorter journey times.

A better journey experience

At stations, passengers will have improved:

- Unassisted access to facilities
- Information available
- Sheltered waiting areas
- Modern toilets with baby-changing facilities
- Safety and security measures such as CCTV, better lighting and anti-slip floors.

Stations will also act as a vital transport hub within communities. Many will have improved car-parking facilities; bus and light-rail interchanges; taxi ranks and secure cycle racks.

TRAINS DELAYS AND CANCELLATIONS WILL BE REDUCED In ten years, we expect our present target of 1,000 Railtrack minutes delay each day on the network to be halved.

JOURNEYS WILL BE MORE COMFORTABLE Improved track quality will provide a smoother journey and train operators will provide additional on-board services for both short and long journeys.

2001–2006

Five years to create the momentum

In just over a year, Railtrack will move into a new control period as set by the Rail Regulator. He will publish his determination in July and our plans are therefore dependent upon this. In addition, the franchise replacement process is ongoing during the five years to 2006, the results of which will effect our plans.

Beyond the industry expansion of the network, the Government is taking a view of the long-term development of the network through the shadow Strategic Rail Authority. Known as Incremental Output Statements (IOS) these are a series of capacity/capability improvements which have been identified by the train operators, SPT, sSRA and Railtrack. If the benefits and installation costs are acceptable, these could be purchased by the sSRA and included in the settlement for the second control period for completion by 2006.

The challenge for the period 2001–06 is to create the momentum to ensure that the vision is in place for 2011. The map on the opposite page highlights a number of schemes and upgrades which are options for the five-year period.

Principle Options 2001–2006

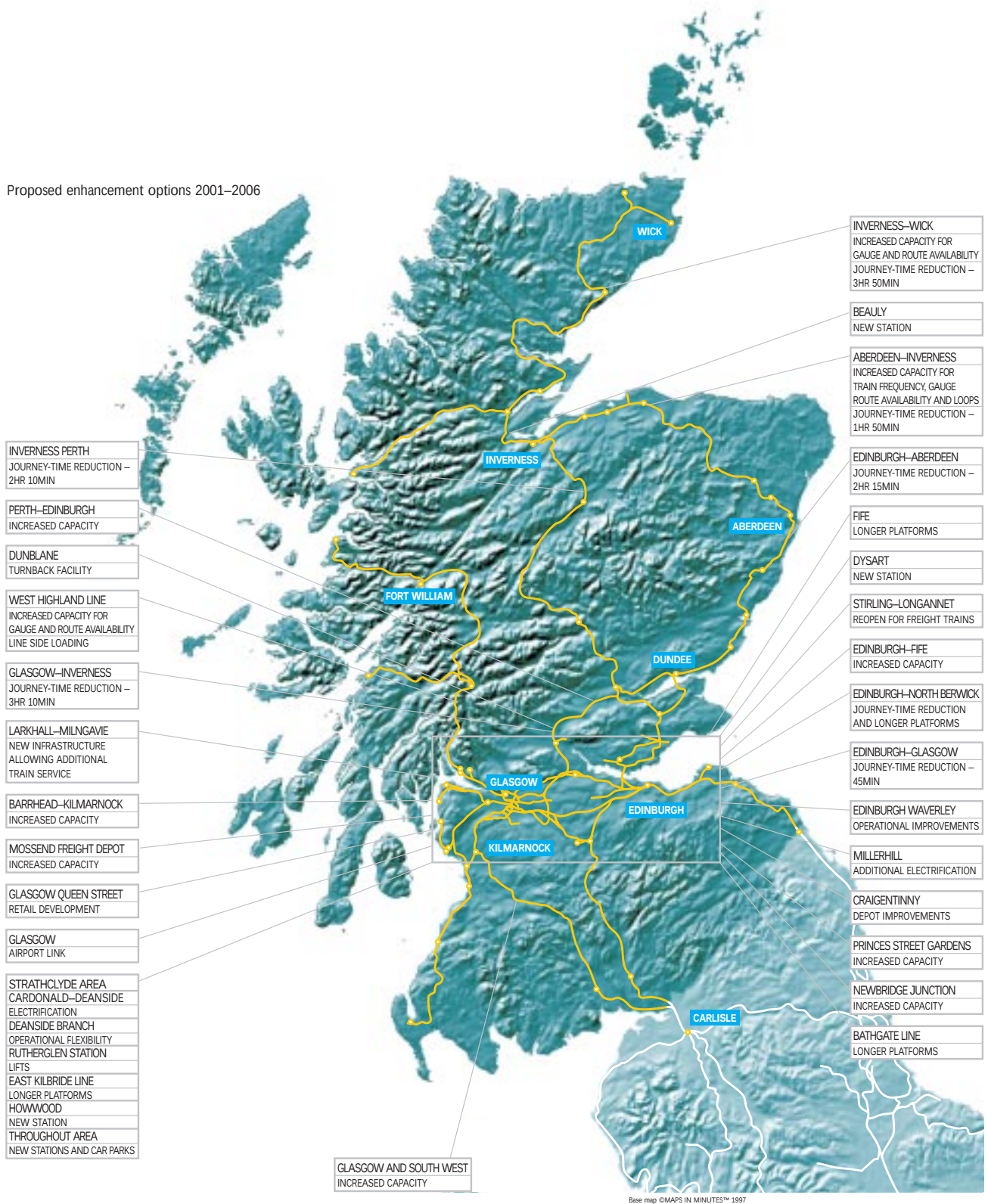
- A 1hr 50min passenger journey time between Aberdeen to Inverness.
- The reopening of the Stirling to Dunfermline via Alloa Line to benefit freight traffic travelling east and west across the central belt of Scotland.
- To undertake and support a fundamental review of the passenger timetable as part of the franchise replacement process in order to ensure robustness of the network capacity and its capability.
- The opening of the Edinburgh CrossRail service to Newcraighall (Kinnaird Park).
- Additional infrastructure between Barrhead and Kilmarnock to facilitate a half-hourly service.
- New stations to be opened across the network for example at Howwood, Gartcosh, Brunstane, Chatelherault and Beaully.
- Extend platforms for longer trains at a number of stations.
- Increase capacity on the network and widen the gauge availability for larger freight traffic.

These schemes are indicative of what could be achieved and, together with the further schemes identified opposite, are a summary of the main areas required to be developed in order to accommodate the expected growth. They can be delivered by 2006 and provide a real focus for momentum towards 2011.

OPTIONS FOR ENHANCEMENT EXPENDITURE 2000/01–2005/06

	£M						
	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	TOTAL
Long-term vision	0	0	0	0	0	3	3
Safety	14	12	2	0	0	0	28
Capacity	5	15	15	12	10	10	67
Customer Reasonable Requirements	7	15	10	10	7	5	54
Incremental Output Statements	1	21	49	72	67	72	282
Funded by partners	10	15	10	10	20	25	90
TOTAL	37	78	86	104	104	115	524

Proposed enhancement options 2001–2006



Towards 2011

The period from 2006–2011 could provide even more exciting development and enhancements to the railway.

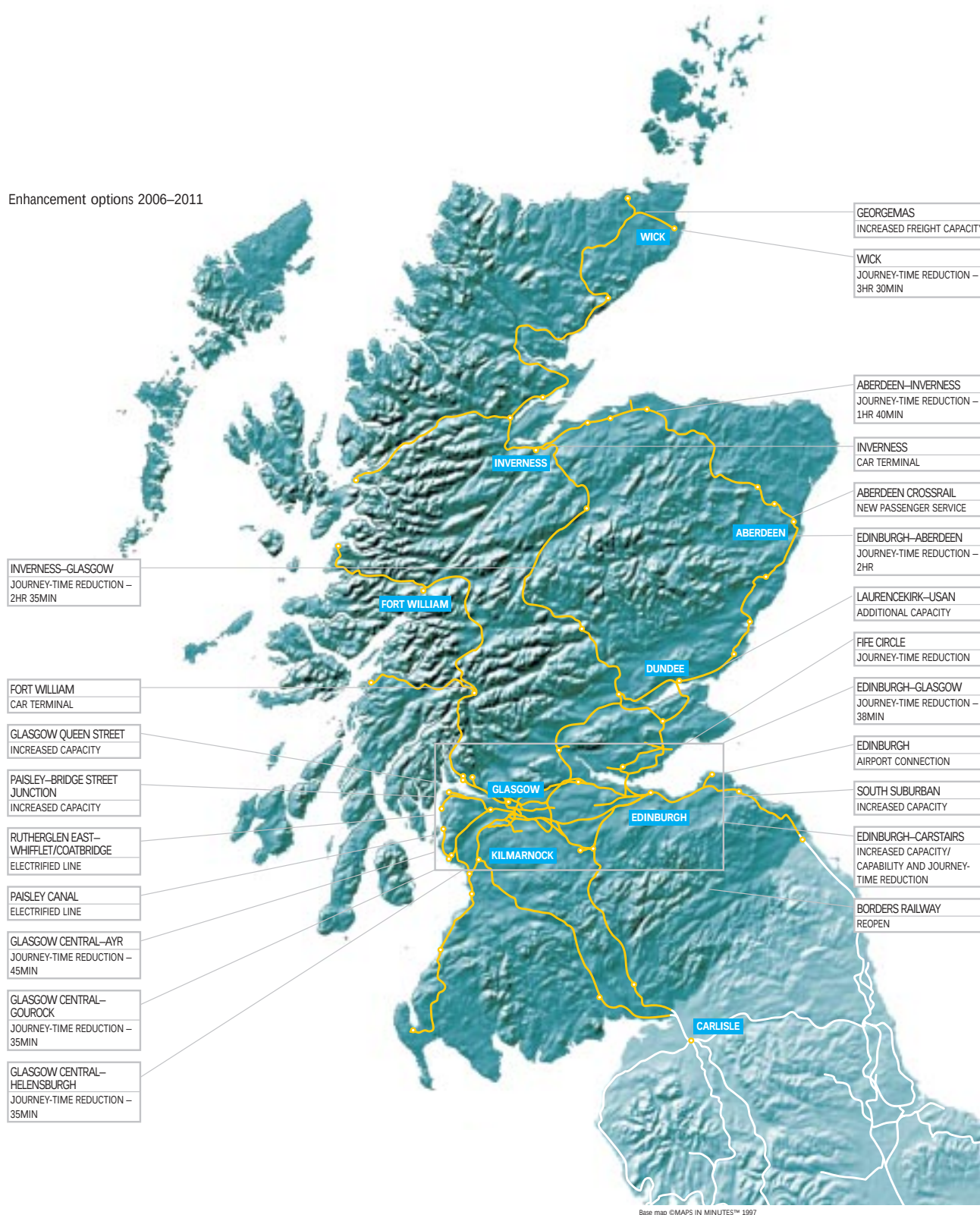
Our route strategies have examined the effects of growth on the network and formulated plans which have enabled a vision for the future to be identified. These together with other aspirations, many of which still require detailed analysis are set out below as options which we are working towards, to grow Scotland's railway even further.

- A significant increase in capacity between Glasgow and Paisley to meet additional services to Ayrshire, Glasgow Airport and commercial developments.
- Two-hour journey time between Aberdeen and Edinburgh.
- The journey times between Glasgow/Edinburgh–Inverness reduced to three hours or less.
- Work in partnership to reinstate the Waverley route towards Carlisle.
- Increased platform capacity at Glasgow Central.
- Edinburgh Airport presents a unique opportunity to provide the capital city of Scotland with a station which is accessible to all within Scotland. While constant debates have been ongoing about a station at Turnhouse heading to Fife or moving the main Edinburgh–Glasgow line nearer the airport, the radical and visionary option is to build the station under the airport.
- Developing in partnership the reopening of the Stirling–Dunfermline via Alloa route for all rail modes including a passenger/freight terminal at Scotland's only proposed European port at Rosyth.
- Expansion of the network in Scotland through new routes and electrification.
- Improvements to the gauging of the network to accommodate a trebling of freight traffic and the use of bigger freight containers.
- The introduction of direct suburban services in our cities is a real possibility for Scotland.
- The reopening of the south-suburban railway in Edinburgh to provide the capital with a real alternative to cars congesting the roads into the city.
- A CrossRail scheme in Aberdeen.

A number of these schemes can be incorporated into the franchise renewal process and others can be achieved in partnership with Government and other partners.

	2006/07	2007/08	2008/9	2009/10	2010/11	£M TOTAL
Long-term vision	45	45	57	62	59	268
Capacity	10	10	6	0	0	26
Incremental Output Statements	9	-	-	-	-	9
Funded by partners	2	2	2	2	2	10
TOTAL	66	57	65	64	61	313

Enhancement options 2006–2011



Achieving our vision

We will achieve our vision through a variety of actions which will demonstrate our responsibilities as custodians of the railway infrastructure as well as our skills and expert knowledge in managing, maintaining, developing and renewing the network facilities and services. The advice, guidance and support we offer to our railway partners, and through rigorous consultation and engagement with the wide circle of rail users will also be important in delivering our vision.

In pursuing these efforts, we will seek to continually improve our own business processes and practices and invest in the training and development of our staff.

Funding

To achieve our vision will require the innovative use of both public and private sector funding.

The private-public partnership process presents a way forward for some large-scale projects such as the Glasgow and Edinburgh airport links, the reopening of the line between Larkhall and Hamilton and the increase in capacity on the Aberdeen to Edinburgh and Inverness routes.

The Scottish Executive's £30M Public Transport Fund, which is available to local authorities for all forms of transport, could assist with projects such as car-park schemes, new stations and other ways to assist with integrated transport within local communities.

The Freight Facilities Grant scheme is specifically available to remove freight from roads through constructing rail depots, sidings and loading facilities.

The shadow Strategic Rail Authority has two specific funds for the long-term enhancement of the network. These are the Rail Passenger Partnership Fund and the Infrastructure Investment Fund which together total £105M and can be used for schemes such as journey-time reductions and increased capacity and frequency of services.

The receipts from the Scottish Executive's proposed road tolling and workplace parking charges can be used to complement other investments to benefit a variety of transport initiatives.

A variety of European funding packages can be utilised together with other investment to help a range of schemes.

These funding options are a key element to support the £2.3bn programme which Railtrack in Scotland plans for the next decade.

Conclusion

Scotland needs to deliver on what the public wants and expects from the railway. The vision for the development of the industry needs to be guided by the Scottish Executive. We have presented options for all involved in Scotland's transport to consider, review and develop with us. We will work in partnership, to ensure that Scotland's railway grows, reduces journey times and provides a better journey experience. We will then have the railway which we all want to serve the people of Scotland.

RAILTRACK

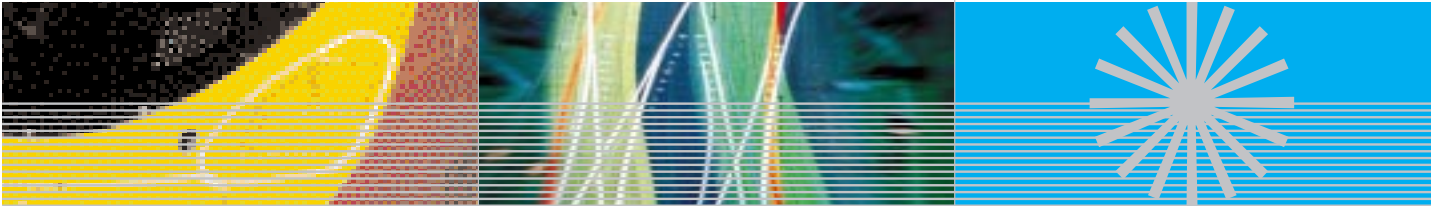
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Customer plans, zone plan and route strategies

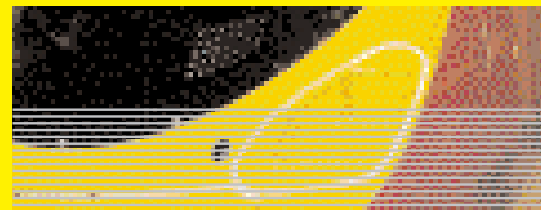
Customer plans
pages 2–11

**Zone plan and
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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.

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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

* 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



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

* 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



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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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 MGMT 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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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

* 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 MGMT 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

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 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 MGMT 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

* 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

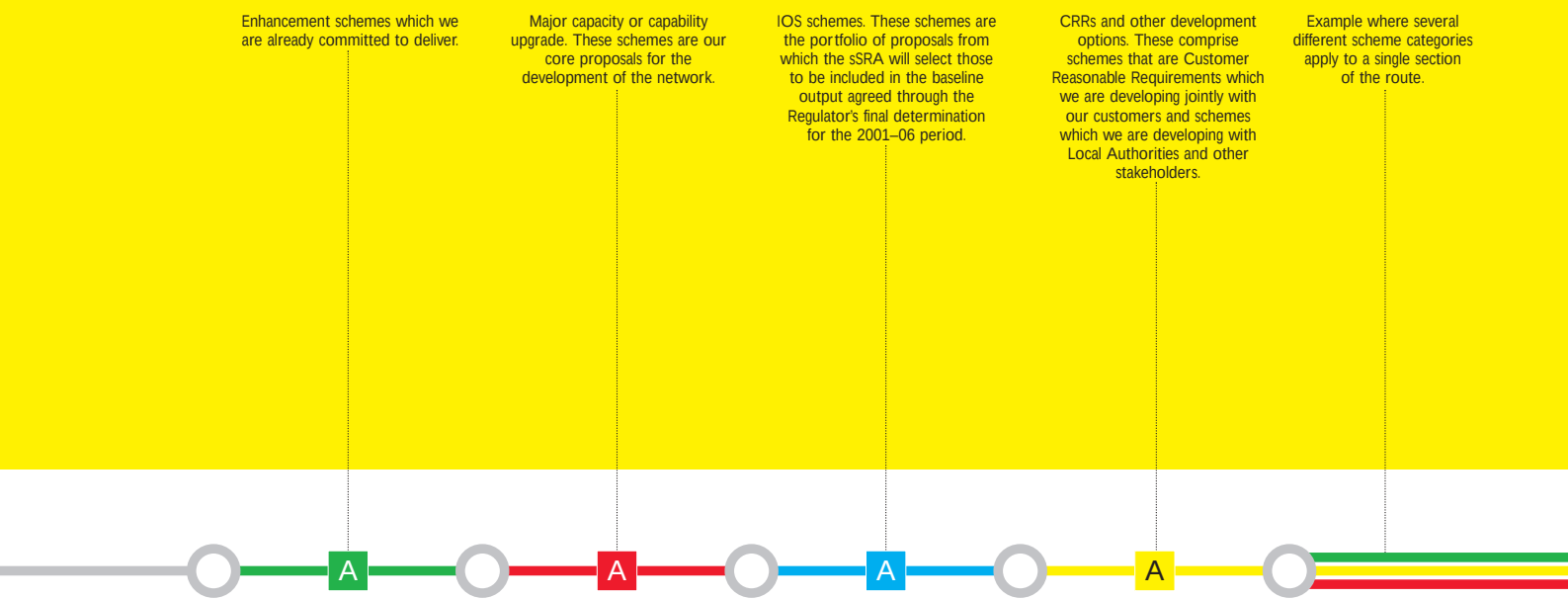
The sum of the figures may not match totals due to rounding

zone plan and route strategies

Colour coding used in the Route Strategies

Not part of the route

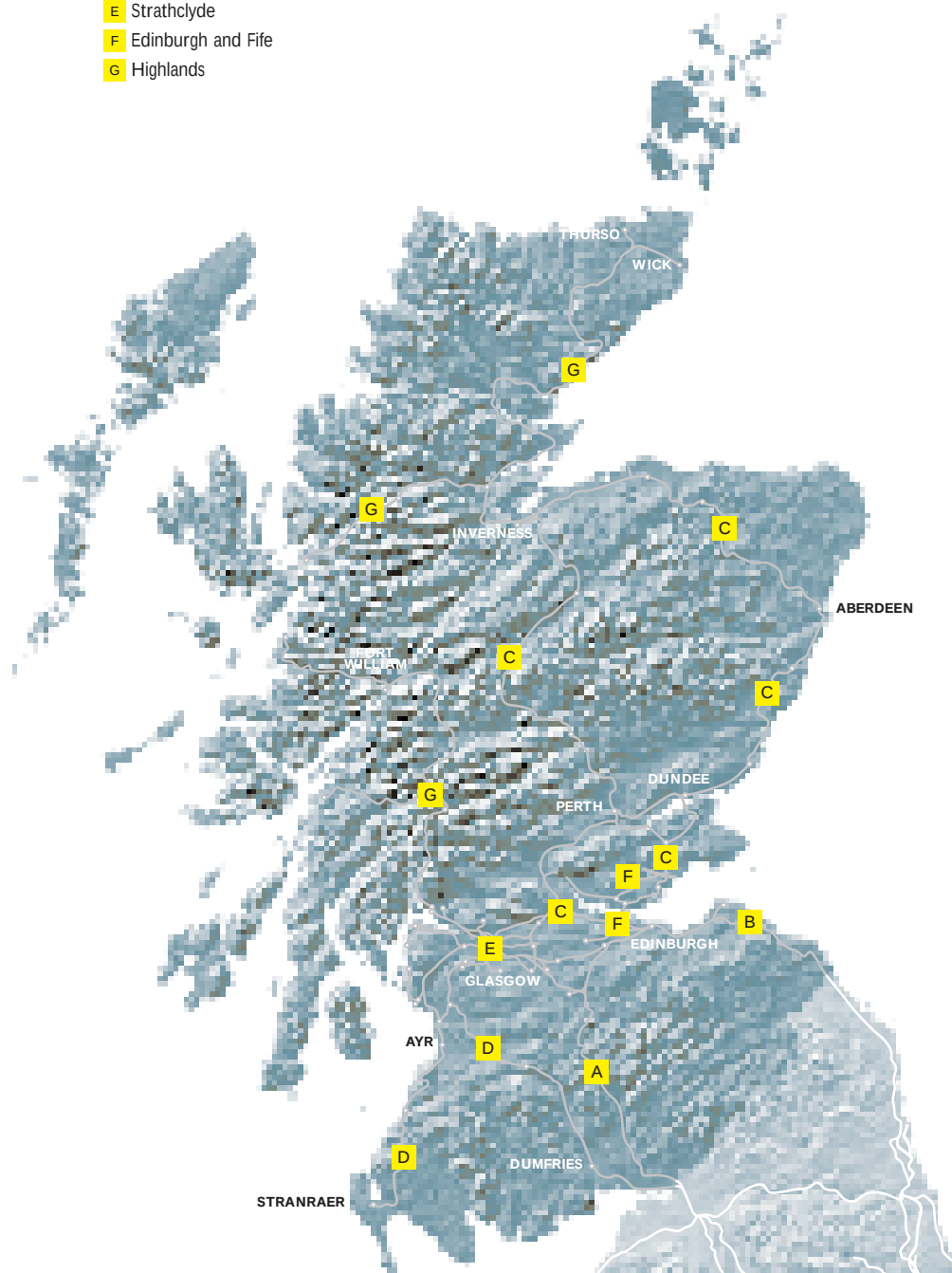




Zone plan	14
A West Coast Main Line: London to Glasgow and Edinburgh	16
B East Coast Main Line: London to Edinburgh	28
C Edinburgh to Glasgow, Glasgow and Edinburgh to Aberdeen and Inverness	38
D South West Scotland	44
E Strathclyde	48
F Edinburgh and Fife	54
G Highlands	58
H Freight-only routes:	62

Scotland Zone routes

- A** West Coast Main Line: London to Glasgow and Edinburgh
- B** East Coast Main Line: London to Edinburgh
- C** Edinburgh to Glasgow, Glasgow and Edinburgh to Aberdeen and Inverness
- D** South West Scotland
- E** Strathclyde
- F** Edinburgh and Fife
- G** Highlands



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

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

TOTAL	472
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Renewal rate

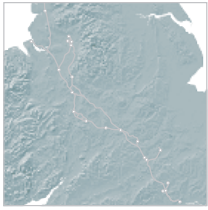
RENEWAL	ESTIMATED ACTUAL 1999/2000	EXPECTED 2000/01	EXPECTED 2001/02–2005/06*	EXPECTED 2006/07–2010/11*
Rail renewed (km per year)	45	21	22	13
Sleepers renewed (km per year)	43	38	40	23
Ballast renewed (km per year)	23	30	43	25
Signals renewed (km per year)	50	0	n/a	n/a
Structures renewed (no. of structures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



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 capability

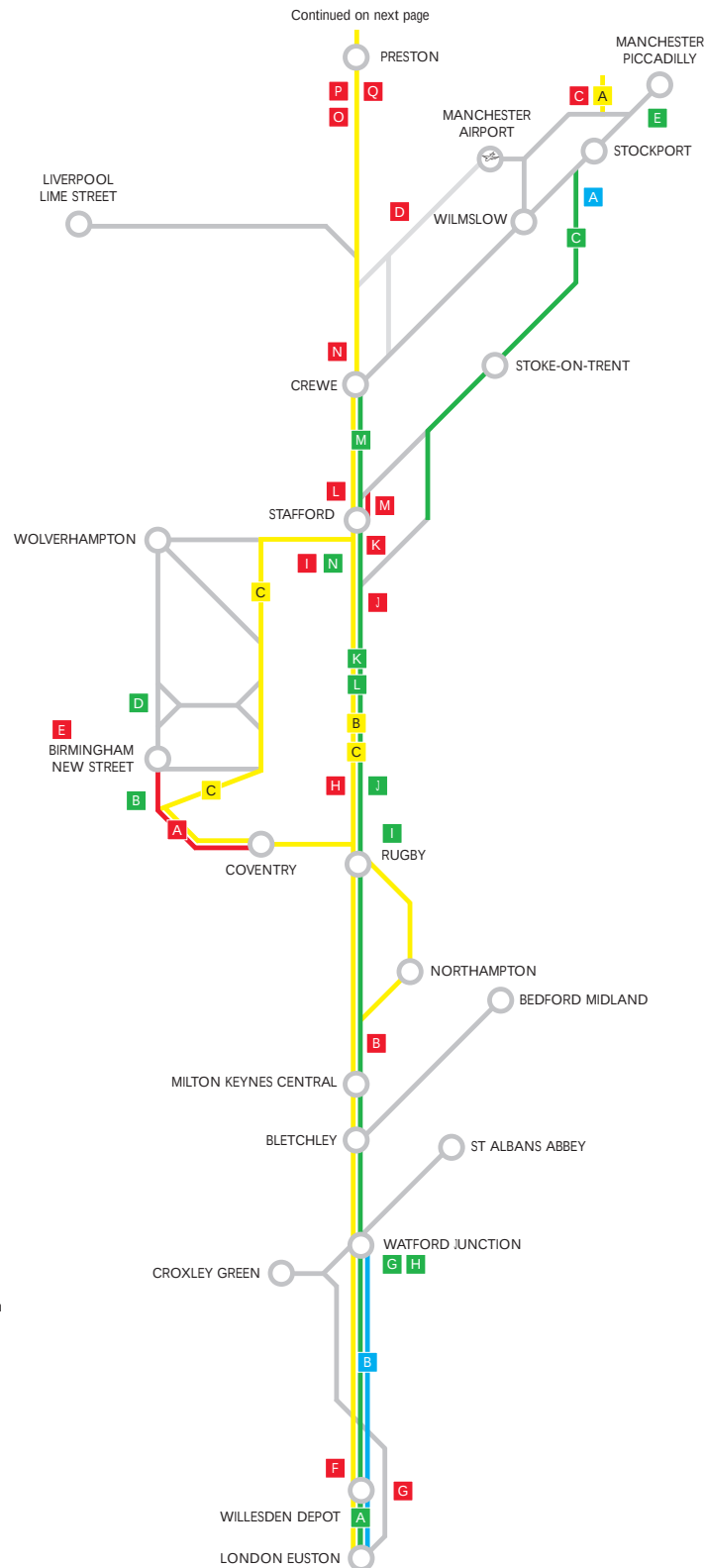
- A** Coventry–Birmingham: capacity upgrades
- B** Hanslope Junction: enhanced capacity
- C** Manchester: enhanced capacity
- D** Manchester Airport: new Western Link
- E** Birmingham New Street: additional capacity
- F** Willesden Junction: new bi-directional lines, or grade-separated junction
- G** 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

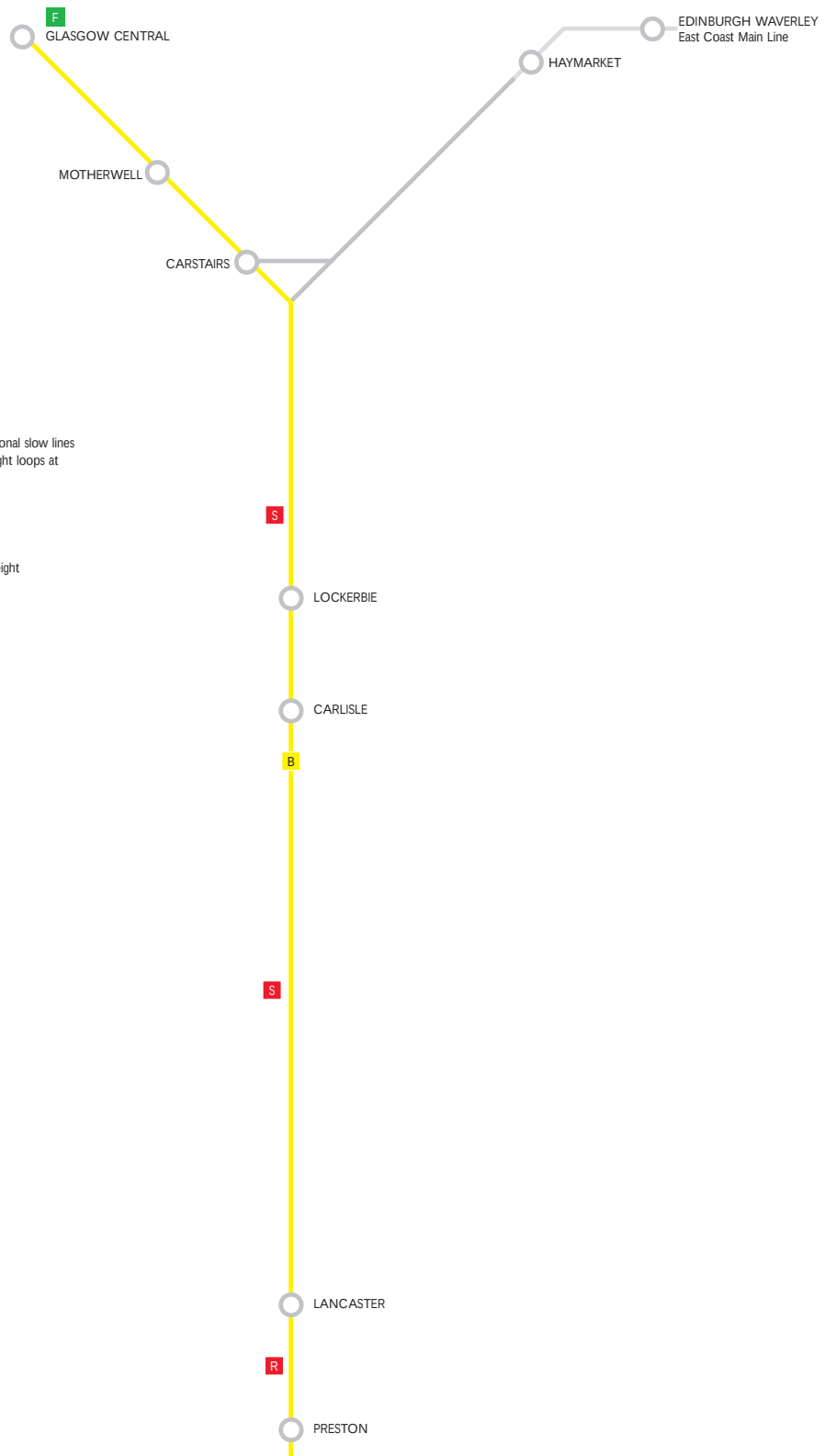
IOS options

- 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





Continued from previous page

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

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 1 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 11 and 111 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
Wesley 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

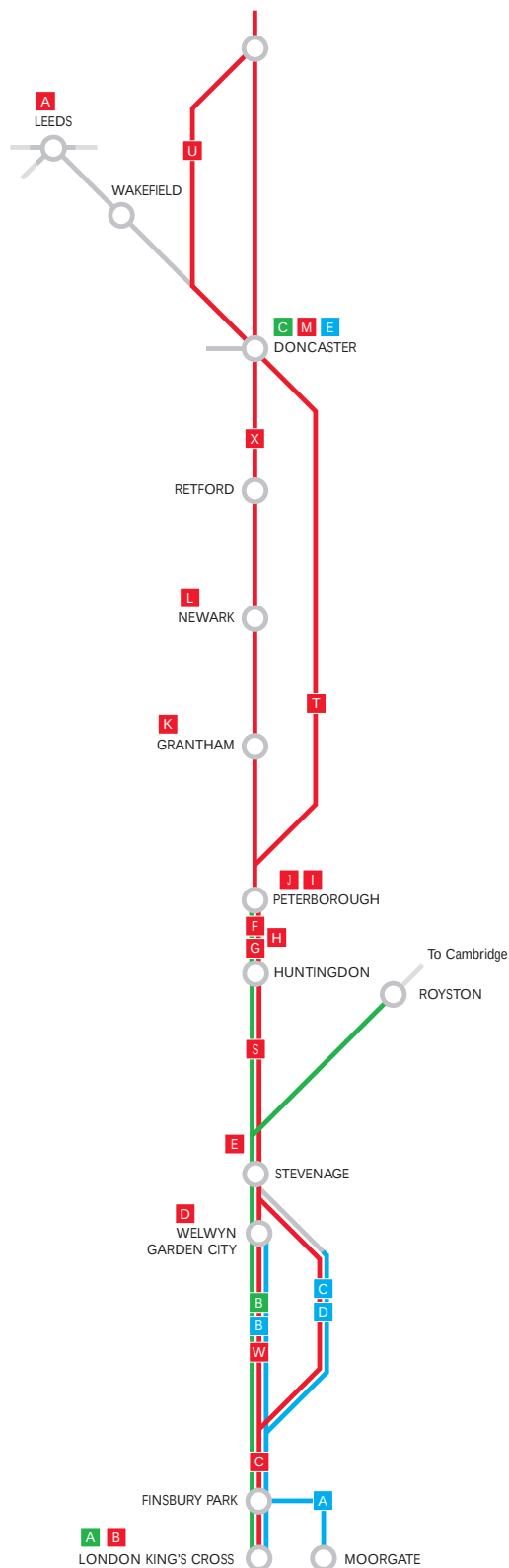
- A** King's Cross: new track layout
- B** Thameslink 2000: King's Cross–Cambridge and Peterborough: extension of platforms
- C** Doncaster: additional capacity

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



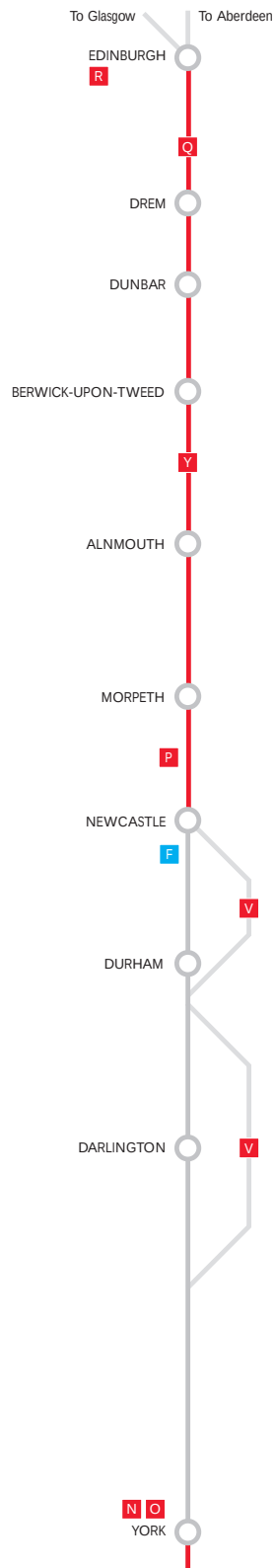


Options for major improvements to capability

- 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



GNER; ScotRail; Virgin CrossCountry; EWS.

Committed schemes

- A Forth Bridge: improved capability

Options for major improvements to capability

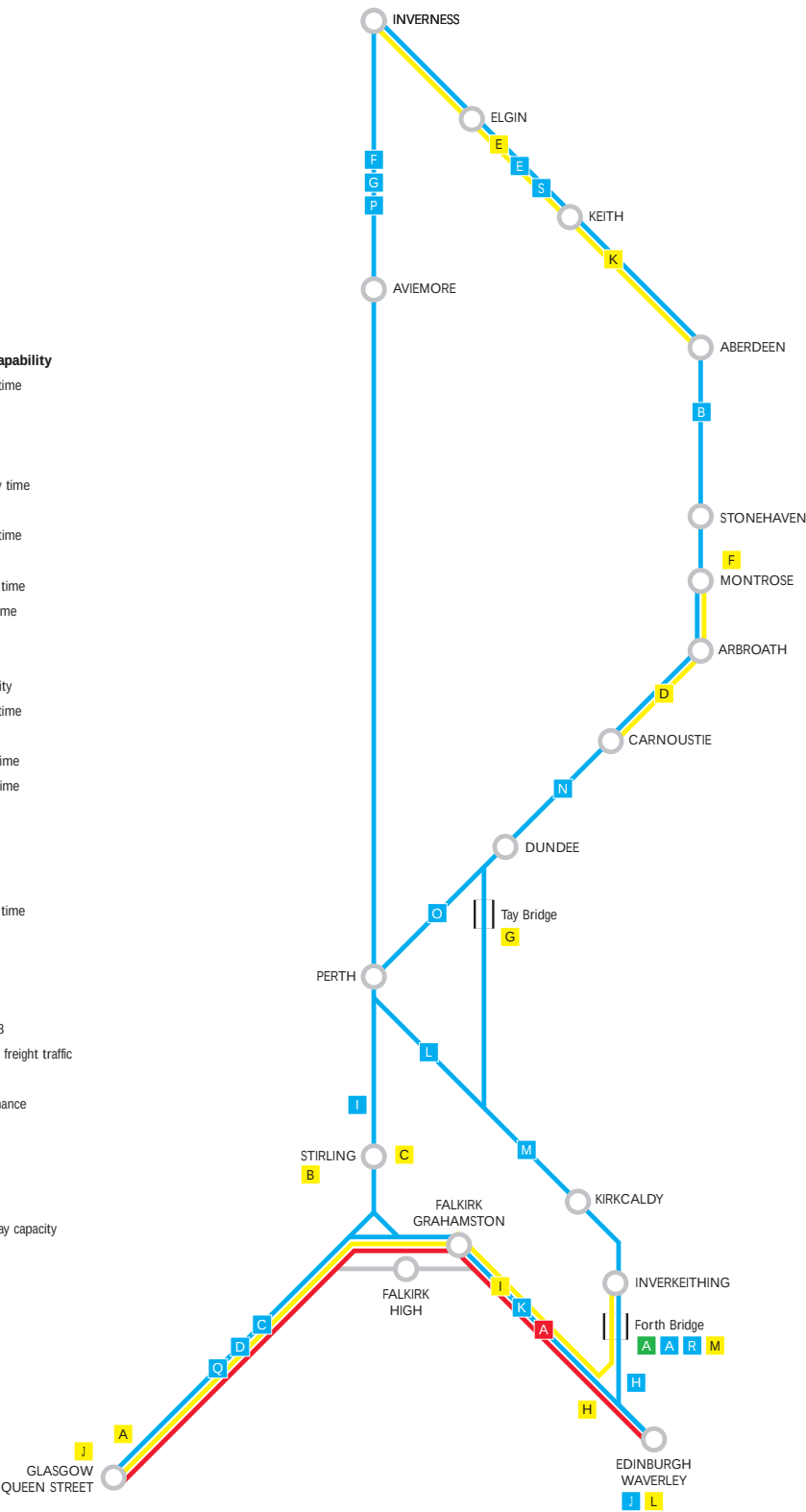
- A Edinburgh–Glasgow: improved journey time

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.

Raithe's Farm Freight Terminal We are currently finalising with other stakeholders in the development of a new freight terminal at Raithe's 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

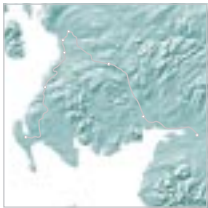
COMMITTED ENHANCEMENTS

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
Raithe's 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



ScotRail, DRS, EWS.

Committed schemes

- A Thornhill: improved performance
- B Ayr–Stranraer: improved safety

Options for major improvements to capability

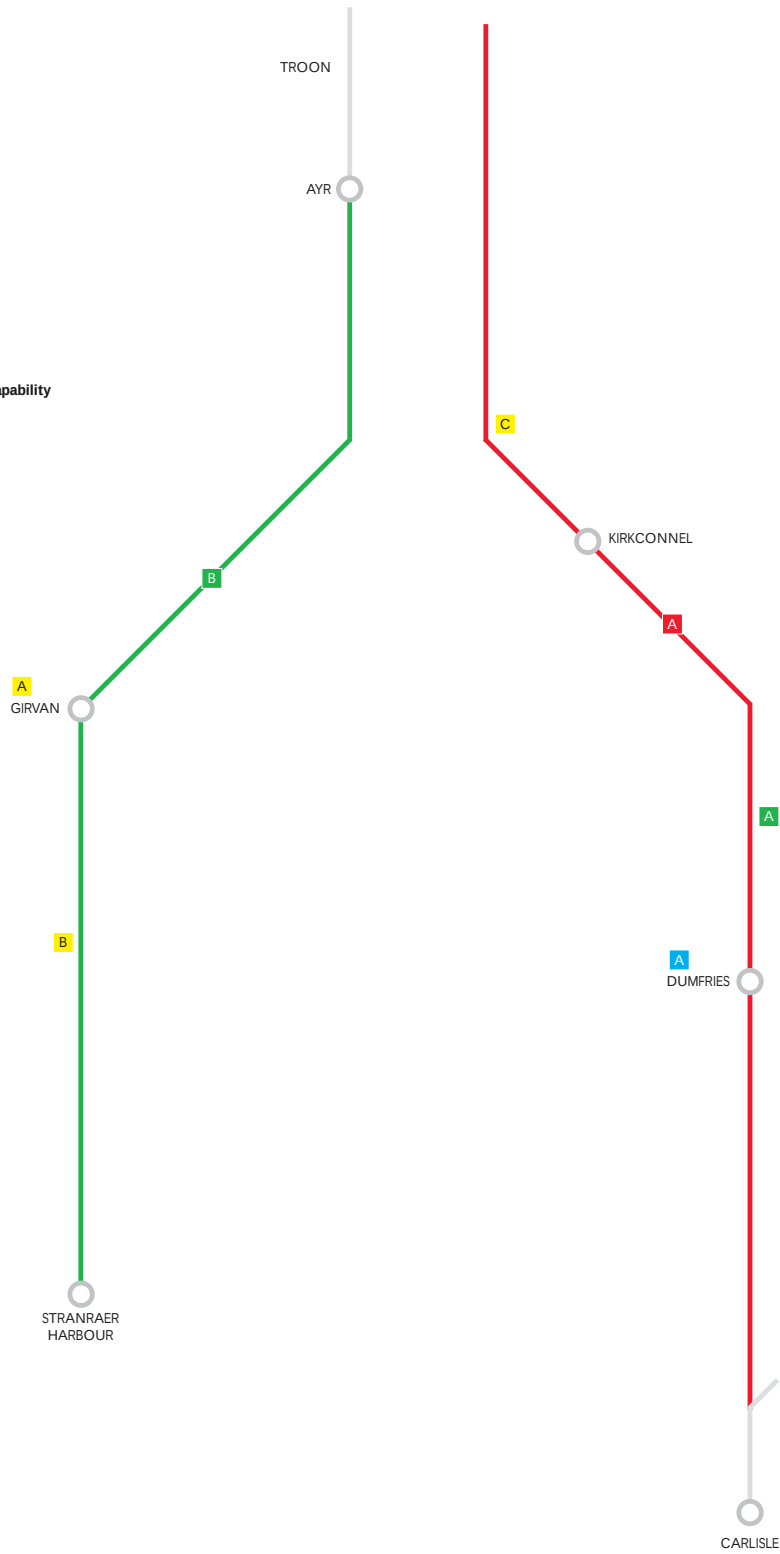
- A Barassie–Gretna: additional capacity

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

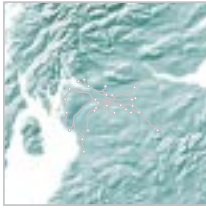
COMMITTED ENHANCEMENTS

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** Partick: 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

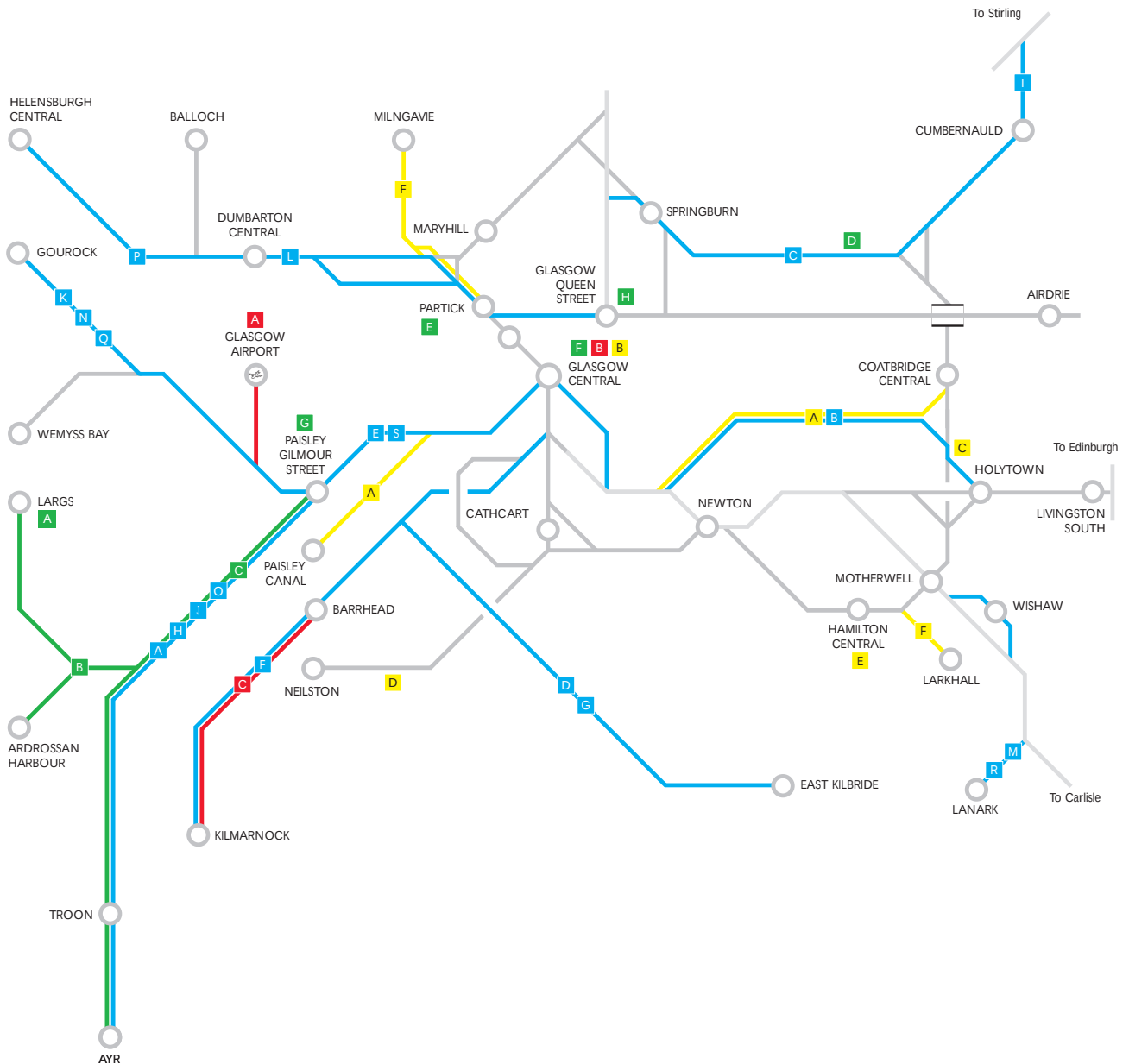
IOS options

- 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–Millingavie 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 Cowlares 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)	35min (40mph)
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)	35min (45mph)
Glasgow Central–Ayr	69	7	50min (52mph)	50min (52mph)	50min (52mph)	45min (57mph)

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

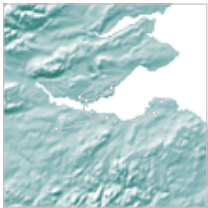
COMMITTED ENHANCEMENTS

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

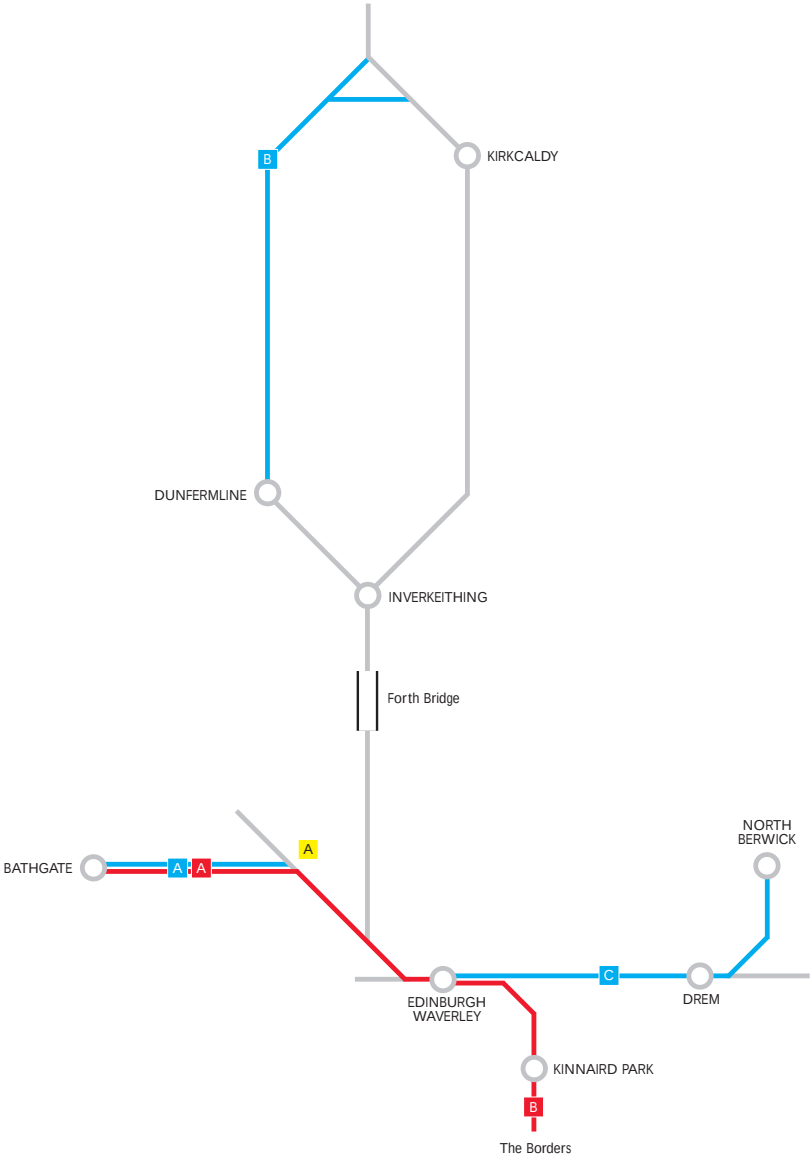
- A Edinburgh CrossRail: capacity upgrade
- B Edinburgh CrossRail: extension

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



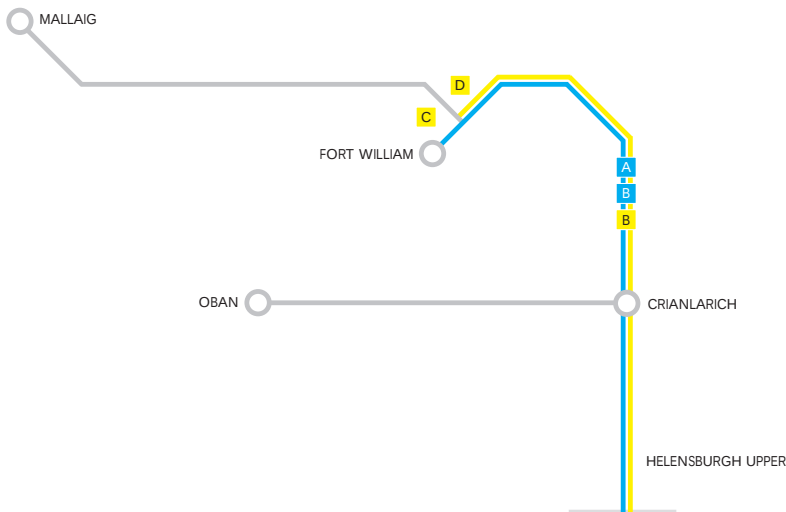
ScotRail, West Coast Railway Co, EWS.

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 Beaulieu: 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
Beaully	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

DRS: EWS; Freightliner

Options for major improvements to capability

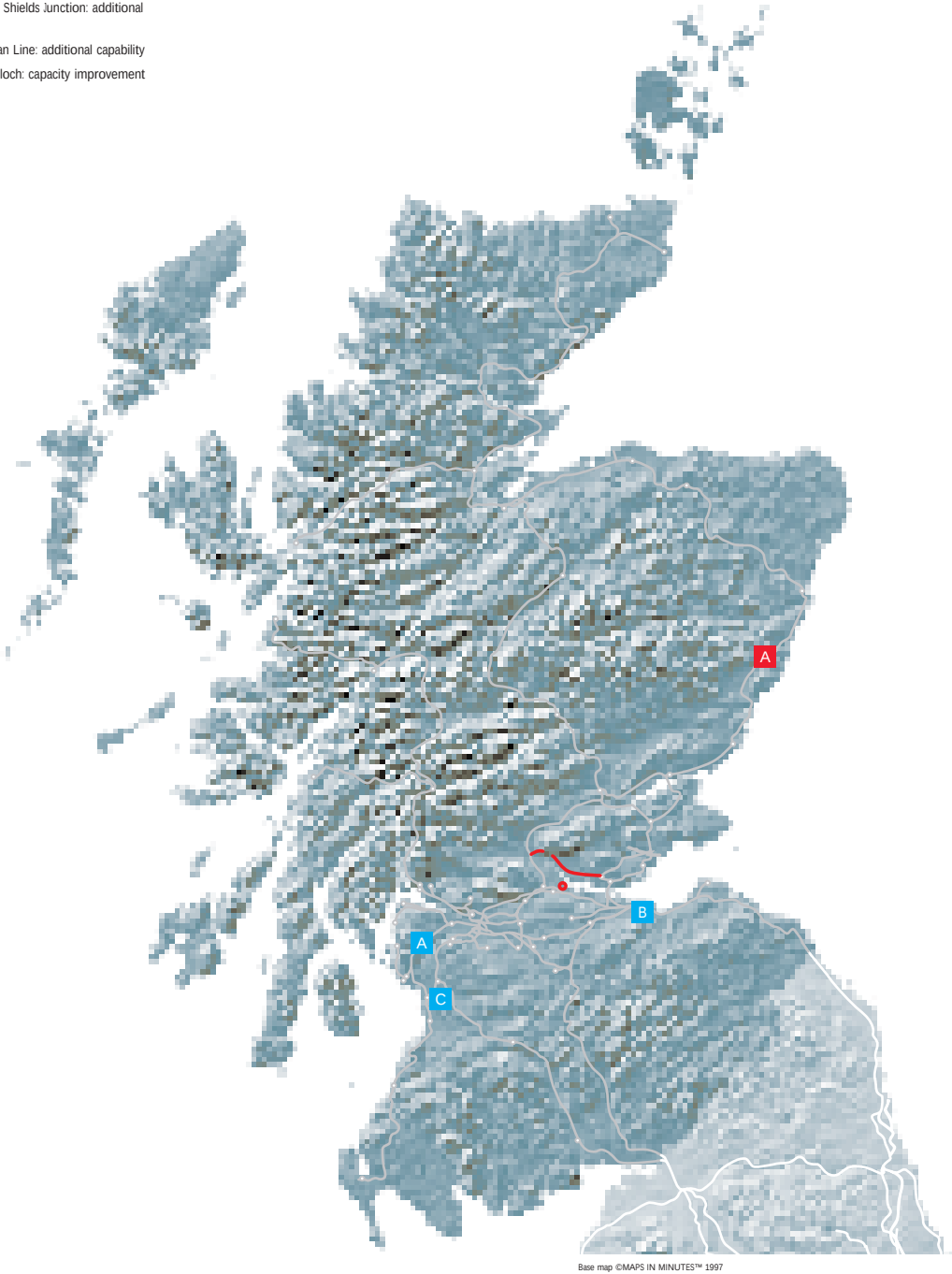
A Raith's Farm: increased freight traffic

IOS options

A Falklands Yard and Shields Junction: additional capability

B Edinburgh Suburban Line: additional capability

C Knockshinnoch-Killoch: capacity improvement



Base map ©MAPS IN MINUTES™ 1997

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
Raith'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	

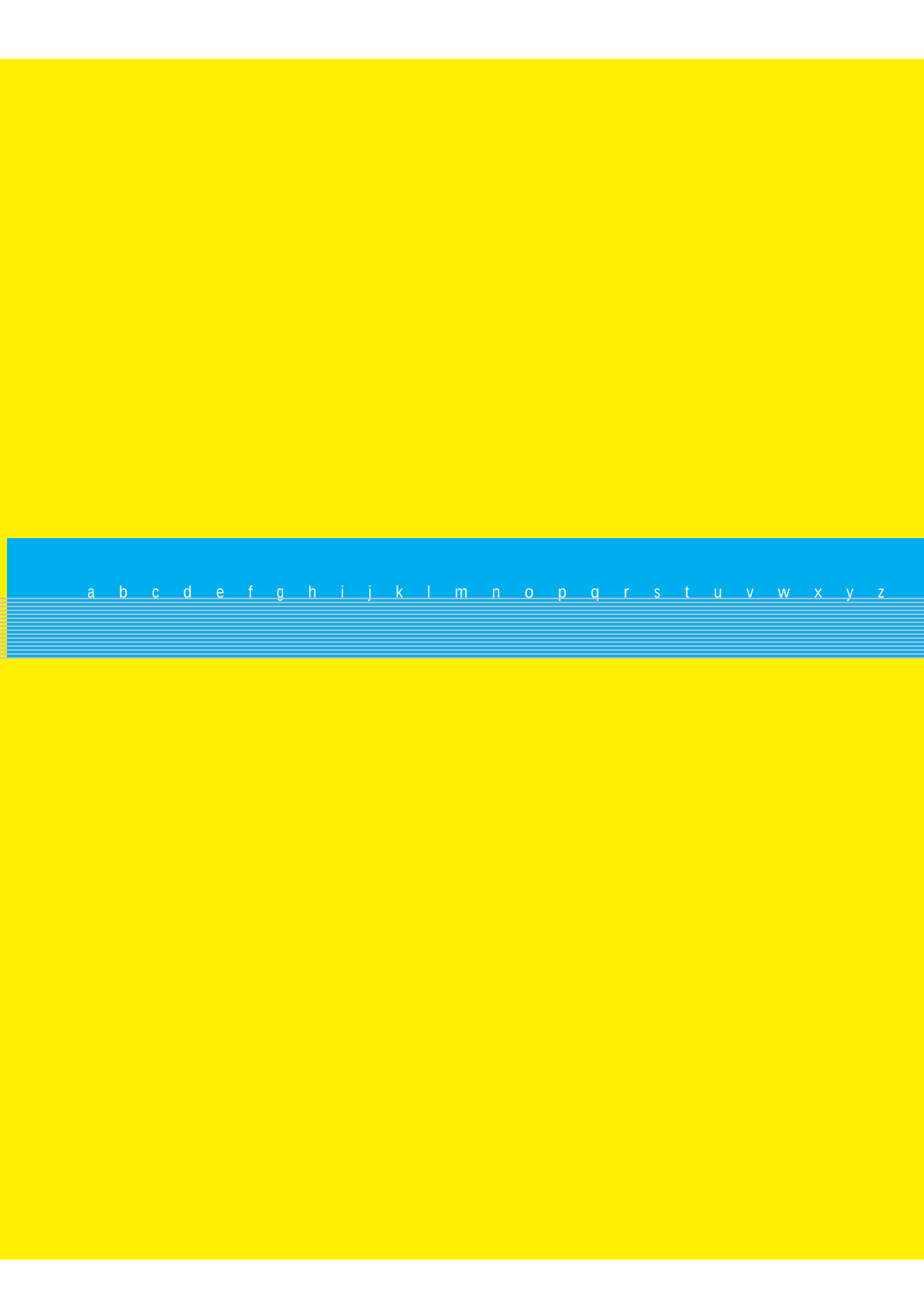
OPTIONAL ENHANCEMENTS

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
	SB1c	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 SB1c 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
	SWELTRANS	South-West London Transport Strategy Committee
	SWIFT	South Wales Integrated Fast Transit
	SWML	South Wales Main Line
	SWT	South West Trains
T	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
	tph	trains per hour
	TPWS	Train Protection Warning System
	TSR	Temporary speed restriction
	T&WA	Transport & Works Act
	TUG	Train Operator User Group
U	UIC	International Union of Railways (Union Internationale Chemins de Fer)
	UK	United Kingdom
	UPS	Uninterruptible Power Supply
	US	United States (of America)
V	V DC	Volts direct current
	VoG	Vale of Glamorgan
W	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
	WYPTE	West Yorkshire Passenger Transport Executive
Y	Y2K	Year 2000



Developing Scotland's Railway – Summary



The railway in Scotland is currently undergoing a significant renaissance.

Introduction

This publication is a summary of the document Developing Scotland's Railway, which we are issuing to coincide with our annual Network Management Statement for Great Britain.

Its purpose is to provide an overview of the railway in Scotland today, the remarkable renaissance which is currently taking place, and our progress in encouraging and accommodating the railway's growth.

We also provide a visionary prospect of how Scotland's railway could look in the year 2011, playing a key role in an integrated, nationwide system of transport for both passengers and freight.

More and more people are using the trains. The annual number of passenger journeys has increased by about 25% over the last six years, and looks set to increase by another 30% over the next decade. The volume of freight carried by rail is likely to treble over the same period.

Railtrack's central aim is to manage and develop a safe, reliable and effective railway.

Later this year, the Scottish Executive will publish its Integrated Transport Bill. This will be the first step towards a national system of transport which successfully integrates train and bus journeys with travel by car, cycle or walking, and provides efficient links to the rest of the world through the country's air and sea ports.

We're keen to play our part

The railway in Scotland is currently undergoing a significant renaissance. Railtrack, in its unique position at the heart of the system, is ideally placed to help coordinate the development of the rail network and the train services it supports.

Realising the railway's full potential is going to require a concerted effort by everyone involved, from the rail industry itself including local authorities, local communities, the shadow Strategic Rail Authority and the Scottish Executive. We're very keen to play our part.

In this summary, we outline both our present plans and our vision of how the railway could develop further. We offer this vision as a basis for discussion, and there will undoubtedly be many different opinions about the options and how to fund them.

The present network

Railtrack owns and operates 4,179km of track in Scotland, along with 334 stations that are nearly all leased to the passenger train operating companies – the major stations of Glasgow Central and Edinburgh Waverley are managed by Railtrack.

The railway in Scotland performs a valuable social function in uniting the country's widespread population, in addition to its importance for commerce and industry. The rail network's links with air and sea ports in Scotland and England help to bring the country closer to the rest of Europe, reducing the 'peripherality' which is potentially a barrier to trade and leisure travel in both directions.

This year Railtrack Scotland has spent £219M on maintenance renewal and improvements to the railway infrastructure.

Progress during the year

The railway suffered many years of under-investment before privatisation, building up a huge backlog of renewal, replacement and improvement work. As the railway has regained its momentum, the industry has been investing at unprecedented levels to put matters right.

For our part, this year Railtrack Scotland has spent £219M on maintenance renewal and improvements to the railway infrastructure, from track and signalling to bridges and embankments.

More trains, better performance

We work continually with our industry partners to enable the network to carry more trains safely, reliably and with shorter journey times. During the past year:

- An extra 9,672 passenger trains ran – a 3.6% increase
- Passengers suffered fewer delays caused by Railtrack – an estimated 12.7% reduction
- An extra 1,612 freight trains ran – a 4.7% increase
- Freight trains carried 2.5bn tonne miles of freight
- We replaced 47km of rail and 39km of sleepers to improve comfort and reliability
- We renewed 50km of signalling.

Improved stations

Our Station Regeneration Programme is now well advanced, with work finished on 290 of Scotland's 334 stations. That includes some sizeable tasks such as a £15M overhaul of the roof at Glasgow Queen Street, a £29M renewal of the roof at Glasgow Central and a complete rebuild of the station buildings at Bishopbriggs. We have also improved the facilities at numerous stations throughout Scotland – for example:

- Closed-circuit television (CCTV) to improve passenger security at another 49 stations
- A new CCTV control centre at Dunfermline
- New car parks at Falkirk High and Croy
- Baby-changing facilities at another 77 stations
- Improved access for the mobility impaired.

Working to ensure safety

The tragic accident outside Paddington Station in October 1999 was a watershed for the rail industry. It has created an enormous impetus, both within the industry and outside it, to review the railway's safety systems and introduce improvements.

In particular, over the next two years we will be installing Train Protection Warning System (TPWS) equipment at locations throughout Scotland, at over 1,400 signals, 88 buffer stops and many speed-restriction locations. This is an accelerated programme of work and covers more sites than originally envisaged.

We have also brought forward work to install Automatic Warning Systems (AWS) on the Aberdeen to Inverness and Ayr to Stranraer lines which, when completed, will ensure that all of Scotland's passenger routes are covered by AWS. Together these works, costing £28M, are part of an operational and investment programme which puts safety first in all our activities.

A major part of our investment is aimed at accommodating the forecast 30% growth in passenger traffic and trebling of freight volumes.

Developing the railway

People who already rely on the railway, and others who might use it more often in the future, generally have a firm idea of the improvements they would like to see. They want more train services, faster journeys, greater reliability and a pleasant travel experience. We are working hard to achieve all these aims in Scotland, along with our industry partners.

The challenge of growth

Between now and the end of 2010, we are proposing to invest £2.3bn in Scotland's rail network. A major part of our investment is aimed at accommodating and encouraging the forecast 30% growth in passenger traffic and trebling of freight volumes.

We will continue to improve the railway infrastructure – for example, by renewing, upgrading, resignalling and electrifying the track where appropriate. When our present plans are complete, key routes on the network will be capable of running some of Europe's most advanced rolling stock. We will help operators meet the increased demand through our day-to-day maintenance and infrastructure renewal programme along with some ambitious new projects and initiatives. We have identified a programme to reduce journey times on important routes, provided the funding can be arranged (see the table).

For the freight train operators, we will work to increase the network's ability to accommodate today's larger freight containers. We will be reopening former freight routes and sidings including the section between Stirling and Longannet.

Improving the travel experience

Stations are at the heart of the community and many are at the hub of local transport links. We have already carried out major improvements to many stations throughout the country, in both rural and urban settings. Our Station Regeneration Programme, due for completion in 2001, aims to bring all Scotland's stations up to a benchmark standard, and we will continue working for further improvements in the future.

Our aim is to create a safe and secure station environment with improved access for all passengers and users, better information, improved levels of comfort and clean, modern toilet and waiting facilities, together with customer services such as catering and retailing. We also plan a rolling programme of opening new stations, in agreement with the train operators and SPT/local authorities.

Proposed and aspirational journey-time reductions*			
JOURNEY	CURRENT TIME	PROPOSED TIME IN 2006	ASPIRATION**
Edinburgh–Glasgow	48min	45min	38min
Edinburgh–Aberdeen	2hr 26min	2hr 15min	2hr
Aberdeen–Inverness	2hr 12min	1hr 50min	1hr 40min
Inverness–Perth	2hr 15min	2hr 10min	1hr 45min
Glasgow–Inverness	3hr 20min	3hr 10min	2hr 35min
Glasgow Central–Ayr	50min	50min	45min
Glasgow Central–Gourock	41min	41min	35min
Glasgow Queen Street–Helensburgh	41min	41min	35min
Inverness–Wick	4hr 10min	3hr 50min	3hr 30min
Edinburgh–London (King's Cross)	3hr 58min	3hr 40min	3hr 30min
Glasgow–London (Euston)	5hr 18min	3hr 55min	3hr 55min

* Subject to appropriate funding arrangements being agreed

**This could include a revised stopping pattern and new technology

More details on committed journey times can be found in the Developing Rail Services in Scotland document.

Railtrack works closely with a large number of other organisations, ranging from local authorities to local heritage groups.

Working with others

Railtrack works closely with a large number of other organisations, ranging from local authorities, rail users, train operating companies, central government, local heritage and other interested groups. We take their views and wishes into account both in the day-to-day management of the rail network and in our long-term planning for its development. We believe this partnership approach is crucial to achieving the safe, modern and efficient railway the people of Scotland want.

Rail industry partners

The train services in Scotland are operated by private companies who pay Railtrack for their use of the rail network.

Within Scotland, over 95% of the passenger train services are provided by ScotRail, running 2,000 trains a day. Great North Eastern Railway (GNER) and Virgin run high-speed, long-distance services to London and other parts of England, while freight services are provided by English Welsh & Scottish Railway (EWS), Freightliner and Direct Rail Services.

We also work in close partnership with our strategic alliance partner First Engineering Ltd, our infrastructure maintenance and renewal contractor, as well as other contractors and suppliers.

Local government and the community

We are keen to continue the excellent relationships built up over many years with Strathclyde Passenger Transport and with local authorities across Scotland. By meeting regularly, we can often turn ideas into reality either as self-contained schemes or as part of renewal works already planned.

Examples range from complex projects such as reopening the route from Larkhall, developed with Strathclyde Passenger Transport, or the new station at Dunfermline Queen Margaret financed by Fife Council, to straightforward schemes such as providing cycle lockers in Aberdeenshire.

We are in regular dialogue with the Rail Users Consultative Committee and we frequently meet with representatives of local communities and businesses and with special-interest and heritage groups.

Government agencies

Railtrack is legally required to work within guidelines and regulations set by the Rail Regulator and Her Majesty's Railways Inspectorate, and we continually consult with both these bodies in developing our plans.

The Scottish Executive has a key strategic role in formulating how it wishes to see the rail network progress, in both the short and long term. The shadow Strategic Rail Authority is charged with reviewing the railway in Great Britain and defining options for developments and improvements.

Transport integration

We are determined to see integrated transport progress in Scotland and are prepared to play a leading role in working further towards this. Over the last year, we have conducted surveys at 30 locations throughout Scotland. Five projects have already been completed, resulting in better access, improved car parking and integration with bus services.

Many improvements can be achieved relatively easily – for example, we are working with East Lothian and Falkirk Councils to install integrated timetable boards at rail stations and bus stops, a vital first step towards improved integration. This is something we, in partnership with ScotRail, would like to take forward with all of Scotland's local authorities.

Our vision aims to give Scottish rail passengers and freight users more trains, shorter journey times and a better overall experience of using the railway network.

Railtrack's vision

Our vision for the future of Scotland's railway incorporates the views and wishes of train operators, local authorities, Strathclyde Passenger Transport and other transport organisations. Many of its elements have been formally defined as Incremental Output Statements by the shadow Strategic Rail Authority.

Developing Scotland's Railway identifies a number of options to increase the capability and capacity of our railway. Put simply, our vision aims to give Scottish rail passengers and freight users more trains, shorter journey times and a better overall experience of using the railway network.

Achieving the vision

Ambitious though it is, we believe this vision is realistic and achievable. The key to success is a partnership approach, focused firmly on future goals.

The options we present in Developing Scotland's Railway are intended to stimulate serious debate about how Scotland wants its railway to develop. Once we have a clearly defined set of schemes, backed by society as a whole, we can look for innovative ways of funding to make them happen.

We have already announced our proposed £2.3bn investment programme for the next decade, but achieving the vision will require substantial additional funding from both the public and private sector.

The Scottish Executive's Public Transport Fund could help schemes backed by local authorities, such as new stations, car parks and transport integration projects. The Freight Facilities Grant is available for schemes such as rail freight depots, sidings and loading facilities. Receipts from the proposed road tolling and workplace parking charges can be used for a variety of transport initiatives.

The public-private partnership process presents a way forward for some large-scale projects, and the shadow Strategic Rail Authority has two specific funds for long-term enhancement of the network – the Rail Passenger Partnership Fund and the Infrastructure Investment Fund. These can be used for schemes such as reducing journey times and increasing the number and frequency of train services. Other funding packages may be available from the European Union.

We will work in partnership to ensure that Scotland's railway grows over the next decade to provide more trains, faster journeys and a better journey experience.

Conclusion

Scotland needs to deliver on what the public wants and expects from the railway. We have presented our plans and proposals for doing that in the documents *Developing Scotland's Railway* and *Developing Rail Services in Scotland*. These set out detailed options for the Scottish Executive and all others involved in Scotland's transport to consider, review and develop with us.

We will work in partnership to ensure that Scotland's railway grows over the next decade to provide more trains, faster journeys and a better journey experience. That will be a huge step forward in achieving the railway we all want.

Obtaining more information

If you would like more information or to comment on our activities, please contact:

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Buchanan House
58 Port Dundas Road
Glasgow G4 0LQ

See our website www.railtrack.co.uk
or call the Railtrack Helpline on 0845 711 41 41.

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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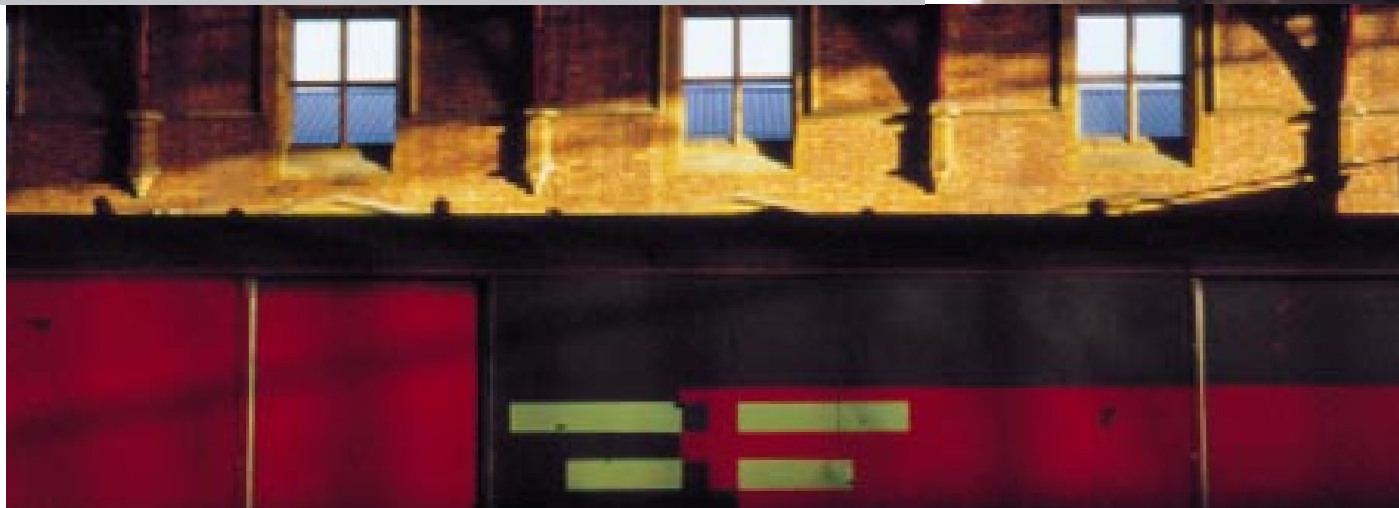
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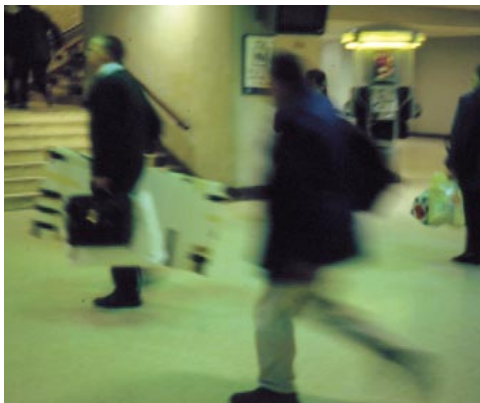
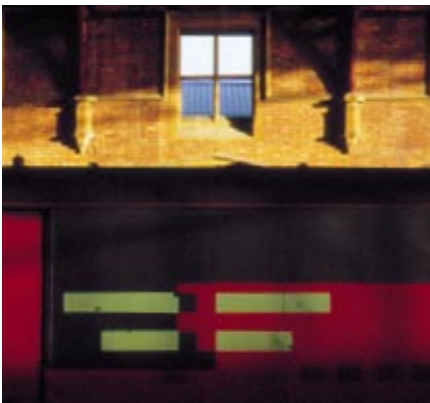


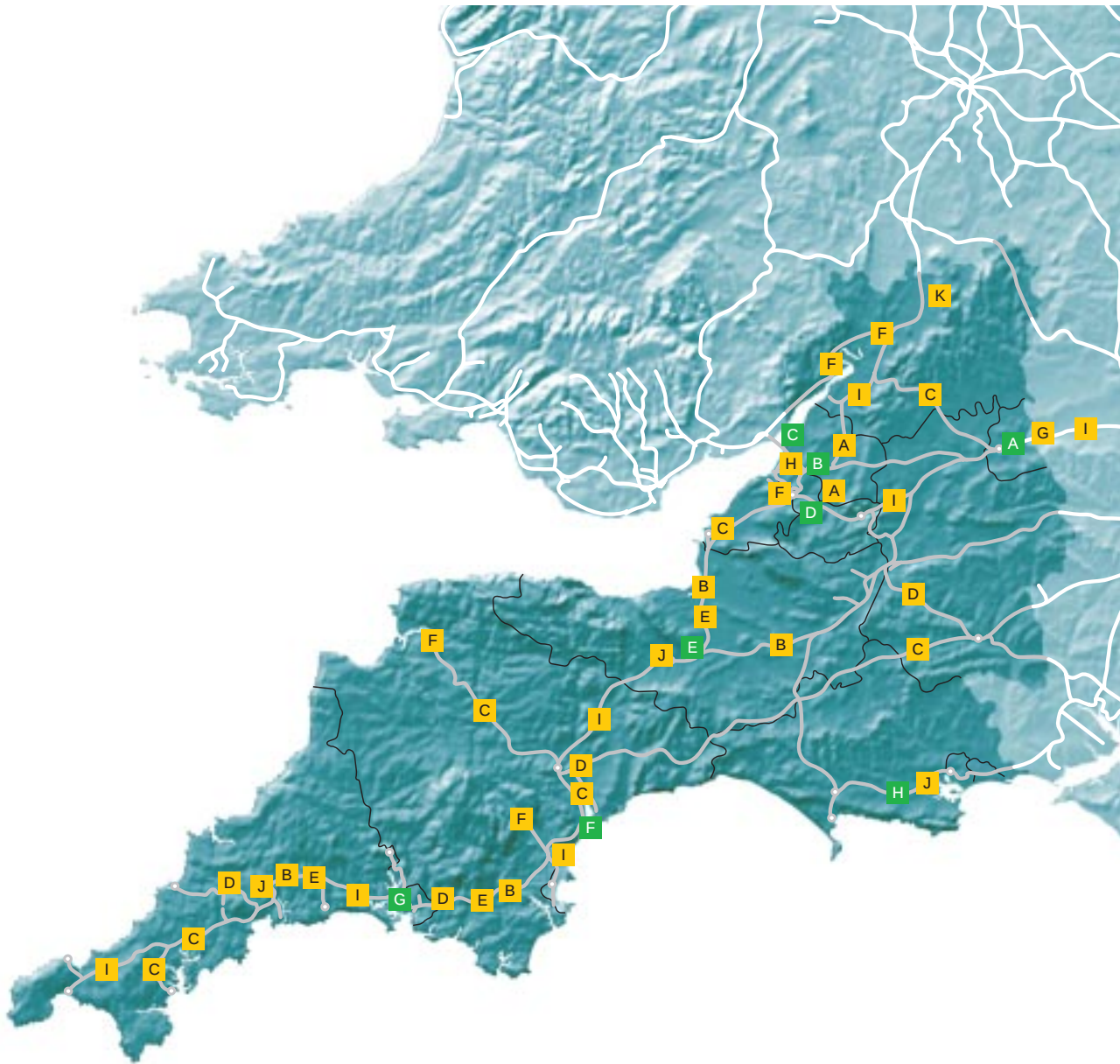
RAILTRACK



Developing railways in the South West







The map opposite highlights some of the improvements to the rail network in the South West of England, to which Railtrack is either committed, or for which it is actively developing proposals. These projects range in size from enhanced passenger facilities at local stations to major upgrades of complete routes, but all are designed to contribute to the development of the rail network to meet the future transport needs of the people of the South West of England.

COMMITTED PLANS

A	South Marston: new freight depot
B	Bristol Parkway: new Royal Mail terminal and new station facilities
C	Severn Tunnel: major overhaul
D	Bristol Temple Meads: reinstatement of platforms 13 and 15
E	Taunton: reopen middle passenger platforms
F	Dawlish: sea defence and other performance works
G	Royal Albert Bridge: major overhaul
H	Dorset Coast: resignalling scheme

OPTIONAL PLANS

A	Improved station facilities and additional platform capacity at Bristol Temple Meads, Bristol Parkway and Yate
B	London–Penzance: improve journey time by 30 minutes
C	Additional capacity through either track, loops or signalling capacity
D	Series of intermodal freight terminals across the region
E	Improved freight gauge to at least W10w to mid and west Cornwall
F	Specific freight development
G	Proposed four tracking as part of the Great Western Renaissance
H	Filton–Avonmouth: W10w gauge and 775m-long trains
I	Possible new stations
J	Provision of connections to preserved lines
K	Stratford–Cheltenham line: possible reopening

Developing railways in the South West

This document is one of six regional supplements to Railtrack's Network Management Statement for the year 2000. It sets out our vision for the development of the rail network in the South West, covering: the role of the rail network in the economic and social development of the region; the improvements to which Railtrack is committed during the next ten years, ranging from maintenance and renewal of the existing network to major projects; our vision of how the network could be developed beyond those commitments – and a discussion of how such developments could be achieved, in partnership with our stakeholders.

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Regional background

The South West is one of the UK's fastest-growing regions, with a total population of almost five million. It has an extremely diverse economy, showing strong activity to the north and east while the far southwest experiences slow growth.

A sound strategic transport vision for the future is essential to enable the north of the region to maintain its competitive advantage and to achieve economic regeneration and sustainable development in the more remote areas.

An improved rail network as a central part of our integrated transport strategy will help to reduce the peripherality of the South West, with faster, modern rail services linking the area to the rest of the country. Given good land-use planning, the rail network can also help ensure that attractive public transport is available for the occupiers of the 400,000 new households which will be needed in the region over the next 15 years.

The railway in the South West

The South West is served by strategic routes within the region and others linking it with London, the Channel Tunnel and the main cross-country routes – to the northeast, the northwest, the Midlands and South Wales.

The network comprises 1,375 route kilometres, including 90km of freight lines, and there are 154 passenger stations. Most of the core routes are two tracked with linespeeds of 100–125mph. On the west of England routes between Exeter and Penzance and between Salisbury and Exeter, linespeeds range from 95–40mph including significant single-line sections.

Railtrack owns and operates the rail infrastructure, leasing all the stations and depots to train operating companies. The passenger service operating companies are First Great Western, Virgin CrossCountry, Wales and West Railway, Thames Trains and South West Trains, while the freight operators are Freightliner and EWS.

The region's railway plays a significant local public transport role in major centres of population such as Bristol, Bournemouth, Poole, Exeter and Plymouth. In many rural areas, local communities depend on the railway for their social and journey-to-work needs, as well as to serve tourists.

Many of the region's core routes have direct motorway/trunkroad competition, but road congestion is a growing problem in many of the main centres of population and economic activity. This provides scope for above-average growth in both passenger and freight rail business. While the rail network is able to cope with the current healthy growth in business, there are certain capacity constraints we will need to address in the future, as discussed in this document.

Development progress

Here we discuss the characteristics of major routes within the region, along with some growth constraints and how these are being addressed.

Great Western Main Line

This is the principal rail route from London to the West of England and South Wales. In 1999, growth in passenger demand continued at a high level and we forecast this will continue especially for journeys in the upper Thames Valley. Latest research shows economic growth in the Thames Valley will continue at double the national average rate.

In addition to the capacity constraints between London and Didcot, there are currently some capacity constraints, including limited platform capacity at Bristol Temple Meads, Bristol Parkway and Swindon. There are also conflicts of crossing movements over flat junctions, which are addressed in our proposals to develop the route.

Improvements we have made recently include:

- Measures to reduce flooding vulnerability of Chipping Sodbury Tunnel.
- Comprehensive maintenance strategy for Severn Tunnel to ensure its long-term integrity and that it will be able to accommodate further growth in train services.
- Equipment reliability and signalling enhancements, with further improvements through 2000/01.
- Station Regeneration Programme due for completion by end of May 2000.
- At Bristol Parkway, complete station rebuilding under way including a new two-deck car park.
- New Royal Mail terminal under construction at Bristol Parkway.
- At South Marston, new freight terminal due for completion in 2000.
- Regeneration work completed at St Phillips Marsh light maintenance depot, Bristol.
- Fit customer information and CCTV systems at First Great Western stations.

West of England routes

The routes from Reading and Bristol to Penzance continue to see growth in business, with the return of freight traffic to Crediton, St Erth, Taunton and Moorswater being added to those of Heathfield and Torbay last year. Our customers' aspirations to meet further growth include reopening the Portishead Branch Line and developing intermodal terminals in Avonmouth, Westbury, Exeter, Plymouth, and Mid and West Cornwall. Plans for a further terminal are at an advanced stage for new services to Burngullow, Swindon and Gloucester Horton Road.

There are capacity constraints which will need addressing if the route is to cope with expected growth in business such as the single-line sections in Cornwall and approaches to Weston-super-Mare. Long signal sections and a mix of fast and all-station services west of Taunton through Devon and into Cornwall can restrict flexibility to meet the timetable requirements of our customers. Many of the linking rural branch line connections are restricted due to historic speed restrictions, resulting in extended journey times.

Improvements we have made recently include:

- Major track renewals at various locations on the route.
- Track circuits replaced by axle-counters for greater reliability at Starcross, Totnes, Aish and Penzance.
- Continuing sea-defence work at Dawlish.
- Loop lines being converted for both passenger and freight use at strategic sites for increased flexibility.
- Royal Albert Bridge major overhaul continuing.
- Station Regeneration Programme completed.
- New station building at St Austell will open this summer.
- Taunton Station middle platform back into use this summer to improve reliability and flexibility.
- Plymouth and Penzance light maintenance depots refurbished, with improvements this year to safeguard the local environment.
- Continuing bank stabilisation, flood relief work and portfolio of smaller schemes to reduce risk at vulnerable locations.
- Fit customer information and CCTV systems at First Great Western stations.

Cross-country routes

The main cross-country route from Derby to Bristol, and the linking routes from Gloucester via Lydney and Stroud, provide valuable connections into the principal West of England and South Wales main lines. We are working with our industry partners to accommodate all the growth aspirations by enhancing the infrastructure and rerouting some new freight services via alternative routes.

Improvements we have made recently include:

- Major track renewals at key locations.
- Station Regeneration Programme including the major works at Cheltenham Spa completed.
- Reliability and capacity improvements.

Southwestern routes

The main line routes serving Dorset and the southeast of the region have good connections to the rest of the region, with the route from South Wales to London and the major cross-country route via Reading and Bristol.

The principal capacity constraints on the Wessex routes are due to the single-line sections, particularly from Salisbury to Exeter and Castle Cary to Dorchester. We have completed an assessment of the infrastructure required to deliver frequency improvements between Salisbury and Exeter. This has concluded that to operate a reliable hourly service would require replacing 27km of single track with double track, between Salisbury and Tisbury and between Axminster and Honiton.

In addition, the provision of a passing loop at Feniton is necessary to improve frequency between Honiton and Exeter. We will continue to work closely with local authorities and our customers to identify the most appropriate means of enhancing this route. On the Portsmouth to Bristol route, track realignment, signalling and level crossing improvements would be necessary to achieve competitive journey times.

Improvements we have made recently include the completion of major station regeneration work at Bournemouth. We are starting work on the Dorset Coast resignalling scheme with completion due in 2002.

Committed plans

These are some of the plans that Railtrack is already committed to undertaking.

We have provided the necessary infrastructure to link the new freight depot at South Marston to the Great Western Main Line. The depot is part of a major industrial development east of Swindon with good highway links to the trunk road network and M4 serving the Swindon hinterland.

A new Royal Mail terminal with two full-length loading platforms is being constructed at Bristol Parkway with direct connections to the Great Western Main Line. The terminal is nearby the main Royal Mail depot situated close to the M4/M5 interchange and major trunk roads of the greater Bristol area.

The Bristol Parkway Station passenger facilities will be upgraded with a new footbridge and a new passenger station terminal building, which will incorporate the waiting, retail and a full range of passenger facilities. The highway entrance, forecourt and public transport interchange will also be enhanced in partnership with South Gloucestershire Council.

In order to cater for the enhanced train services on the West of England and cross-country routes additional platform capacity will be provided at Bristol Temple Meads and Taunton.

To ensure a high standard of reliability is maintained on the west of England routes work will continue on the sea defences at Dawlish together with bank stabilisation and a portfolio of smaller schemes at other vulnerable locations. Major structures such as the Royal Albert Bridge and the Severn Tunnel will benefit from the continued major overhaul programme.

Improved performance will result from the major resignalling scheme along the Dorset coast line. This work is due for completion in September 2002.

Working with others

We are keen to work with others to develop a viable integrated transport system for passengers and freight in the South West, in line with national goals. These are our key plans and proposals.

Local passenger network proposals

We propose improving the rail network serving the greater Bristol area. This would relieve both local road and motorway congestion by the provision of improved services from Yate to Weston and Bath, complemented by a light-rail route from Bristol City to Bristol Parkway stations and Bradley Stoke. Consideration should be given to operating passenger services on the Portishead line and Severnside freight route to serve major park-and-ride sites and the proposed new developments. We are working with local authorities to ensure that there are road-based feeder services and bus lanes linked to the rail network.

We propose an improved cross-city service, to relieve Plymouth's road system. This could be linked with bus-based park and ride by extending the local rail network from Liskeard to Totnes and possibly Tavistock.

We also propose an improved rail network serving Exeter, to relieve Exeter's road system. This could be achieved by allowing increased frequency of local services from Axminster, Exmouth, Torbay, North Devon and Taunton.

Freight network proposals

Rail freight traffic within the region has increased by 30% in the past two years and we predict this will grow substantially over the next ten years. This growth will have to be managed carefully to ensure close integration with land planning. Our freight customers are also looking for a substantial programme of increased loading gauges for freight trains.

We propose a network of freight terminals to relieve growing pressure on the M4, M5 and major trunk roads by encouraging the development of sites that can be served by the main rail network. Sites are under construction at Swindon and Avonmouth, with proposals for future terminals at Exeter (A30/M5 west), Plymouth (Marsh Mills, A38) and Mid West Cornwall (A30 link). We need to identify an appropriate location in the Gloucester area, and to develop rural sites to encourage new industrial locations such as Westbury, Heathfield and Barnstaple.

We will continue to work with local authorities and the preserved railways to develop the infrastructure for through services. For example, we are examining the potential to link the Swanage Railway with the national rail network to allow a direct service between Bournemouth and Swanage. At Bodmin Parkway and Norton Fitzwarren, we are considering upgrading the connections to the national rail network.

Cornwall Objective 1

In partnership with Cornwall County Council and our customers, we aim to take an active part in supporting investment in the rail network as part of an overall package to secure significant employment and economic opportunities in the county.

Our key priorities are linespeed improvements to reduce the peripherality of the area, and gauge enhancement to W10w to allow unrestricted freight access to the rest of the UK network and mainland Europe.

Customers and the sSRA

The following summarise development options which have been put forward by the train operating companies as Customer Reasonable Requirements (CRRs) and by the shadow Strategic Rail Authority as Incremental Output Statements (IOSs), over each of our strategic routes in the South West region:

Route 3: London to Bristol and Swansea

There are 19 sSRA 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 are included. There are options to increase speeds on the approaches to freight loops and platforms and provide for 775m long freight train operation.

The Customer Reasonable Requirements cover improved line capacity, car parking and interchange improvements. Included for the South West are the remodelling of Filton Junction, route clearance for Class 180 rolling stock and 9'6" containers. All IOSs and CRRs on this route will be embraced and developed as part of the Great Western Renaissance.

Route 4: Reading and Bristol to Penzance

The sSRA Incremental Output Statement includes speed raising throughout. Additional capacity between Reading and Southcote Junction and facilities to accommodate 775m long freight trains are also included for this route.

The Customer Reasonable Requirements cover the aspirations for further freight traffic growth, including intermodal traffic with W10w clearance Bristol to Plymouth and W8 minimum gauge Plymouth to Penzance. Improved signal headways and provision of double track to permit regular interval passenger services are also included. A park-and-ride station at Worle Parkway is under consideration with the First Great Western and the Highways Agency.

Route 7: Derby to Bristol and Didcot via Birmingham

The sSRA IOSs include increased linespeed, capacity to provide for regular interval and additional services. The Yate turnback siding to accommodate the new Bristol local services is included.

The customer aspirations include major track upgrade, clearance for new rolling stock, heavier freight axle loading and increased loading gauge.

Routes 21 and 22: London to Portsmouth and Weymouth, Wessex routes

The sSRA IOSs include reduced journey times to Bournemouth and Weymouth; improve Bournemouth Station for Class 375 services from Victoria; provide additional capacity Waterloo–Salisbury and Bristol–Weymouth/Portsmouth routes for regular interval services and reduce journey times. Provision of new infrastructure at Yeovil to enable Bristol–Weymouth services to run via Yeovil Junction.

The customer aspirations include additional capacity, gauge clearance for new rolling stock and linespeed improvements for all routes.

We will continue to work with South West Trains to achieve gauge clearance for Class 170 units between Basingstoke and Exeter.

We are continuing to work closely with local authorities and our customers to identify the most appropriate means of enhancing this route.

Local authority aspirations

The region's aspirations are for a fully integrated transport network which will encourage the use of public transport and reduce congestion on the roads.

With careful planning of land use, new developments will be placed where they are best served by rail together with an ideal distributory road link. Similarly, the development of good rail links to the region's ports is seen as a key factor in reducing the need to construct more roads.

For the Plymouth, Exeter and Bristol conurbations, we will need to develop a cost-effective journey-to-work rail system. Rural services will require reliable, clockface-interval services. Coupled with upgrading of secondary main lines such as the Waterloo to Exeter line, this would provide further opportunities for improved journeys.

All passenger stations should have an attractive, well-signed interchange with adequate protection. Major interchanges require good access, especially for public transport.

The region's local authorities accept that the most effective form of local public transport will require some subsidy if we are to achieve the desired, community-wide benefits.

Bath and North East Somerset

- Investigate freight terminal at Keynsham
- Reopen Radstock–Frome
- Improve freight gauge
- New stations at Newton, Saltford and Bathampton and additional local service
- Improve interchange at Bath Spa
- Bath–Southampton line increased capacity and relief for A36.

Bristol City

- Interchange at Bristol Temple Meads
- Improve frequency Yate–Weston-super-Mare
- Reopen Portishead line for passenger and freight
- Improve service on Severn Beach line
- Restore Avonmouth–Filton freight line to passenger use
- Freight developments at Portbury and Mereban
- Light-rail transport system.

Cornwall

- Improve journey times on Great Western Main Line
- Improve station facilities, interchange and access (Riviera Project)
- Park and ride at Trerulefoot or Menheniot
- Half-hourly service on Falmouth line
- Hourly service on Gunnislake line
- Diversion of Par–Newquay line
- Redualling between Probus–Burngullow
- Improve freight gauge to W10w and evaluate new freight sites
- Investigate new halt at Carn Brae as part of regeneration proposals, and at Grampound Road.

Devon

- Improve journey times on Great Western Main Line
- Hourly service on Barnstaple line
- Half-hourly services on commuter routes
- Hourly service Paddington–Exeter via Berks and Hants and Exeter–Salisbury
- Improve service from Ivybridge
- Hourly service on Gunnislake line
- Half-hourly shuttle Digby and Sowton to Exeter St David's
- Reopen line between Bere Alston and Tavistock
- New stations at Cullompton and Kingskerswell
- Improve station interchange and access
- Improve service level to Okehampton
- Develop intermodal freight terminals at Exeter and Plymouth
- Investigate freight facilities at Heathfield, Okehampton, Barnstaple and Goodrington.

Dorset, Bournemouth and Poole

- Purbeck Rail Partnership to reconnect Swanage line
- New service Poole to Swanage
- Darts/LRT Project.

Gloucestershire

- Improve capacity on Swindon–Kemble line
- Evaluate sites for rail freight terminal
- Improve station interchange and access
- Improve passenger facilities at Lydney
- Bus/rail interchange at Stroud
- Improve Gloucester–Cheltenham service
- Evaluate new stations at Charfield, Chipping Campden, Churchdown, Quedgeley, Stonehouse and between Cheltenham–Ashchurch and Gloucester–Lydney.

North Somerset

- Reopen Portishead line for passenger and freight use
- Improve local services Weston–Bristol and Gloucester
- Enhance public transport interchange and accessibility
- Double track Weston–Worle.

Oxfordshire

- New station at Grove/Wantage
- New station at Kidlington
- GTE
- East–West rail link
- New station at Kennington/South Hinksey P+R
- Improved interchange and accessibility at Didcot
- Cotswold line improvements – (including car park at Charlbury).

Plymouth

- Half-hourly clockface service Liskeard to Totnes – Cross-Plymouth City Service
- Develop intermodal freight terminal at Marsh Mills (Plymouth)
- Improve freight loading gauge
- Improve Plymouth Station Public Transport Interchange
- Improve Tamar Valley Line passenger service and reopen Bere Alston to Tavistock section.

Somerset

- Passenger connection to West Somerset Railway
- Hourly service Exeter–Salisbury
- Improve interchange at stations
- Reopen Radstock–Frome Line
- Evaluate new stations at Wellington, Witham Friary, Norton Fitzwarren, Shepton Mallet, Langport, Chard Junction and Somerton
- Evaluate freight facilities at Fairwater Yard, Chard Junction and Painton
- Improve freight facilities at Frome, Castle Carey and Yeovil Pen Mill
- Westbury–Taunton local service.

South Gloucestershire

- Improve station interchange and access
- Improve Yate–Weston service
- New station at Charfield
- Restore Avonmouth–Filton freight line to passenger use
- Improve access to Patchway Station
- Upgrade Bristol Parkway Station.

Torbay

- Develop Torquay and Paignton stations
- Improve passenger facilities at Torre
- Regular service pattern Paignton–Exeter Central
- Scotts Bridge – new station.

Wiltshire

- New stations at Corsham, Wootton Bassett, Wilton and White Horse Business Park
- Improve Westbury–Chippenham service to hourly intervals
- Improve interchanges
- Intermodal freight terminal at Westbury
- Improve Chippenham Station.

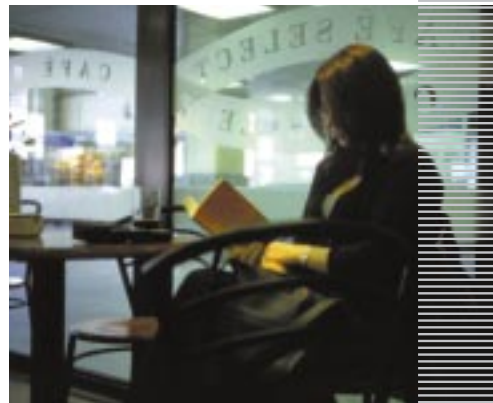
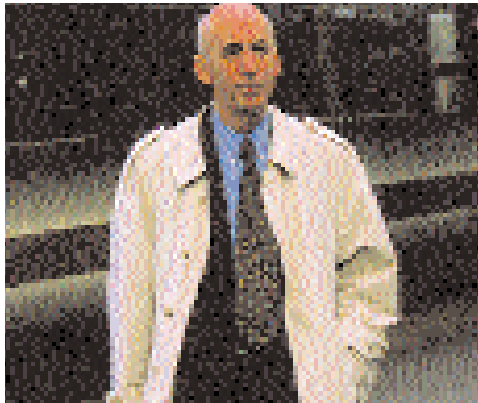
Worcestershire

- Relieve bottleneck at Worcester
- Improve capacity at Bromsgrove by extending platforms
- Evaluate new stations at Fernhill Heath, Rushwick, Henwick, Malvern Wells, St Peters, Worcester Parkway, Fladbury, Eckington and Bredon
- Improve station interchange and access
- Improve train frequency to Kidderminster
- Reopen Stratford–Cheltenham line
- Improve rail links from Worcester to the Black Country.









Developing the network

Rail strategy for the South West

Working closely with our industry partners, the South West Regional Planning Conference (Regional Planning Group) and the Government office for the South West, we aim to develop the rail network in the region to meet – and help to stimulate – the predicted expansion in the region's economy, along with the growth aspirations of our own customers.

We will achieve this by developing a staged approach to accommodate anticipated growth over the next ten years. When renewing structures, we will take the opportunity to provide for future gauge expansion if appropriate.

The region will also consider further enhancement of the rail network where a stand-alone industry financial case cannot be made, but where external benefits to the region can be achieved in partnership.

Local Transport Plans

It is important that our network development fits firmly with Local Transport Plans. Where differences may occur, we maintain a close working relationship with the local authorities and help prepare future local transport plans, to avoid a mismatch of our long-term development objectives.

The diverse nature of the South West region dictates that each development must receive careful consideration to ensure that we achieve regional, local and customer aspirations by the most efficient means – and without precluding scope for continued growth beyond the ten-year plan.

The South West Regional Transport Strategy has six key objectives:

- To reduce the adverse effects of transport on the environment by reducing the need to travel, encouraging travel by more sustainable means – particularly walking and cycling – and choosing development locations which offer easy access to public transport.
- To support the Spatial Strategy of the RPG and to service existing and new developments efficiently and in an integrated fashion.
- To secure improved accessibility to work, facilities and services.
- To create a modern, efficient and integrated transport system that will meet the demands of a dynamic regional economy, help overcome regional peripherality and meet all travel needs.
- To ensure the safe use of the regional transport network and its associated facilities.
- To add value to previous investment by completing missing links in transport infrastructure.

Our proposed development of the network

Our proposed development of the rail network, and those of adjacent regions, link very closely with our customers' reasonable requirements and those of the shadow Strategic Rail Authority, as well as promoting the regional strategy for the South West.

We wish in partnership to:

- Implement the European TENs study to achieve a 30-minute reduction in journey time from London to Penzance, by upgrading the Great Western Main Line both via Newbury and Bristol.
- Improve the rail freight gauge to at least W10w gauge on the Great Western Main Line to Mid and West Cornwall, via Swindon, Bristol, Exeter and Plymouth.
- Provide a series of intermodal freight terminals across the region, with good links to the core rail network and major roads.
- Increase line capacity where single lines, signal spacing or looping facilities are an impediment to projected growth.
- Upgrade the Waterloo–Exeter route to enable an hourly service and support SWT proposals for the route.
- Support the proposals by Virgin CrossCountry to provide hourly services from Birmingham to Plymouth and Bournemouth, and for First Great Western from London–Plymouth, together with services between London and Bristol every 15 minutes.
- Study means of improving the route from Cheltenham to Swindon via Gloucester, linked to the road-based study for the A419/A417 at Blunsdon, to facilitate enhanced services for passengers and freight.
- Improve rail links between the region and the Channel Tunnel and support the development of passenger and freight services to mainland Europe.
- Manage local and intercity services to encourage rail-borne commuting.
- Take an active part in the Government's multimodal studies.

Railtrack's strategy

Our strategy is to develop a world-class, reliable and flexible rail network with sufficient capacity to sustain the predicted growth in both passenger and freight markets.

To deliver this strategy, the infrastructure will need to develop to meet the increasing demands. For example, accommodating 9' 6" container and swap-body vehicles requires an increase in loading gauge to W10w. Passenger train operators want opportunities to reduce journey times and maximise the performance of their new rolling stock. And we must ensure that the enhanced network is continuously maintained and improved through properly managed maintenance contracts.

Fundamental to implementing our strategy are improvements in the security and quality of station environments, and seamless interchange with high-quality highway, cycle and pedestrian links.

Our overall aim is to increase the use of rail and ensure that it plays a key role in the integrated transport of the South West region.

Partnership and funding

We aim to continue our close working relationship with those involved in strategic transport and land-use planning at all levels.

Where an element of our development proposals cannot be funded within the industry, we would seek to identify the non-user benefits and develop a package approach, in partnership with our customers, the Government Office, Regional Development Authority and local authorities. With a sound business case, it may be possible to attract funding from the shadow Strategic Rail Authority, local transport bodies or the European Union.

Great Western Main Line

Increased capacity, reliability and shorter journey times are essential to make rail more competitive with road transport. The new generation of trains currently in production offers a step change in performance, and our vision for the future recognises this.

For the Great Western Main Line from London to Swansea and London to Plymouth, via Bristol and Westbury, our strategy is embodied in our Great Western Renaissance concept. This all-inclusive development programme will provide a world-class, right-time, high-capacity route serving the rapidly growing markets along the M4 corridor – including Heathrow Airport, South West England and South Wales. We also plan to provide capacity for the evident growth in north–south flows that use key sections of the route.

Achieving these objectives will require radical remodelling of the infrastructure for grade separation of junctions, particularly in the Reading and Didcot areas. Reading, along with Paddington, is a key bottleneck where our vision is to expand capacity and improve reliability. Route performance could be further improved by flyovers at key junctions to reduce crossing movements.

We envisage raising linespeed in a number of route sections. We aspire to a journey time of 1 hour 40 minutes between Paddington and Cardiff. We also propose significant development to accommodate freight growth, as outlined later.

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

In addition to the Great Western Renaissance programme, we are progressing a number of shorter-term actions which will contribute to the same goals. These include minor improvements to capacity through infrastructure alterations and agreement on timetable changes with train operators.

Looking further ahead, we are seeking to form an industry-wide team to examine the likely requirements of these important routes up to 25 years ahead.

Cross-country routes

The industry strategy is to develop a key arterial cross-country route for the South West region, capable of handling a growing volume of passenger and freight traffic. Such a route would operate efficiently at different speeds both across the country and at key junctions with other routes. This requires flexibility and responsiveness to potential changes in traffic mix and increases in customer demand. This will include the introduction of new trains and improvements in journey times, with revised timetabling and service patterns.

In the short term, the present route infrastructure can deliver the predicted volume of passenger and freight train services, except between Leamington Spa and Banbury and between Oxford and Didcot. In both cases, with the support of our customers, we are proposing measures to increase capacity for additional train movements. We are also concluding work with our customers to increase linespeeds across this route and to obtain significant journey-time reductions by 2003.

Southwestern routes

Our strategy is to improve the quality of service and attractiveness of the southwestern routes to encourage greater use of rail. We will achieve this by working with customers to improve train punctuality, journey times and station environments. We also envisage improvements in train frequency between key points, and we are examining the infrastructure which would be needed to support these.

Planning for freight growth

Part of our strategy for the Great Western Main Line is to provide freight gauge enhancements to service new terminals in the South West. On the freight-only routes, it is our strategy to encourage and cater for growth in rail freight by providing connections to the network at the most favourable, strategic locations.

We propose to develop the route from Swindon to the Severn Tunnel, via Stroud and Gloucester, as a key freight artery between the London area and South Wales. It would also form a diversionary route for passenger services, to allow maintenance of the Severn Tunnel with minimal disruption. We would improve the route's capability to accommodate freight trains of 775m and W10w gauge, travelling at higher speeds.

On the cross-country routes, we expect freight traffic both to increase in volume and to make increased demands in terms of axle weights, train lengths and vehicle profiles. For example, our aspiration is to develop the freight capability of the route between Didcot and Birmingham to take 9'6" container traffic. We propose to support the development of a direct link to Associated British ports' proposed new terminal at Dibden Bay, Southampton.

Vision and expenditure

The South West region, through the regional strategies already being developed, has an excellent opportunity to develop its transport network to serve local aspirations and improve the region's competitive position within Europe.

We believe the railway can play a key role in developing the prosperity of the region and in promoting national policies on sustainability and social inclusion.

Our unique position at the heart of the rail industry enables us to take a strategic, co-ordinated view, working closely with our customers, funders and other stakeholders to develop and deliver this industry vision.

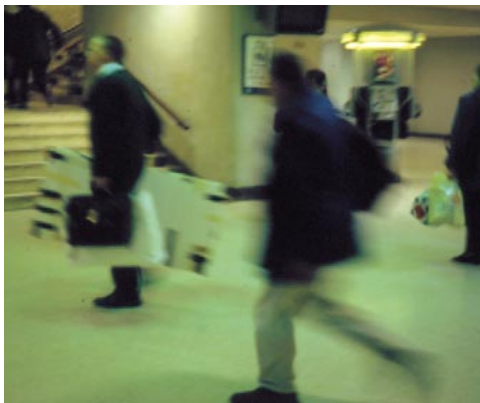
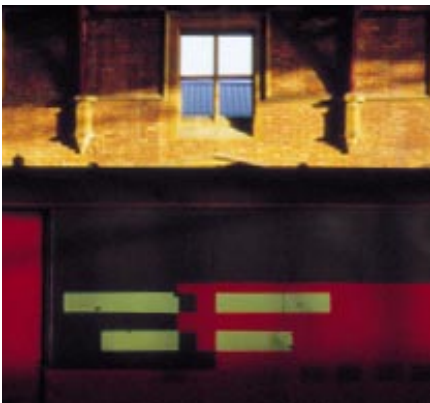
COMMITTED ENHANCEMENTS (€M – 1999/2000 PRICES)

PROGRAMME OF WORK	COMPLETION DATE	TOTAL	STATUS
Bristol Parkway: Royal Mail	2000/01	6.2	5
First Great Western: customer information system and security	2000/01	4.4	4/5
Bristol Parkway Station: enhancements	2001/02	4.2	4/5
South Marston, Swindon: Euroterminal	2000/01	3.0	5
South West Trains: car park and security improvements	2001/02	2.1	4
South West Trains: customer information system	2001/02	0.7	4

OPTIONAL ENHANCEMENTS

Great Western Upgrade Phase III	915.0	1
Great Western Upgrade Phase I	600.0	1–3
Great Western Upgrade Phase II	430.0	1
Cheltenham–Honeybourne–Stratford	300.0	0
Cross-country journey-time and frequency improvements	80.0	2
Bristol/Reading–Plymouth: speed raising	40.0	0
Great Western Main Line: journey-time improvements	40.0	1
Tavistock Junction: new freight terminal	3.7	1
Exeter: Euroterminal	2.0	1
Menheniot Station: park and ride	1.5	1
Wootton Bassett: new access to stone siding	0.6	1
Roche: new freight terminal connection	0.4	1
Paignton Station: improved forecourt	0.3	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
Flax Bourton: improve operational flexibility	0.1	1
Burngullow: new connection to branch line	0.1	1

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.



For further information about our plans for
South West England, contact
Andrew McNaughton (Zone Director)
Railtrack Great Western
125 House
1 Gloucester Street
Swindon
SN1 1GW

For a full copy of the Network Management
Statement, contact the Railtrack Helpline on
0845 711 41 41 or see our website:
www.railtrack.co.uk



Developing railways in Wales

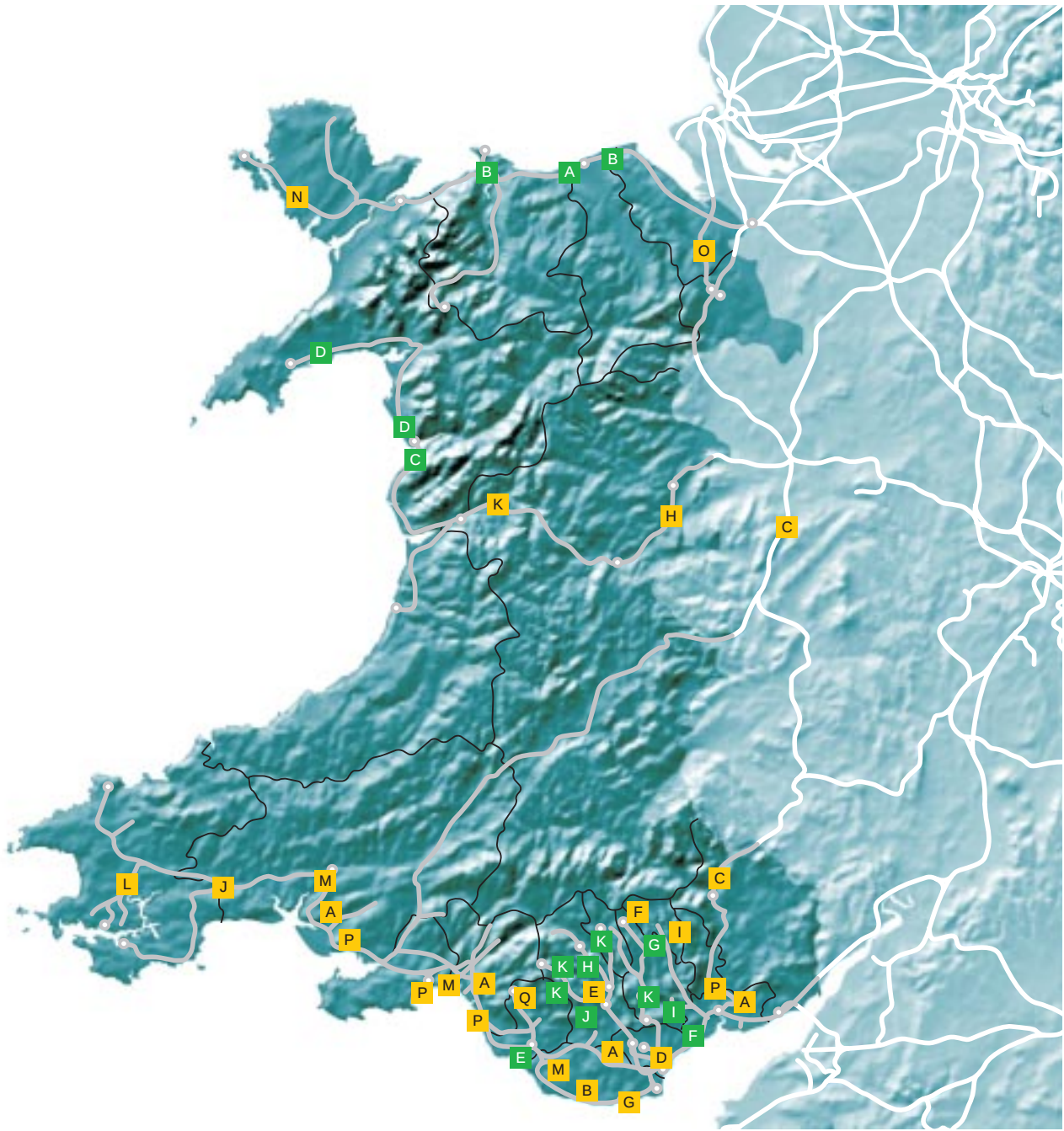


RAILTRACK



Developing railways in Wales





Base map ©MAPS IN MINUTES™ 1997

The map opposite highlights some of the improvements to the rail network in Wales, to which Railtrack is either committed, or for which it is actively developing proposals. These projects range in size from enhanced passenger facilities at local stations to major upgrades of complete routes, but all are designed to contribute to the development of the rail network to meet the future transport needs of the people of Wales.

Mae'r map gyferbyn yn dangos rhai gwelliannau i rwydwaith y rheilffyrdd yng Nghymru – cynlluniau a glustnodwyd eisoes gan Railtrack, neu gynlluniau y mae Railtrack wrthi'n datblygu cynlluniau ar eu cyfer. Mae'r prosiectau hyn yn amrywio o ran maint – o well cyfleusterau i deithwyr mewn gorsafoedd lleol, i uwchraddio llwybrau cyfan. Amcan y cyfan oll, fodd bynnag, yw cyfrannu at ddatblygu'r rhwydwaith rheilffyrdd er mwyn cwrdd ag anghenion cludiant pobl Cymru yn y dyfodol.

COMMITTED PLANS

A	Chester–Bangor: North Wales Coast linespeed increase
B	North Wales Coast and Conwy Valley: erosion and sea-defence work
C	Barmouth Viaduct: timber repairs to enable removal of TSR
D	Afon Wen and Llanabar: sea-defence works
E	Tremain: convert goods loop to passenger use
F	Wentloog: freight terminal
G	Bargoed North: additional platform
H	Mountain Ash: new passing loop
I	Caerphilly Station: improve facilities
J	Pontypridd Station: new footbridge
K	Cardiff Valleys Route: linespeed increase

OPTIONAL PLANS

A	Improved linespeed, improved station facilities and the development of the route for freight
B	Reopening of the Vale of Glamorgan Line to passenger traffic
C	Newport–Crewe: improved capacity and journey times
D	Increased line capacity at Cardiff Queen Street
E	Provide additional capacity at Taff Vale North
F	Improve capacity, reliability and linespeed on the Rhymney Valley Line
G	Barry Central: new station to link into waterfront development
H	Improvements to signalling system
I	Evaluate passenger services to Ebbw Vale
J	Evaluate linespeed and freight gauge enhancements
K	Operational flexibility
L	Interchange enhancement
M	Freight terminal developments
N	Enhanced freight loading gauge
O	Increased linespeeds
P	Interchange improvements
Q	Study to increase capacity

CYNLLUNIAU A GLUSTNODWYD YN BAROD

A	Caer–Bangor: cynyddu cyflymdra lein Arfordir Gogledd Cymru
B	Arfordir Gogledd Cymru a Dyffryn Conwy: gwaith rhag erydu a morgloddiau
C	Traphont Abermaw: trwsio'r prennau er mwyn gallu tynnu TSR
D	Afon Wen a Llanaber: gwaith ar y morglawdd
E	Tre-main: newid dolen nwyddau er defnydd teithwyr
F	Gwynllŵg: gorsaf derfynol i nwyddau
G	Gogledd Bargoed: platform ychwanegol
H	Aberpennar: dolen basio newydd
I	Gorsaf Caerffili: gwella'r cyfleusterau
J	Gorsaf Pontypridd: pont droed newydd
K	Llwybr Caerdydd a'r Cymoedd: cynyddu cyflymdra'r lein

CYNLLUNIAU DEWISOL

A	Gwella cyflymdra'r lein, gwell cyfleusterau mewn gorsafoedd a datblygu'r llwybr ar gyfer nwyddau
B	Ailagor lein Bro Morgannwg i draffig teithwyr
C	Casnewydd-Crewe: mwy o drenau a gwella amseroedd teithio
D	Mwy o drenau ar y lein yn Heol y Frenhines Caerdydd
E	Darparu mwy o drenau yng Ngogledd Dyffryn Taf
F	Mwy o drenau, bod yn fwy dibynadwy a gwella cyflymdra'r lein ar Lein Cwm Rhymni
G	Canol y Barri: gorsaf newydd i gysylltu â datblygiad y glannau
H	Gwella'r system signalau
I	Gwerthuso gwasanaethau i deithwyr i Lynebwy
J	Gwerthuso cyflymdra'r lein a lledu ar gyfer nwyddau
K	Hyblygrwydd gyda'r gwasanaeth
L	Gwella'r gyfnewidfa
M	Datblygu gorsaf derfynol ar gyfer nwyddau
N	Gwella rheilffordd llwytho nwyddau
O	Cynyddu cyflymdra'r lein
P	Gwella'r gyfnewidfa
Q	Astudiaeth i gynyddu nifer y trenau

Developing railways in Wales

This document is one of six regional supplements to Railtrack's Network Management Statement for the year 2000. It sets out a vision for the development of the rail network in Wales, covering: the role of the rail network in the economic and social development of the region; the improvements to the network to which Railtrack is committed during the next ten years; an overview of how the train operators, the shadow Strategic Rail Authority and the local authorities wish to see the network developed; our overall vision of how the network could be developed beyond our present commitments.

For further information about our plans for Wales, contact: Andrew McNaughton (Zone Director), Railtrack Great Western, 125 House, 1 Gloucester Street, Swindon SN1 1GW. For a full copy of the Network Management Statement, contact the Railtrack Helpline on 0845 711 41 41 or see our website: www.railtrack.co.uk

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National background

Wales has a total population of around three million and a population density of only 1.4 persons per hectare (pph) – although this varies from some 25pph in Cardiff to 0.2pph in Powys. There is a marked contrast between rural and urban areas, which require different transport solutions. Around 32% of households do not have access to a vehicle.

Positioned geographically on the periphery of the European Union, Wales needs fast, modern transport to achieve economic regeneration and sustainable development, especially in the more remote, generally rural, western areas of the country.

The railway in Wales

The Welsh railway is an integral part of Great Britain's network, comprising some 1,400 route kilometres and 213 stations. Railtrack owns and operates the rail infrastructure, leasing all stations in Wales to train operating companies. Seven train operators provide passenger rail services – First Great Western, First North Western, Cardiff Railway Company, Wales & West, Virgin CrossCountry, Virgin West Coast and Central Trains. Rail freight services are provided primarily by English, Welsh & Scottish Railway and Freightliner.

The railway plays a significant local public transport role in major centres of population such as the Cardiff Valleys, Wrexham, Newport and Swansea. In many rural areas, local communities depend on the railway for their social, journey-to-work and tourist needs.

From both North and South Wales, there are good long-distance passenger and freight services via Crewe and Bristol Parkway, and links to Ireland via Holyhead and Fishguard. The route between North and South Wales runs through Chester, Shrewsbury, Hereford and Newport.

Mid Wales and the Cambrian coastline are served by regular services from Birmingham via Shrewsbury–Aberystwyth and coastline stations to Pwllheli. Services have greatly improved in recent years through the introduction of radio signalling, modern trains and linespeed increases.

The network also provides for long-distance freight haulage, with links to major Welsh ports, rural areas and other regions of Great Britain and Europe. There are opportunities to develop intermodal traffic directly to mainland Europe through the Channel Tunnel.

Current network development

This document focuses on our investment expenditure within Wales, and on routes connecting with the Welsh network. It covers both Railtrack initiated schemes and our collaborative work with external funding parties to ensure that the Welsh rail network serves the nation's economic and social requirements. Later in the documents, we cover options for further enhancement of the Welsh rail network, and below are some of the development projects completed or in progress.

- The major £13M refurbishment at Cardiff Central was completed in time to provide additional facilities for the 1999 Rugby World Cup. Railtrack, First Great Western and the National Assembly for Wales have co-operated to provide an improved station environment for customers, with capacity to handle crowds arriving by rail for Millennium Stadium events.
- We have nearly completed the Station Regeneration Programme in Wales. The work has included structural repairs and redecoration throughout the stations involved. In conjunction with train operators and local authorities, we have improved disabled facilities, interchange facilities and station security.
- During the year, we have completed river-defence works in the Porth-Ton Pentre area, with support from South Wales Integrated Fast Transport (SWIFT).
- Construction of a major European intermodal terminal at Wentloog near Cardiff started in autumn 1999, in partnership with the Welsh Development Agency, the National Assembly for Wales, Cardiff County Council and Freightliner. The terminal will have a secure bonded area meeting EU standards and capacity to accommodate future growth.
- Work has progressed towards delivering track-quality improvements and increased linespeeds on the Cardiff Valleys Network and the North Wales Main Line, where, as a measure to improve performance, we have installed axle-counters at Penmaenmawr.
- The North Wales Main Line will be one of the main beneficiaries of a major new train maintenance depot at Chester recently opened for First North West.

Railtrack's committed plans

Throughout the Welsh rail network, train protection and warning system (TPWS) equipment will be installed in line with the criteria set out in legislation. We envisage that fitment will be complete by December 2002, one year in advance of the completion date required by legislation.

We list some of the other significant schemes to which Railtrack is committed here.

Route 12: Manchester and Crewe–North Wales

LINESPEED INCREASE Between Chester and Bangor, linespeed will increase from 75–90mph for the winter 2000 timetable. This could reduce the current journey time for express services by four minutes, giving a best journey time of less than an hour from Chester to Bangor. As well as meeting local needs, this will benefit longer-distance flows including the link between Ireland, the UK and the rest of Europe. This scheme is funded jointly by Railtrack and the National Assembly for Wales.

STATION REGENERATION PROGRAMME All remaining stations will be fully refurbished by March 2001.

COASTAL SEA-DEFENCE STRATEGY We are embarking on a major, ten-year coastal sea-defence strategy, based on a recent assessment of the condition of structures along the North Wales coast and Conwy Valley – both subject to significant periodic flooding and scour.

NORTH WALES LINK TO THE WEST COAST MAIN LINE The upgrade over the next six years will deliver increased capacity and reliability, along with the ability to run tilting trains at speeds up to 140mph. Three of the London–Chester services will run through to Holyhead, and services to Holyhead will benefit from reduced journey times south of Crewe.

Route 11: Wolverhampton–Chester, Aberystwyth and Pwllheli

CAMBRIAN COAST LINESPEED IMPROVEMENTS The improvements will be complete once work on the Barmouth Viaduct is finished. This Grade II listed structure is the longest operational wooden railway structure in Europe, at 676m with 113 spans. In autumn 1999, we started a £10M programme to maintain the viaduct's structural integrity. Phases 1 and II have increased the linespeed for Sprinters from 10 to 20mph. This will rise to 40mph once all works are complete, with capability for locomotive-hauled services.

SEA DEFENCES Work continues to prevent erosion of the defences at Afon Wen and Llanaber.

Route 3: Great Western Main Line

TREMAIN Convert freight loop to passenger use.

CUSTOMER INFORMATION In conjunction with First Great Western, we will fit new systems and CCTV at their stations.

WENTLOOG New intermodal freight terminal in conjunction with partners.

Route 28: Cardiff Valleys

BARGOED NORTH STATION An additional platform is to be built during 2000/01, with local authority funding.

MOUNTAIN ASH LOOP A new passing loop and additional platform will be constructed during 2000–02 as part of a land reclamation scheme, with local authority funding.

CAERPHILLY STATION We are completing the improvements to the interchange facilities in a project with Caerphilly County Borough Council, the Welsh Development Agency, SWIFT, Cardiff Railway Company, Stagecoach and local bus companies.

PONTYPRIDD STATION IMPROVEMENTS We will construct a new footbridge and relocate the ticket office, starting in 2000.

LINESPEED INCREASE A programme is being implemented during 2000/01 in partnership with local authority funding.

CUSTOMER INFORMATION We are working with Cardiff Railway Company to improve the customer information systems, for completion in 2001.

Working with others

Operators

Our Account Teams work closely with the train operators and have developed a portfolio of Customer Reasonable Requirements, through the Account Planning process. We have agreed action plans with each operator, either to implement each reasonable requirement or to carry out the next stage of feasibility or development work.

Local authorities

Local authorities will continue to hold an important role in transportation planning, especially with the introduction of their Local Transport Plans. These plans set out how integrated transport will be delivered at the local level over a five-year period. We have built relationships with local authorities across Wales and will continue to work with them, and with local authority partnerships such as SWIFT, to understand and deliver a rail network that meets their needs. We are working with local authorities and the Welsh Development Agency to prepare bids for European Objective 1 funding.

Welsh Development Agency and Economic Forums

We are working closely with the WDA and the four regional Economic Forums to achieve economic development and an integrated transport system.

National Assembly for Wales

The National Assembly for Wales, which was created in April 1999, will have a key role in developing an integrated transport policy for Wales. The Assembly is responsible for allocating Transport Grants to support integrated transport packages, and Freight Facilities Grants towards facilities to transfer freight movements from road to rail. (Railway regulation and financial support for passenger rail franchises remain with UK Government.) We are committed to working with the Assembly to develop the network and implement integrated transport schemes.

Shadow Strategic Rail Authority

We have welcomed the setting up of the shadow Strategic Rail Authority (sSRA) to concentrate on strategic planning issues. This should complement the planning already undertaken through the Account Plans and Route Strategies. The sSRA has a key role to play in the next round of franchises. The flexible approach being taken for franchise extension or renewal, plus the possible redrawing of franchise areas, should help to unlock further investment and growth in the rail system.

UK Government

We continue to work with the UK Government to understand how we can progress most effectively towards achieving its integrated transport policy objectives. Our position at the heart of the railway industry enables us to co-ordinate responses and actions from all industry parties and provide a focal point for national government. Examples of this are the key rail industry summits on performance. They have acted as catalysts for a more collaborative cross-industry approach to performance and related issues.

European Union

We are working closely with the European Task Force to ensure that the rail network is eligible to benefit from funding which is currently available and which is expected to be in place in the future.

Customers and sSRA – development proposals

This is a summary of the improvements and enhancements our customers and the shadow Strategic Rail Authority have said they would like to see on the Welsh network.

On Route 12, the route linking Manchester and Crewe to North Wales, our customers' requirements focus on linespeed improvements Wrexham Central–Bidston and the development of freight on the route. The sSRA has requested that we develop schemes to improve journey times and to increase operational flexibility at both Bangor and Chester.

The section of Route 11 in Wales incorporates the Cambrian Coast Line from Pwllheli and the line from Aberystwyth to Shrewsbury. The sSRA is looking for us to increase the operational flexibility between Pwllheli and Aberystwyth, and to improve journey times throughout the route. Our customer requires improved service west of Wolverhampton to provide two semi-fast, and one all-stations train per hour off-peak.

Route 10 links Cardiff and Newport to Crewe. Our freight customers require additional freight capability between South Wales and Crewe, and our passenger customers require a standard journey time of under three hours between Cardiff and Manchester. We are developing plans to improve operational flexibility at Hereford, and to improve both capacity and journey times throughout the route on behalf of the sSRA.

Requirements from our customers on the Great Western Main Line (Route 3) include route clearance for the introduction of new rolling stock, linespeed improvements and development of Cardiff, Newport and Swansea stations. The sSRA has proposed that we develop schemes to provide improved journey times, operational flexibility and freight gauge enhancements.

Route 28 comprises the Cardiff Valleys, where our customers require us to develop plans for increased capacity, higher linespeeds, better performance, station modernisation and improved freight capability. The sSRA is looking for us to provide improved journey times and enhanced capacity and operational flexibility at key locations.

Route 29 connects Shrewsbury to Llanelli and southwest Wales. Requirements from the sSRA include improved journey times and timetable flexibility. Our customers require speed improvements, and increased freight gauge from Swansea to Fishguard.

Local authority aspirations

MONMOUTHSHIRE

Abergavenny and Severn Tunnel Junction	improve interchange
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NEWPORT

Caerleon	new station
Great Western Main Line	possible parkway station

TORFAEN

Pontypool Road and Cwmbran	improve stations
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BLAENAU GWENT

Ebbw Vale and Abertillery lines	reopen for passenger services
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CAERPHILLY

Energlyn	new station
Llanbradach	relocate station for park and ride
Aber and Caerphilly stations	park-and-ride developments

CARDIFF

Gabalfa	consider new station (university halt)
Cardiff Bay	extension and possible light-rail transport
Within the city	speed and capacity – improvements on local lines

MERTHYR TYDFIL

Merthyr Vale	introduce passing loop
Merthyr and Pentre-bach	improve park-and-ride facilities

RHONDDA CYNON TAFF

Hirwaun	extend passenger services
Llanharen	new station
Cwmbach North	new station
Coed Y Cwm	new station
Nantgarw	new station
Pentre	new station
Ynysboeth	new station
Porth	interchange
Abercynon, Cwmbach, Mountain Ash, Penrhiwceiber, Ton Pentre, Treorchy	park and ride

VALE OF GLAMORGAN

Vale of Glamorgan line	reopen for passenger service with new stations at Rhose and Llantwit Major
Cogan Junction	enhance capacity
Cardiff Airport	identify route for future rail link
Barry Central	new station for waterside development

BRIDGEND

Bridgend–Cardiff	address capacity problems
Maesteg	capacity for half-hourly service, extend to Nant-y-fyllon
Bridgend	develop station interchange, investigate chord between Bridgend and Margam lines
Tondu	run-round facility for coal traffic
Brackla	new station and siding into estate
Pencoed	park and ride
Vale of Glamorgan	passenger service and new stations at Rhooose, Bridgend College, LLantwit Major, develop freight facility at Bridgend
Margam	freight terminal
Llynfi Power Station	investigate site
Maesteg	link into Brynmenym Industrial Estate
Village Farm Industrial Estate	siding

NEATH PORT TALBOT

LLandarcy	parkway
Port Talbot area	freight terminal
Margam and Dwr-y-Felin	new stations
Neath Valley Line	reinstate passenger service to Glynneath
Port Talbot	improve interchange

SWANSEA

Swansea High Street Station	improve interchange, link to park and ride
Swansea	enhance freight gauge to W10w
Cockett West-Duffryn West	redual
Gowerton-Pontarddulais	reinstate rail link
Cockett	new station
Pontarddulais and Gowerton	improve stations
Burrows Yard	improve access
Swansea District Line	enhance

CARMARTHENSHIRE

Carmarthen/Whitland	freight facility
	enhance freight gauge to W10
	improve linespeeds

PEMBROKESHIRE

Haverfordwest Station	improve bus access and car parking
Milford Haven Station	relocate
West Wales ports	intermodal freight facility
West Wales	enhance gauge to W10

SHROPSHIRE

	increase frequencies, reduce journey times
Stations	improve interchange and passenger facilities
Freight	expand including consideration of terminal sites in Shrewsbury area

GWYNEDD, POWYS AND CEREDIGION

Heart of Wales Line	improve station and interchange facilities
Shrewsbury–Aberystwyth	reduce journey times, add passing facilities for hourly frequency
Cambrian Coast	increase capacity and reduce journey times, improve interchange with Birmingham–Aberystwyth services at Machynlleth
Machynlleth	alter signalling to improve access and allow direct Aberystwyth–Barmouth–Pwllheli services
Freight	investigate opportunities
Stations	improve passenger facilities and information

WREXHAM

Shrewsbury–Chester	increase frequencies, reduce journey times
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DENBIGHSHIRE

North Wales–Manchester	provide half-hourly service
North Wales–Cardiff	provide enhanced service
Rhyl, Prestatyn and Llangollen stations	improve interchange

FLINTSHIRE

	improve journey times and frequency
	improve interchange, access and facilities at stations
	develop freight traffic

CONWY COUNTY COUNCIL

Crewe–Holyhead and Conwy Valley	improve linespeeds
Llandudno Junction, Colwyn Bay and Betws-y-coed	improve interchanges
	improve passenger waiting facilities at stations

ISLE OF ANGLESEY

Holyhead	develop freight facilities
	improve and develop interchange facilities
	improve frequency of service

Developing the network

Links to Wales

The current and forecast growth in rail traffic present both opportunities and challenges. We plan to strengthen links between Wales and other regions through a range of projects.

For the busy Manchester hub, we are developing an exciting series of options to increase capacity and speed for trains into Manchester, which will reduce journey times from Wales. We also propose extending the Manchester Airport rail link westwards to join the Altrincham–Chester line, which would dramatically improve access to Manchester Airport from the south and west and create new journey opportunities from North and Mid Wales.

On the Great Western Main Line to Paddington, we are planning a major package of works to raise linespeeds and increase capacity under the title 'Great Western Renaissance'. Options currently under consideration include 125mph running between the Severn Tunnel and Cardiff, substantial remodelling at Newport and Cardiff, and developing the route from Swindon–Severn Tunnel Junction via Gloucester as a key freight route. Layout alterations at Reading, proposed to be completed by 2006, would increase capacity for services from South Wales to London.

On the Newport–Crewe route, we are planning to increase capacity for more and longer freight services, together with greater reliability of passenger services.

We are also participating in a strategic review of capacity in and around Birmingham New Street, including the route to Shrewsbury. This is likely to recommend significant additional capacity in the West Midlands area, benefiting journey opportunities to and from Wales.

Within Wales

In the Cardiff Valleys, SWIFT and Cardiff Railway Company are keen to provide greater capacity and better journey times to offer an attractive alternative to road. For the Cardiff Valleys Route, therefore, we will develop the following schemes in conjunction with SWIFT. (Implementation will be subject to funding.)

- Track and signalling alterations between Cardiff Queen Street and Cardiff Central in 2000–03 to improve capacity and reliability in the hub of the Valleys network, with further improvements in 2004/05.
- Taff Vale North upgrade in 2001–04 to provide additional capacity between Abercynon, Merthyr Tydfil and Aberdare and combined stations at Abercynon.
- Upgrade of the Rhymney Valley Line in 2001–03 to improve capacity, reliability and linespeed.
- Barry Central new station to link into waterfront development.

We will also complete the linespeed improvements currently under way in the Cardiff Valleys in 2000/01.

In partnership with SWIFT, the feasibility study on the Vale of Glamorgan line has now been completed. Subject to funding, we plan improvements to the line in 2001–03 to accommodate a passenger service and additional freight trains. We are also evaluating new stations at Rhoose, Bridgend College and Llantwit Major.

A feasibility study has now been completed by Blaenau Gwent County Borough Council to explore the economics of reintroducing passenger services to Ebbw Vale and Abertillery. We are waiting to see how they wish to take the project forward.

Improvements to the signalling system around Shrewsbury – at the gateway to the Cambrian Line into Mid Wales – and on the lines to Newport and Wrexham will increase both reliability and flexibility. Feasibility studies to evaluate all available options are now in place. Signalling works around the Shrewsbury area will be phased over the next five years, with completion planned for 2005.

We are supporting a proposal for more frequent services between Chester and Holyhead by sharing information with interested parties.

Feasibility studies into capacity and linespeed improvements from Shrewsbury–Aberystwyth and Dovey Junction–Pwllheli have been completed and we are discussing them with train operators. First North Western requires increased linespeeds on the Wrexham–Bidston route. The associated work has been assessed and discussions are taking place regarding funding.

Stations and transport integration

We and our industry partners aim to provide better interchange facilities at stations to encourage public transport use in Wales.

With funding from SWIFT, we are carrying out a feasibility study into a new station with interchange facilities at Barry and we plan to carry out a feasibility study into parking improvements at Bargoed. In conjunction with local authorities, we are investigating interchange improvements for Swansea, Pembrey and Burry Port, Haverfordwest and Carmarthen and looking at relocating Milford Haven Station.

During 2000, we will undertake a feasibility study into development of the south side of Cardiff Central Station. We have developed proposals to improve passenger facilities at Bangor. With local authority funding, we have evaluated the feasibility of new stations at Brackla and Llanharan and now await a decision on how they wish to progress this.

Freight

We are working with our industry partners to extend the loading gauge and provide for longer trains and heavier axle weights on key freight routes within Wales and links to the rest of the UK and Eire. In a project undertaken with industry partners, we are looking at the development of strategic freight terminals on brownfield sites in the Neath, Bridgend and other areas.

Capacity improvements are planned for the Newport–Crewe route and the Vale of Glamorgan line, subject to funding. Much of the work to refurbish the line from Newport–Ebbw Vale has been completed.

Subject to funding, we plan to increase the loading gauge on the route from London–Cardiff, to take larger freight loads with completion planned for 2004/05. The West Coast Main Line upgrade will provide a similar improvement and benefit to links to Wales via Crewe. We are one of a number of funders of the North Wales Freight Study aimed at assessing the rail freight market to and from North Wales including Holyhead. With our partners, we will also look for opportunities to increase the freight loading gauge to Holyhead, on the basis of this route's European significance.

In partnership with the WDA, the National Assembly for Wales, Cardiff County Council and Freightliner, construction of a major European intermodal terminal at Wentloog near Cardiff started in autumn 1999. It is scheduled to open in autumn 2000.

Our strategy

Maximising the benefits of the existing transport network will contribute towards achieving sustainable development and sharing the benefits of economic prosperity across Wales.

Rail has a key role to play in reducing the peripherality of Wales. Fast, modern, integrated road-and-rail communications are widely regarded as essential to the achievement of economic regeneration, especially in the remoter and generally rural areas of northwest and southwest Wales.

Route 2: Manchester and Crewe–North Wales

Our vision for this route is to provide a network of high-speed links between North Wales, Liverpool, Chester, London, Manchester Airport and the city centre – to provide a viable alternative to the lorry and car. The vision includes:

- Improved reliability and performance, with journey times maintained or improved, to meet anticipated growth and stimulate further growth.
- Opportunity for additional freight services, reducing congestion and pollution on the busy road network.
- Possibility of gauge enhancements to W10w to Holyhead.

Route 11: Wolverhampton–Chester, Aberystwyth and Pwllheli

This route provides a crucial transport link both locally and to the rest of the United Kingdom 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. Our vision includes:

- Linespeed improvements for improved journey times and service frequencies from Shrewsbury–Aberystwyth, the Cambrian Coast and Chester.
- Opportunities for additional freight traffic.
- Improved reliability and performance.

Route 10: Crewe–Newport via Shrewsbury

Our vision is to strengthen this important strategic link between North and South Wales by improving flexibility, reliability and capacity. We propose to make the route more competitive with road transport, and to attract more passengers, through linespeed and other improvements. We plan for a standard journey time of less than three hours between Cardiff and Manchester. This would also provide more attractive services between North and South Wales and to destinations such as Manchester Airport, Leeds and Newcastle.

We also envisage more capacity for freight and enhancement of the route's freight capability in terms of 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.

Route 3: Great Western Main Line

Our vision is embodied in the 'Great Western Renaissance' – an all-inclusive programme of development work to provide a world-class, right-time, high-capacity route serving the rapidly growing market. The vision includes:

- Journey-time improvements from infrastructure enhancements.
- 125mph running between the Severn Tunnel and Cardiff.
- Substantial remodelling at Newport and Cardiff.
- Enhanced access for larger freight vehicles for the whole route.
- Development of the route between Swindon and Severn Tunnel Junction via Stroud and Gloucester as a Primary Freight Route, and as a diversionary route for passenger services during maintenance of the Severn Tunnel.

Route 28: Cardiff Valleys

The Cardiff Valleys network is a key component of the public transport network of southeast 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 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.

Route 29: West Wales

Our vision for West Wales is to improve its integration with South Wales cities through a reduction in rail journey times. We will sustain and, where viable, increase capacity and capability for future passenger and freight traffic, improving operational flexibility and enhancing the environment at stations.

Vision and expenditure

The Welsh people, through their Assembly, have an excellent opportunity to set new priorities for transport, aimed at serving better their distinctive needs which arise from Welsh geography, population distribution and peripherality.

Railtrack's unique position at the heart of the rail industry enables us to take a strategic and co-ordinated view in developing and delivering an industry vision with our customers and funders. We believe that rail can contribute to strengthening the Welsh economy and also play a key role in the nation's policies on sustainability and social inclusion.

Our vision is that transport in Wales will be fully integrated, with all modes working together to meet the needs of the customer, serve commerce and industry and improve the environment and quality of life.

COMMITTED ENHANCEMENTS (£M – 1999/2000 PRICES)

PROGRAMME OF WORK	COMPLETION DATE	TOTAL	STATUS
Wentloog Freight Terminal	2000/01	3.1	5
First Great Western customer information systems and security	2000/01	2.9	4–5
Mountain Ash land reclamation and new loop	2001/02	3.6	4–5
Cardiff Valley customer information system/CCTV	2000/01	1.0	5
Cardiff Valley journey-time improvement	2000/01	1.0	5
Bargoed North station enhancements	2000/01	0.9	5
Chester–Bangor journey-time improvement	2000/01	0.8	5

OPTIONAL ENHANCEMENTS

Great Western Upgrade Phase I	600.0	1–3
Great Western Upgrade Phase II	430.0	1
Cross-country journey-time and frequency improvements	80.0	2–3
Great Western Main Line: journey-time improvements	40.0	1
Rhymney Valley capacity	20.0	1
Cardiff Queen Street capacity	20.0	1
Mid Wales journey-time improvements	10.0	2
West Wales journey-time improvements	10.0	0
Taff Vale North: Modernisation	5.6	0
Barry–Bridgend: route upgrade	5.5	1
North and West route strategy improvements	4.1	1
Newport car park redevelopment	1.2	1
Swansea Station redevelopment	0.1	1

We have indicated in the tables the status of enhancement schemes on a scale of 0, where the project is no more than an aspiration, to 5, where the project is developed to the point of physical implementation.











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