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Our investment programme to enhance and modernise the network is the most ambitious it has ever been. Delivering a 21st century railway for our customers and society at large.

Every day. Everywhere.

Route 12 Reading to Penzance



Section 1: Today's railway

Route context

The route links the south-western peninsula counties of Cornwall, Devon and Somerset with both the Midlands, the North and with London by joining the core Great Western Main Line at Taunton and at Reading. In addition to the long spine of the main route from Reading through Westbury to Penzance, which forms part of the key freight route from the Mendip Hill quarries to London and the South East, a number of branches enable many of the larger west of England coastal resorts to be served by rail, and holiday traffic is a significant element of the overall passenger market.

Today's route

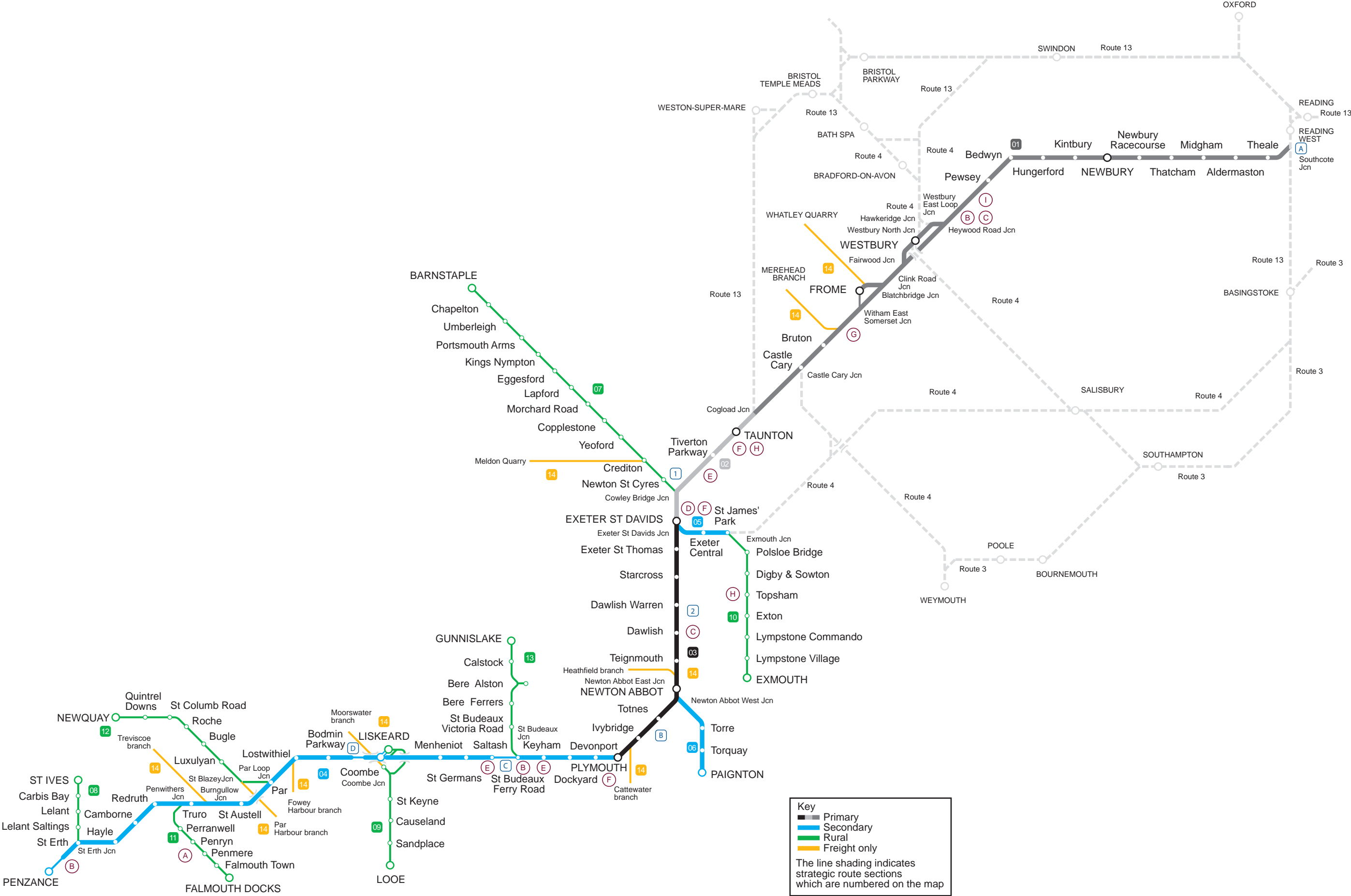
The principal elements of the route are described below. The relevant Strategic Route Section is shown in brackets:

- the 270-mile long main line section from Reading to Penzance (12.01, 12.02, 12.03 and 12.04). Feeding this 'spine' are eight shorter branch lines in Devon and Cornwall:
- Exeter to Exmouth (12.05 and 12.10)
- Exeter (Cowley Bridge Junction) to Barnstaple (12.07)
- Newton Abbot West Junction to Paignton (12.06)
- Plymouth (St. Budeaux Junction) to Gunnislake (12.13)
- Liskeard to Looe (12.09)
- Par to Newquay (12.12)
- Truro (Penwithers Junction) to Falmouth (12.11)
- St. Erth to St. Ives (12.08).

As well as these passenger branches there are freight branches (12.14) to Whatley, Merehead, Heathfield, Plymouth Cattewater, Moorswater, Fowey, Par Harbour and Parkandillack; and a connection from Crediton to Coleford Junction (alongside the Exeter to Barnstaple branch) which leads on to the privately-owned Meldon Quarry freight line through Okehampton.

In describing and developing these routes we are aware that none exist in isolation and that constraints and opportunities here have implications for the rest of the national rail network and vice versa.

Route 12 Reading to Penzance



Key	
	Primary
	Secondary
	Rural
	Freight only
The line shading indicates strategic route sections which are numbered on the map	

Current passenger and freight demand

In addition to the main cities and towns served directly by the Reading to Penzance route and its branch feeders, there are large areas of the South West which are remote from a station, and long distance trains call at smaller stations such as Castle Cary to address demand for railheading in south Somerset. Similarly the stations at Tiverton Parkway, Totnes and Bodmin Parkway cater for large swathes of north Devon, south Devon and north Cornwall respectively.

The Department for Transport's (DfT) Thames Valley and South West Regional Planning Assessments (RPA) for the railway identify the role of rail as supporting London's role as a world city and the local economies of other key urban centres by enabling rail commuting linking employers to sources of skilled labour; supporting the growth and integration of the London and South East; and the South West economies through provision of rail services linking London to the key centres; and contributing to the provision of surface access to Heathrow Airport.

The main markets for rail are identified as; medium and short distance commuting into London (from the eastern end of the route) and to other main centres such as Bristol, Exeter and Plymouth; long distance interurban travel between main centres in the south west and London, the Midlands, Yorkshire, the North East and Scotland; intra-regional interurban travel; access to airports; leisure and tourism, and to provide local journey opportunities, as well as to feed the main line, from rural locations on local branches.

Between 2000 and 2006 rail passenger demand has grown by up to 20 percent for journeys from Exeter and Taunton to London, and up to 40 percent to the Midlands. However, this is in contrast to the minimal growth for journeys to similar locations from Plymouth, and decline west thereof.

The Thames Valley RPA also identifies that demand for seats on main line services to London during the morning peak (based on the December 2006 timetable) exceeds provision only at the eastern end of the route from Newbury by approximately 5 percent.

For freight, aggregates traffic dominates the route from Westbury to Reading, with flows from the Mendip Hills to London area terminals and others to the south and east of London.

Freight traffic generated in Cornwall is predominantly china clay, mostly exported locally through the port of Fowey, but with some longer distance traffic also. Cement traffic from Hope (Peak District) runs to Moorswater on the Looe branch. Aggregates traffic runs from Burngullow to East London.

Current services

First Great Western operates the broadly hourly London Paddington to Plymouth/Penzance services. These come together with the hourly Midlands and north to Plymouth CrossCountry services at Cogload Junction (east of Taunton), to make traffic volumes greatest between there and Plymouth. Between Plymouth and Penzance passenger train services are mostly operated by First Great Western. CrossCountry has a limited presence west of Plymouth, although this is stronger in the summer months. A limited number of London Waterloo to Exeter St. Davids (via Salisbury) services operated by South West Trains run westwards beyond Exeter, to Paignton and Plymouth.

At the eastern end of the route the broadly hourly commuter services provided by First Great Western are operated with two-car or three-car formations and a more intensive service is operated during morning and evening commuter peaks. The most intensively used branches, to Exmouth and St Ives, enjoy half hourly frequencies, whilst the other west of England branches have hourly or less frequent interval services.

CrossCountry operates longer distance intercity services from the south west to the North and Scotland. The December 2008 timetable introduced a standard pattern in which the same origins and destinations are linked to each other each hour. This has many advantages but in the process some through journey opportunities have been lost, including regular direct trains between Plymouth and Manchester.

Freight services are operated by DB Schenker and Freightliner Heavy Haul Limited.

Figure 1 shows the current level of service to major destinations from principal stations.

Figure 2 shows the current service level for regional and rural services.

Figure 1 Current train service level (trains per hour)

Main line services	Trains per hour
Plymouth – Paddington	1 peak/1 off peak (9 trains per day from Penzance)
Exeter St Davids – Paddington	1 peak/1 off peak
Bedwyn – Paddington	1 peak/1 off peak
Newbury – Paddington	2 peak/1 off peak
Plymouth – Birmingham New Street	1 peak/1 off peak (3 trains per day from Penzance)

Figure 2 Current train service level (trains per hour)

Regional/Rural Service	Trains per hour each way
Newbury – Reading	2
Exmouth – Barnstaple	1
Exmouth – Paignton	1
Plymouth – Gunnislake	9 trains per day
Liskeard – Looe	1
Par – Newquay	7 trains per day
Truro – Falmouth	1
St Erth – St Ives	2

Figure 3 Tonnage

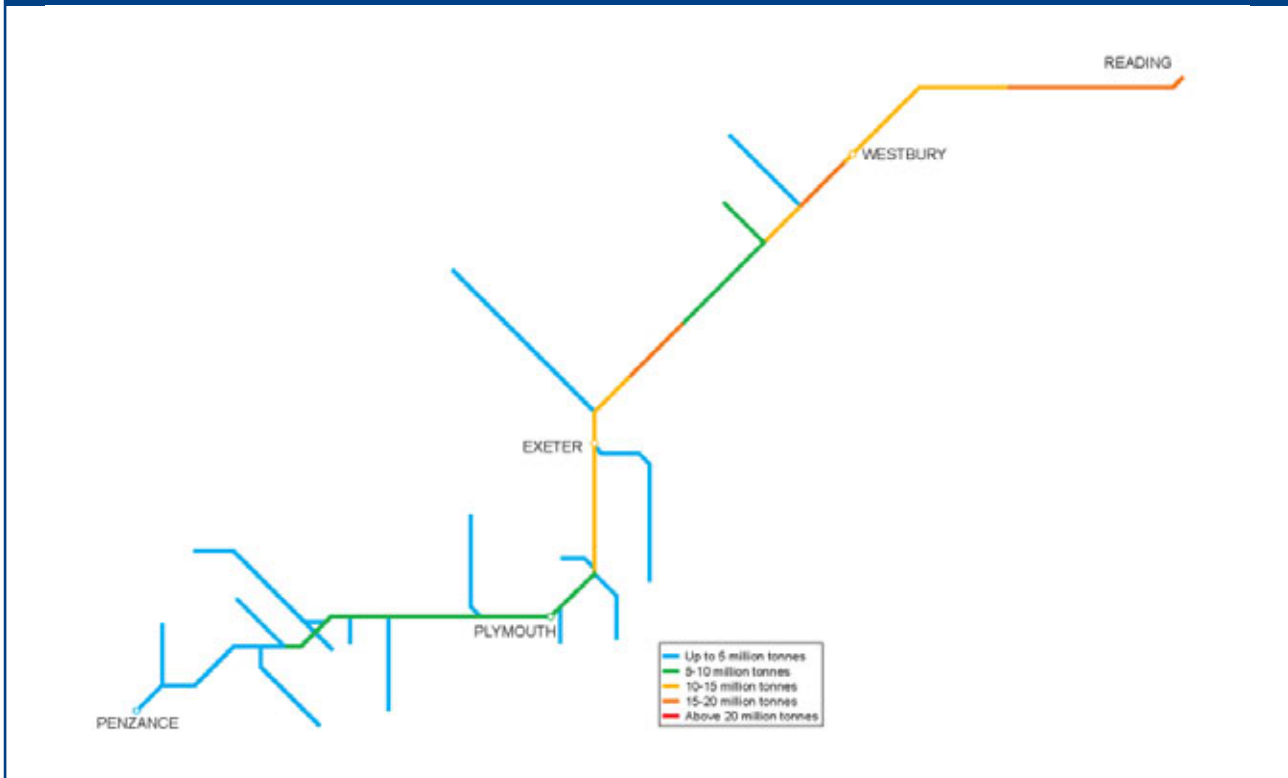


Figure 3 shows the total annual tonnage levels on the route.

Traffic volumes are summarised in Figure 4.

Figure 4 Current use

	Passenger	Freight	Total
Train km per year (millions)	12	1	13
Train tonne km per year (millions)	3,190	1,404	4,594

Current infrastructure capability

The following maps set out the capability of the current network.

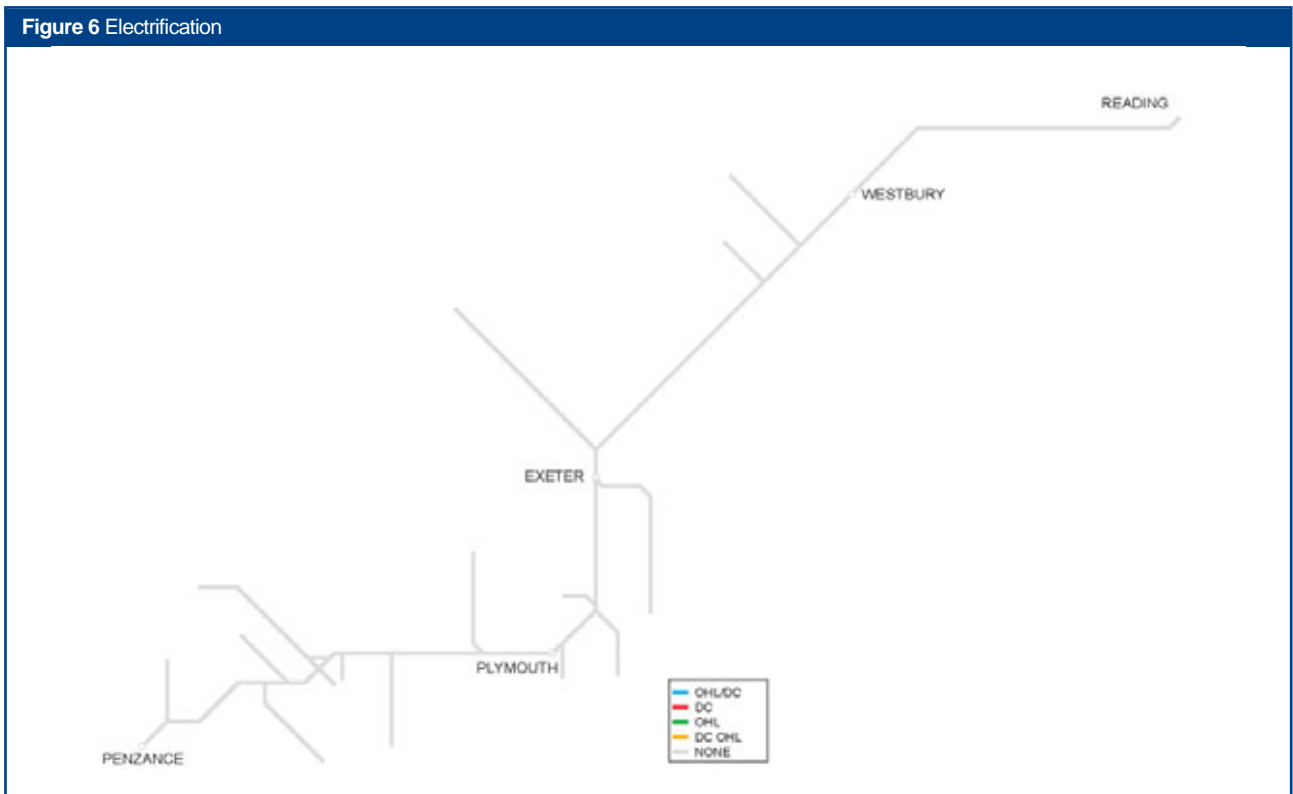
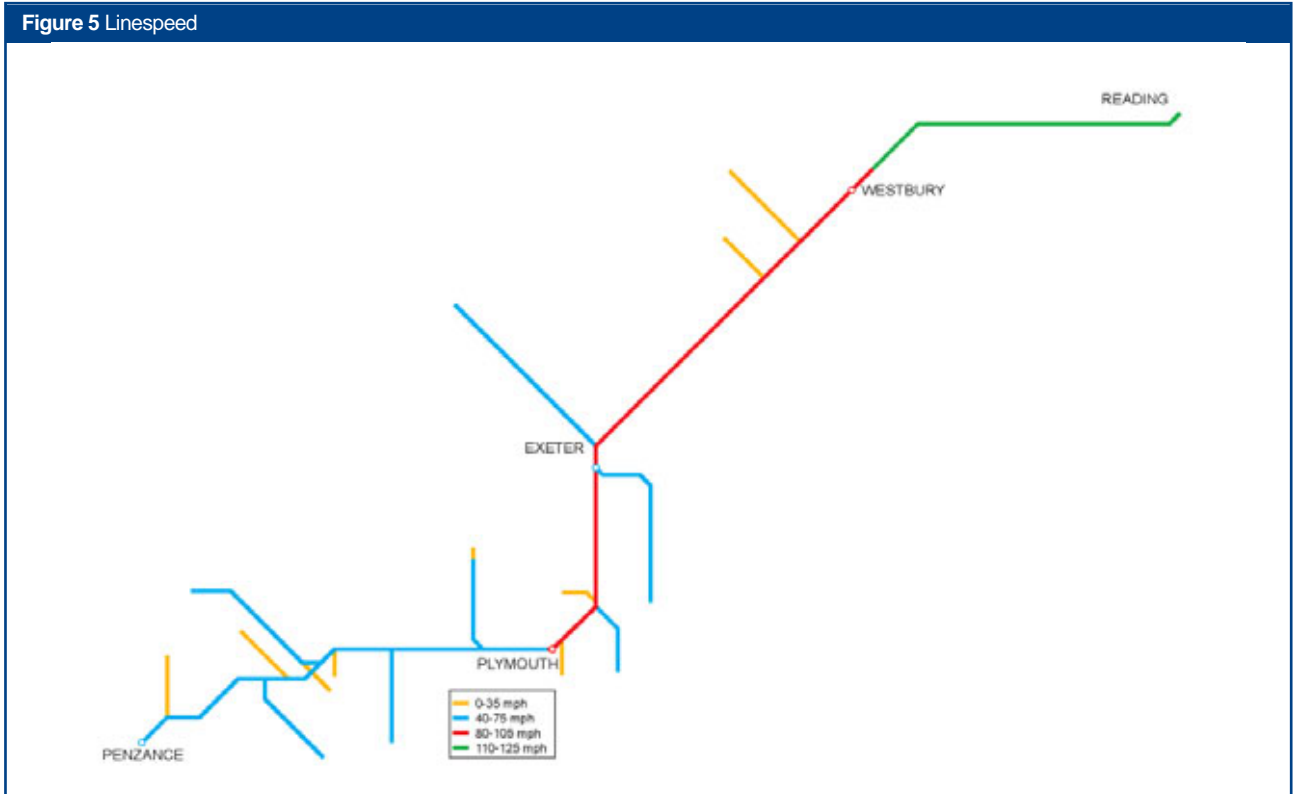


Figure 7 Route availability

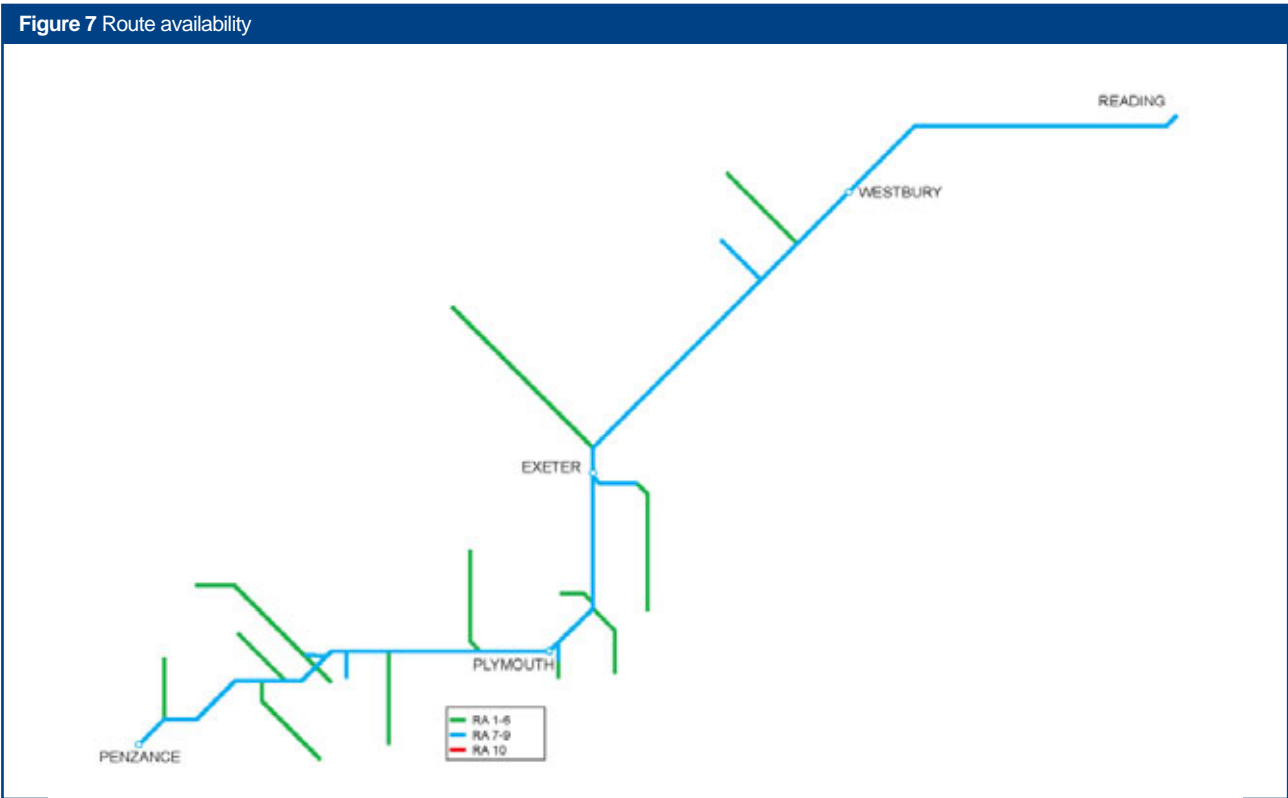
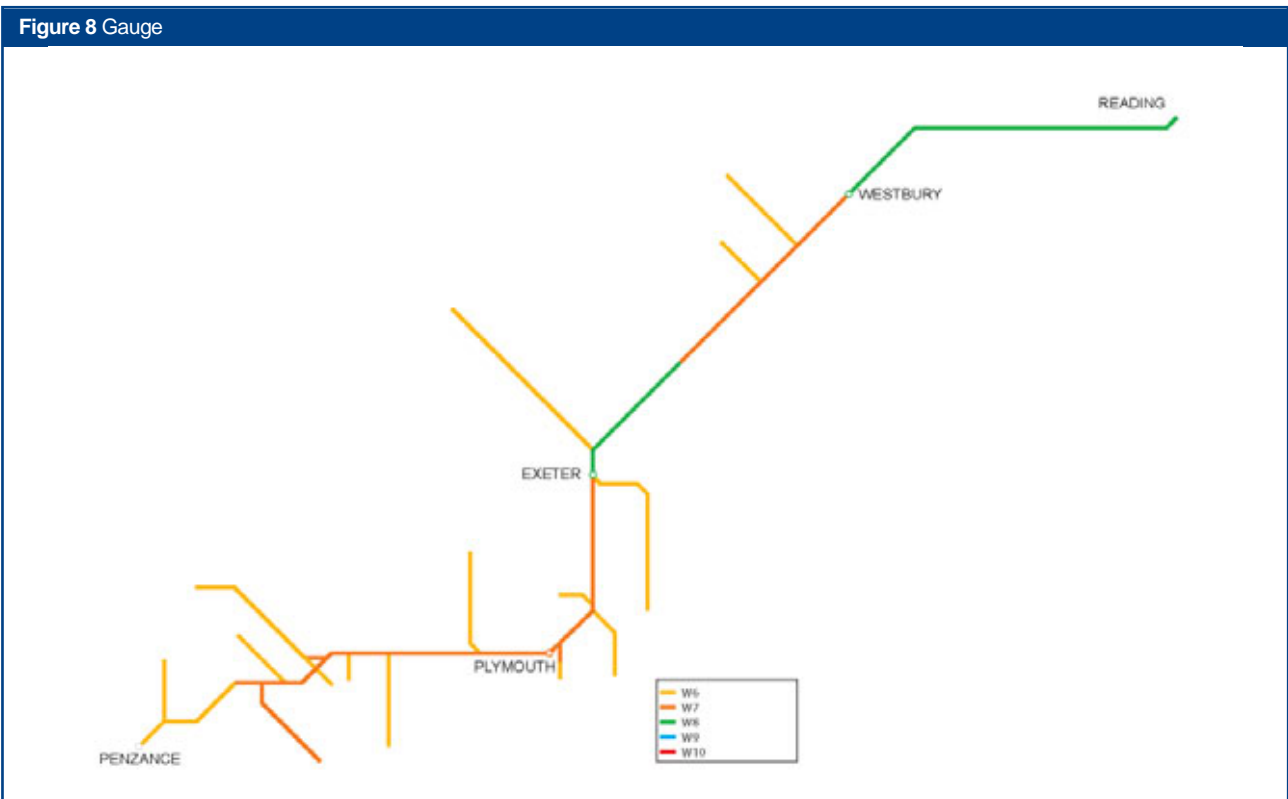


Figure 8 Gauge



Current capacity

The highest take-up of train paths is at the eastern end of the route between Reading and Newbury, where services from the West of England have to fit between intensive passenger and freight movements (between Reading and Southcote Junction) on the immediately adjacent Basingstoke section of the Great Western Main Line (GWML). This influences how capacity is then shared westwards along the whole route towards Taunton. The Reading station area is a critical crossroads on the east – west and north – south axes for both passenger and freight flows.

The variance in linespeeds on the Berks and Hants route constrain any journey time improvements. The lengths of passing loops restrict entry speeds, which impacts on following traffic.

The single track Devon branches run at or close to capacity, as dictated by passing loop provision, whilst the Cornish branches, except that to St. Ives, operate somewhat less intensely. In the case of the St. Ives branch, utilisation has been increased to the maximum possible level as a result of the Community Rail initiative.

Figure 9 shows the current train service level in key sections of the route.

Current performance

Route performance, particularly west of Taunton, is strongly influenced by late running long distance services from other routes. This, with the inability to recover lost time, generates further reactionary delay minutes both on and off the route.

2008/09 has seen a significant improvement in the performance of First Great Western services, with the PPM MAA target of 86 percent consistently bettered and a daily PPM often in the 90 – 97 percent range.

CrossCountry's forecast PPM MAA is 89.8 percent, which is ahead of its target of 89.3 percent set for the end of 2008/09. This is in spite of the challenges posed by the capacity constraints and pinch-points encountered across the national rail network.

The Temporary Speed Restriction (TSR) reduction strategy reduced the number of TSRs on the route to 19 as at 31 March 2009. We continue to increase handback speeds post engineering possessions at locations where there is a performance gain, for example, handback at 80mph delivers 65 percent reduction in delays compared to a 50mph TSR. We are continuing with a sustained High Output Track Renewal programme throughout the route. For 2009/10 it is proposed to report speed restrictions in two methods: planned speeds (those that are applied during the time we are enhancing and renewing the network) and unplanned speeds (condition-driven speeds). We will then be measured on the number of unplanned speeds, and for this the Western route will have a target of ten unplanned speeds by 31 March 2010.

The Performance Improvement Programme, set up in 2005 to target poor-performing assets and implement 'quick win' remedial action, has seen over £29 million being spent on 135 selected schemes, of which 127 have been delivered to date.

Figure 10 shows the forecast 2008/09 PPM for the main TOCs running along the route.

Figure 9 Current train service level (peak trains per hour)

Route Section	Number of trains
Newbury to Reading	4
Exmouth branch (Devon)	2
Totnes to Plymouth	3
Falmouth branch (Cornwall)	1

Figure 10 2008/09 PPM

TOC	Forecast MAA	As at period
First Great Western	90.2%	10
CrossCountry	89.8%	10
South West Trains	93.5%	10

Section 2: Tomorrow's railway: requirements

HLOS output requirements

Figure 11 Total demand to be accommodated by Strategic Route

Routes	Annual passenger km (millions) forecast in 2008/09	Additional passenger km (millions) to be accommodated by 2013/14
Reading – Penzance	1,178	158

Future demand in CP4

Demand for passenger traffic from the south west to London and to the Midlands and beyond is forecast to grow, as is holiday traffic to Devon and Cornwall. Key to this is the business need for connectivity to London and the south east, including Heathrow Airport, with journey times from key centres such as Taunton in under two hours, Exeter under two and a half hours and under three hours from Plymouth.

The Department for Transport's South West Regional Planning Assessment forecasts that demand for journeys towards London in the morning peak will be met throughout the route, up to 2016, by increased service provision. However, by 2026 seating demand is forecast to be in excess of capacity from as far as east of Castle Cary, and by as much as 14 percent. Significant growth is also forecast for local services to Exeter, mainly on the Exmouth branch and from the south Devon area.

Demand for cross country travel from the south west to the Midlands and North is also on the increase and is expected to continue. Demand has been particularly strong in the evening peak, on Fridays and throughout the weekend, with Sundays being CrossCountry's second busiest day of the week.

The Government's White Paper 'Delivering a Sustainable Railway' published in July 2007 proposes a continuation of the Community Rail Development Strategy. This aims to improve long-term sustainability on local and rural lines by encouraging demand growth and managing costs down. With the exception of the Exmouth and Paignton branches, all branch lines in Devon and Cornwall have either a line or service designation, therefore demand on these lines will be strongly influenced by their respective local rail partnerships.

Growth in aggregates freight traffic will occur to meet the house building programme demands in the south east of England, the construction of the Olympic Games sites and Crossrail. Network Rail's Freight RUS, published in March 2007, indicates that by 2014/15, up to two additional trains per day will be required to meet the predicted growth in construction traffic.

Future demand beyond CP4

Demand growth is expected to continue well into CP5, for both freight and passenger businesses. Beyond that, the Government's July 2007 White Paper challenged the industry to plan for a doubling of demand in the subsequent 30 years.

We are currently analysing forecast demand for the route in the Great Western Route Utilisation Strategy (RUS). Recommendations for interventions to address that demand will be published in the Draft for Consultation document in spring 2009. This will be followed by a three month consultation period, with the final document published in autumn 2009.

Section 3: Tomorrow's railway: strategy

Figure 12 summarises the key milestones during CP4 in delivering the proposed strategy for the route. Further explanation of the key service changes and infrastructure enhancements are set out in the following sections.

Figure 12 Summary of proposed strategy milestones

Implementation date	Service enhancement	Infrastructure enhancement	Expected output change
2010/11	Additional vehicles for increased train lengths on Kennet Valley services		Increased seating capacity
2011/12		Unified linespeeds between Reading and Exeter	Improved reliability, capacity and journey times
2012/13		Woodborough loop extension	Improved reliability and capacity

The current capacity of the route will allow the total additional passenger KM to be accommodated.

Strategic direction

The South West Regional Assembly's draft revised Regional Spatial Strategy (RSS) covers the period up to 2026. This focuses on the development of a corridor management approach for corridors of both national and regional importance. Along these corridors, measures will be taken to improve the reliability and resilience of journey times, develop opportunities to facilitate modal shift, and support the growth of key cities and towns.

The Department for Transport's South West and Thames Valley RPAs evaluate rail traffic and infrastructure needs for the next twenty years. The RPAs identify that maintaining and improving connectivity within the 'Western Corridor' of the South East, within the South West region and as well as to the rest of the UK from both regions is important for each region's future economic vitality. They also recognise that increasing road congestion will raise rail competitiveness, and that limited car parking capacity creates access issues.

The Government's White Paper 'Delivering a Sustainable Railway', published in July 2007, proposes a hierarchy of solutions for each route to seek ways of increasing capacity:

- maximise the efficient use of existing rail assets by increasing service frequency
- lengthening existing train services
- enhance infrastructure to improve both frequency and capacity
- simplify service patterns
- make step-changes in infrastructure.

Further interventions on the GWML, such as Intercity Express Programme (IEP), Crossrail and European Rail Traffic Management System (ERTMS) towards the end of CP4 (2009 – 2014) and in CP5 (2014 – 19) will have a major impact on the development of the route during their construction and implementation. The challenge will be to minimise disruption to our customers during this period.

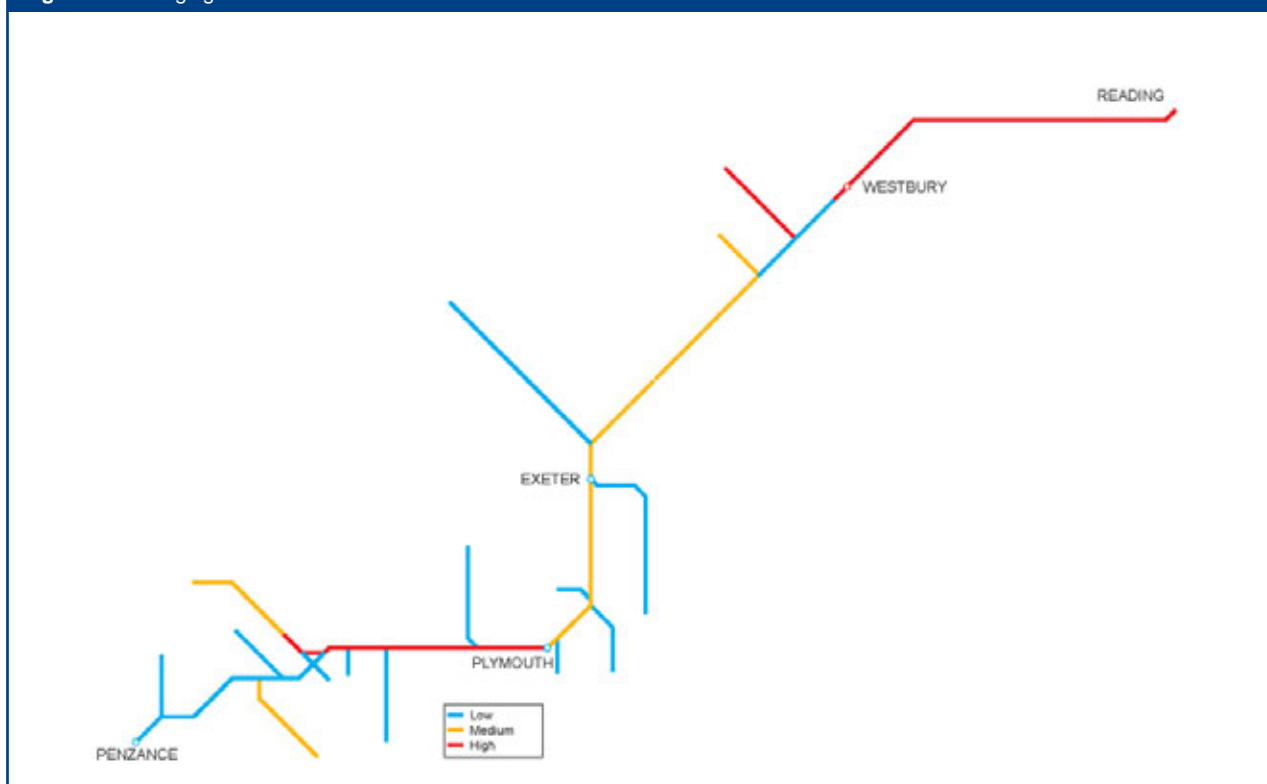
Introduction of the Intercity Express Programme (IEP), mainly to the eastern end of the route, replacing the current fleet of High Speed Trains in 2016 will bring a substantial increase in passenger carrying capacity through the proposed longer formations. Infrastructure enhancement, such as platform extensions and realignment, will be required at certain locations to accommodate these much longer wheel-base vehicles. However, selective door operation is an option for certain key locations where platform extensions may not be viable. Diesel operation is expected to continue for the CP4 period.

The phased implementation of European Rail Traffic Management System (ERTMS), an in-cab system supported by the GSM-R radio network replaces the need for fixed lineside equipment. ERTMS will be a key enabler for the future railway by supporting capacity enhancement schemes, providing greater operational and maintenance flexibility, less-invasive renewals and enhancements, and cross-industry cost savings.

Opportunities for electrifying the route, mainly at the eastern end, are being explored as the first phase of a more general electrification programme.

We are also developing a detailed level crossings strategy for the route; changes currently programmed are full closures of Milkhouse Water near Pewsey and Solomans nos.2 and 3 on the Newquay branch, near Par.

Figure 13 Tonnage growth



Future train service proposals

Figure 13 indicates the forecast percentage change in tonnage to 2018.

The Greater Western franchise runs until 2016 and during its lifetime additional services will be required to meet forecast growth.

FGW are evaluating options for longer train formations on key Kennet Valley services to provide additional seating capacity. Additional vehicles would be required by FGW in order to operate these services.

First Great Western's programme of refreshing its regional train fleet to provide an improved passenger environment is ongoing.

Network Rail's Freight RUS, published in March 2007, indicates that by 2014/15 there will be up to two additional trains per day on the route required for aggregates traffic.

Figure 14 Forecast PPM MAA – CP4 plan

	2009/10	2010/11	2011/12	2012/13	2013/14
First Great Western	90.7%	91.3%	92.2%	92.7%	93.0%
CrossCountry	90.0%	90.2%	90.6%	90.9%	91.3%
South West Trains	92.3%	92.5%	92.8%	93.1%	93.3%

Future capability

Our strategy to improve the capability and performance of the route is to develop it as a core route to facilitate the introduction of Intercity Express Programme (IEP) from 2016.

Network Rail has developed the National Stations Improvement Programme (NSIP); a national programme for station improvements and car park expansion, for enhancements and improvements of stations in CP4. Working in conjunction with our customers we have shortlisted a number of stations on the route for modernisation as part of the Government's £150m funding initiative. These are Newbury, Castle Cary, Exeter St Davids, St Austell, Truro and Penzance.

The Department for Transport's Access for All programme also targets improvements to station access at a number of locations. St Erth is included in the current programme.

The trial of a prototype low cost platform height extension is currently taking place at Harrington in Cumbria. Depending on the outcome of this trial, it may be possible to apply this to some of the platforms on the route with very low platform heights.

Future capacity

We propose to increase the capacity of the GWML by making better use of relief lines by linking existing goods and relief lines and upgrading them to passenger status, freeing up the main lines for uninterrupted high speed service provision. Whilst this is off the route (across the greater Bristol area and through Reading and the Thames Valley to London) it would have a beneficial impact on services to and from the south west.

On the route itself we believe that the solution to passenger growth and future capacity requirements could be achieved by a combination of initiatives. These include train lengthening on CrossCountry services supported by platform lengthening where appropriate; changes to the timetable structure to reduce the mix of different train types and the number of conflicting moves; increasing linespeeds between Reading and Exeter; and upgrading linespeeds where appropriate to deliver improved journey times.

At Reading we are redeveloping the whole of the station area in order to provide additional capacity and improve reliability. A new maintenance depot is being provided at Reading West, replacing the existing depots which are to be demolished to facilitate the revised layout. Grade separation between Southcote Junction and Reading West Junction will help to improve freight access through the area.

The creation of a passing loop at Penryn will provide the capacity to double the service frequency on the Falmouth branch to half hourly from May 2009.

Future performance

Figure 14 sets out the planned PPM for each train operator.

Our strategy of developing core routes will deliver improved performance for both passenger and freight customers.

In addition to continued improvement in asset reliability, a major focus of attention going forward is the work necessary to develop more robust train timetables and resource plans in terms of recovery from incidents.

Extreme weather is no longer confined to particular periods of the year. Flooding and high winds can strike at any time with an adverse effect on long distance services. A regional weather event can have a national impact. Vulnerable pieces of infrastructure and land such as Dawlish Sea Wall and the Teignmouth cliffs will continue to pose a performance risk although specific Network Rail operational plans minimise the impact of such incidents. Of particular concern are blanket emergency speed restrictions which can severely impact services which operate the length and breadth of the country as well as across Network Rail organisational boundaries.

The introduction of a new signalling control centre for the Thames Valley (including the eastern end of this route) in late 2010 will deliver greater operational and performance management benefits for all our customers.

The location for a potential West of England Signalling Control Centre is yet to be determined.

First Great Western (FGW)

The performance of the FGW franchise is currently 90.2 percent PPM MAA. Both Network Rail and First Great Western continue to work together to build on the recent improvements made to the PPM performance across the whole franchise. The 2009/10 Joint Performance Plan targets a PPM of 90.7 percent by April 2010.

The key performance opportunities for this route have been identified as:

- local initiatives for real time operations
- strategic works to improve the reliability of train detection
- further improvements in train planning through the introduction of the Integrated Train Planning System, and targeted improvements on key lines of route
- installing remote condition monitoring for points and track circuits at major locations on the route
- improvements in fleet availability and reliability.

The route plan is being developed around these key points and currently suggests that performance on FGW by April 2014 will be around 93 percent. This includes an allowance for passenger/traffic growth and an increase in engineering work. This figure has been discussed with FGW and although FGW has no franchise commitment on PPM this figure is in line with stakeholder aspirations.

CrossCountry

As a long distance operator CrossCountry faces significant performance challenges. Additional capacity in the form of HSTs as well as additional seating on Class 220/221s is being introduced in the period between May 2008 and summer 2009.

Performance Levels

PPM MAA for the franchise at the end of period 10 2008/09 is 89.8 percent. Franchise plans developed during bidding based on TOC on Self improvements have a PPM figure of 91.3 percent at the end of the franchise. This was based on a given bid assumption of no improvement from Network Rail in CP4. It is therefore expected by CrossCountry that the further improvement sought in franchise and national PPM will come from Network Rail initiatives.

Significant lateness

Network Rail nationally is developing plans for a 25 percent reduction in trains over 30 minutes late over CP4. These plans include continued work on flooding prevention and joint initiatives being developed between Network Rail and BTP to prevent theft and vandalism. These commitments are consistent with CrossCountry's desire to minimise the number of significantly late trains, a source of customer complaint, loss of business to rail and payments under the delay repayment regime. Although plans are currently in their early stages, any actions under this heading are likely to benefit the performance of the CrossCountry services given the geographic extent and long distance nature of the business.

The key performance issues and opportunities for CrossCountry on this route have been identified as:

- improved asset reliability through the use of maintenance benchmarking and the full installation and deployment of remote condition monitoring
- Efficient Engineering Access and possession planning Improvements
- full implementation of GSM-R
- enhanced management of the network
- eradication of intrusive T2 track patrols
- weather proofing the network through enhanced drainage and upgrade of climate control systems for signalling equipment
- enhanced usage of on train monitoring recording equipment
- reduction in the impact of trespass, vandalism and fatalities
- quicker incident response.

The route plan is being developed around these key points and currently suggests that performance for CrossCountry services by April 2014 will be around 91.3 percent, this includes an allowance for passenger/traffic growth and an increase in engineering work.

Network availability

Engineering access on this route varies from being fairly restrictive on the main line to reasonably available on the branches. In many areas access is available on overnight possessions with consent from affected operators. Wherever possible, possessions are managed to ensure that a route is available to the west. The main considerations include no concurrent possessions from Southcote Junction to Exeter, or Bristol to Cogload Junction and Bathampton Junction to Bristol, or Bathampton Junction to Westbury. In addition there are restrictions on Friday night possessions throughout the summer to cater for the holiday market.

A different approach to heavy maintenance of the numerous West of England branches has been developed where workload requirements are such as to warrant extended midweek possessions (blockades) and bus substitution by agreement with the operator First Great Western. This current policy will continue in Devon and Cornwall timed mainly to meet school holiday periods when loading is reduced. On the Torbay line work is mainly carried out during school half term holidays. On the Gunnislake line work is mainly carried out during the Easter holiday period when commuter numbers are low.

Track renewals will continue on the Bristol to Exeter route, primarily to the south of Taunton, and on the Berks and Hants route. This will be achieved through a combination of weekend and midweek possessions and continuous use of the High Output Track Renewals system in order to achieve the outputs required for renewal of the ballast and track. The system will require overnight single line working of sections of route with diversions of overnight services and stock moves. Conventional renewal will apply where operational restrictions (e.g. level crossings, stations and junctions) prevent the use of High Output Track Renewals.

Network Rail's High Output equipment is currently based at Taunton Fairwater Yard to allow rapid and frequent transit to the renewal sites on the route.

Works will commence in 2009 for the remodelling and rebuilding of Reading station area. We will reduce the levels of weekend journey disruption and diversions during the construction period as much as possible.

This route was not identified in the Strategic Business Plan as a priority route for enhancing network availability under the Seven Day Railway initiative. However, all train operators on the route have expressed an aspiration to operate a more comprehensive timetable seven days a week. Passenger operators would like to operate as much of the published timetable as possible, which would reduce the need for replacement bus services. Freight operators wish to maintain their existing level of operation on weekdays, and improve the scope to operate services at weekends.

Long term opportunities and challenges

The phased introduction of IEP from 2016 will provide additional seating capacity through the proposed longer formations. Selective door operation is an option for certain key locations where platform extensions may not be viable.

The phased implementation of ERTMS will deliver reliability, capacity and capability improvement opportunities throughout the route.

Future expansion of electrification over the route would deliver significant performance and environmental improvements.

Infrastructure investment in CP4

Figure 15 Infrastructure investment in CP4 (formerly Proposed enhancements in CP4)

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2009/10	Ⓐ Falmouth branch capacity enhancement	Platform extension and passing loop at Penryn	Improved reliability – increased capacity on branch	Third Party	6
2009/10	Ⓑ Track renewals	S&C renewals at Heywood Road Junction, Long Rock and St Budeaux Junction	Renewal	Network Rail	
2009/10	Ⓒ Earthworks renewals	Earthworks renewals at Heywood Road Junction and Dawlish	Renewal	Network Rail	
2009/10	Ⓓ Exeter St Davids	Buildings renewals at Exeter St Davids station	Renewal	Network Rail	5
2010/11	Ⓔ Track renewals	S&C renewals at Keyham, Saltash and Tiverton	Renewal	Network Rail	
2010/11	Ⓕ Telecoms renewals	CCTV, CIS and PA renewals at Exeter St Davids, Plymouth and Taunton	Renewal	Network Rail	
2011/12	Ⓖ Reading – Exeter	Unified linespeeds between Reading and Exeter	Improved reliability, capacity and journey times	Network Rail	5
2011/12	Ⓗ Track renewals	S&C renewals at Taunton and Topsham	Renewal	Network Rail	

NRDF candidate schemes in CP4

Figure 16 Candidate NRDF schemes in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2012/13	① Woodborough loop extension	Increased loop length	Improved reliability and capacity	Network Rail Discretionary Fund	2

Renewals activity

Figure 17 shows the estimated renewal costs and activity volumes.

The precise timing and scope of renewals will remain subject to review to enable us to meet our overall obligations as efficiently as possible consistent with the reasonable requirements of operators and other stakeholders.

It should be noted that in order to manage the deliverability of our Civils, Signalling and Electrification plans we have included an element of over planning in our work banks. As a consequence the sum of our route plans exceeds our plan for the network as a whole. It is likely that a proportion of the activities in these areas will slip to subsequent years.

Figure 17 Summary of estimated renewals costs and activity volumes						
£m (2009/10 prices)	2009/10	2010/11	2011/12	2012/13	2013/14	CP4 total
Renewals						
Track	15	24	16	7	9	70
Signalling	7	6	5	9	6	33
Civils	24	25	15	14	13	91
Operational property	8	6	7	5	6	33
Electrification	0	0	0	0	0	0
Telecoms	1	1	1	1	1	4
Plant and machinery	1	1	1	1	1	5
Total	56	63	45	36	36	236
Renewals volumes						
Track						
Rail (km)	21					
Sleeper (km)	23					
Ballast (km)	29					
S&C (equivalent units)	7					
Signalling						
SEUs (conventional)	0	1	5	0	3	9
SEUs (ERTMS)	0	0	0	0	0	0
Level crossings (no.)	0	0	0	0	5	5

Appendix

Figure 18 Strategic route sections												
Predominant aspect recorded (secondary aspects recorded in brackets). ELR is Engineers Line Reference, RA is Route Availability.												
SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway (mins)	No of Tracks
12.01	Reading – Cogload Jn	BHL, WES WEY, CCL	Primary	DfT	No	W8, W7	8	100	none	TCB	5,8	2
12.02	Cogload Jn – Exeter St Davids	MLN1	Primary	DfT	No	W8	8	100	none	TCB	4	2
12.03	Exeter St Davids – Plymouth	MLN1	Primary	DfT	No	W7	8	60	none	TCB	4,6	2
12.04	Plymouth – Penzance	MLN2, MLN3, MLN4	Secondary	DfT	No	W7, W6A	8,7	65	none	Mech.	(AB)	2
12.05	Exeter – Exmouth Jn	BAE	Secondary	DfT	No	W6A	6	70	none	TCB	3	2
12.06	Paignton Branch	TOR	Secondary	DfT	No	W6A	6	40	none	TCB	7	2
12.07	Barnstaple Branch	DAC, NDN	Rural	DfT	Yes	W6A	6,5	55	none	OTW	(AB)	1
12.08	St Ives Branch	SIV	Rural	DfT	Yes	W6A	5	30	none	OTW	(AB)	1
12.09	Looe Branch	LIL, LOO	Rural	DfT	Yes	W6A	4	25	none	OTW	(AB)	1
12.10	Exmouth Branch	EMT	Rural	DfT	No	W6A	6	50	none	OTW	(AB)	1
12.11	Falmouth Docks Branch	FAL	Rural	DfT	Yes	W7	6	50	none	OTW	(AB)	1

Figure 18 Strategic route sections

Predominant aspect recorded (secondary aspects recorded in brackets). ELR is Engineers Line Reference, RA is Route Availability.

SRS	SRS Name	ELR	Classification	Funding	Community Rail	Freight Gauge	RA	Speed	Electrification	Signalling Type	Signalling Headway (mins)	No of Tracks
12.12	Newquay Branch	NEW	Rural	DfT	Yes	W6A	6	50	none	OTW	(AB)	1
12.13	Gunnislake Branch	DAC, CAL	Rural	DfT	Yes	W6A	4	55	none	OTW	(AB)	1
12.14	Freight Lines			DfT	No				none			

Capacity and operational constraints

- A** Southcote Junction: convergence of two key routes with a mix of heavy aggregates and long intermodal freight traffic, interurban and local passenger services
- B** Signalling headways between Newton Abbot and Plymouth
- C** Royal Albert bridge: single line section linking Devon and Cornwall
- D** St Pinnock and East Largin viaducts: single line sections

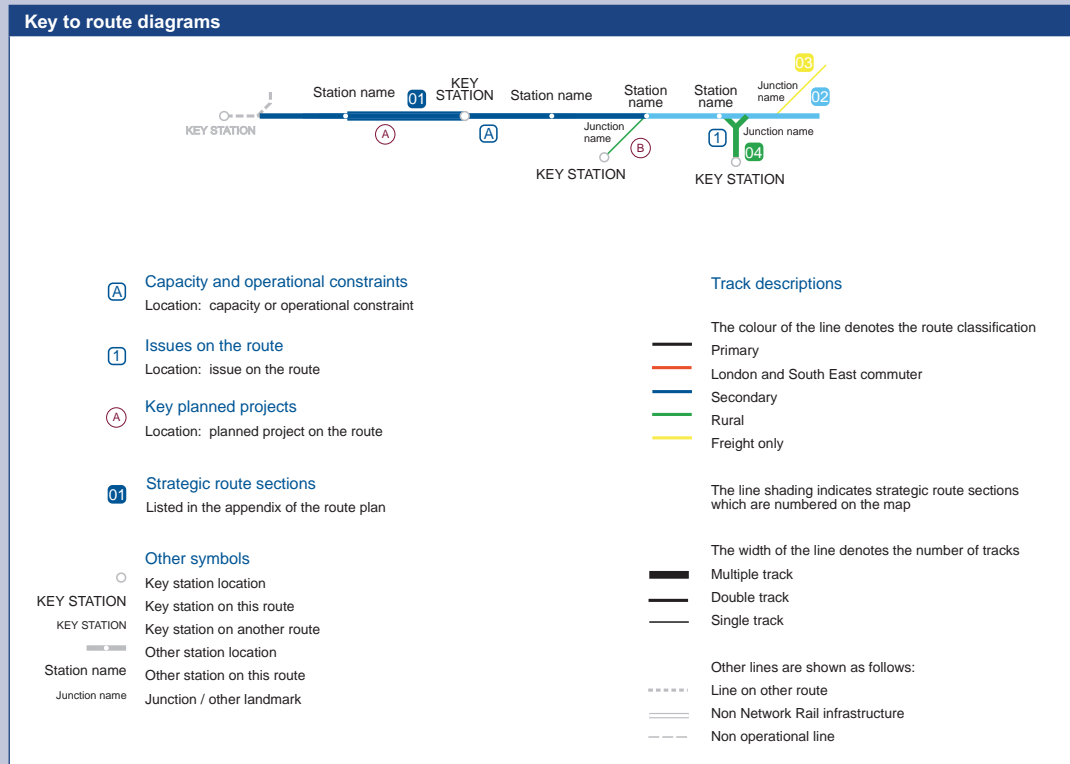
Other Issues on Route

- 1** Flood plain to the north of Exeter requires constant monitoring
- 2** Dawlish Sea Wall defences require constant monitoring and enhanced maintenance

Note

This Route Plan forms part of the Control Period 4 (CP4) Delivery Plan and supersedes the version published in April 2008.

Other documents in the Delivery Plan can be found on the Network Rail website www.networkrail.co.uk



GRIP stages

- 1 Output definition
- 2 Pre-feasibility
- 3 Option selection
- 4 Single option selection
- 5 Detailed design
- 6 Construction, test and commission
- 7 Scheme hand back
- 8 Project close out

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