Route Plans 2008
Route 12
Reading to Penzance

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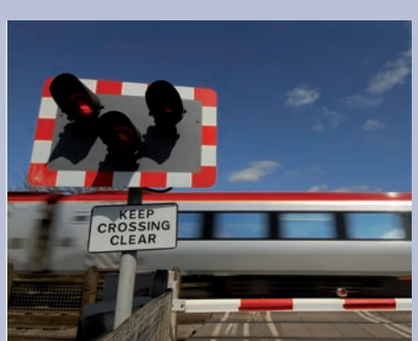


Route 12 Reading to Penzance

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 (GWML) at Taunton and at Reading. In addition to the long spine of the main route from Reading through Westbury to Penzance, 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.

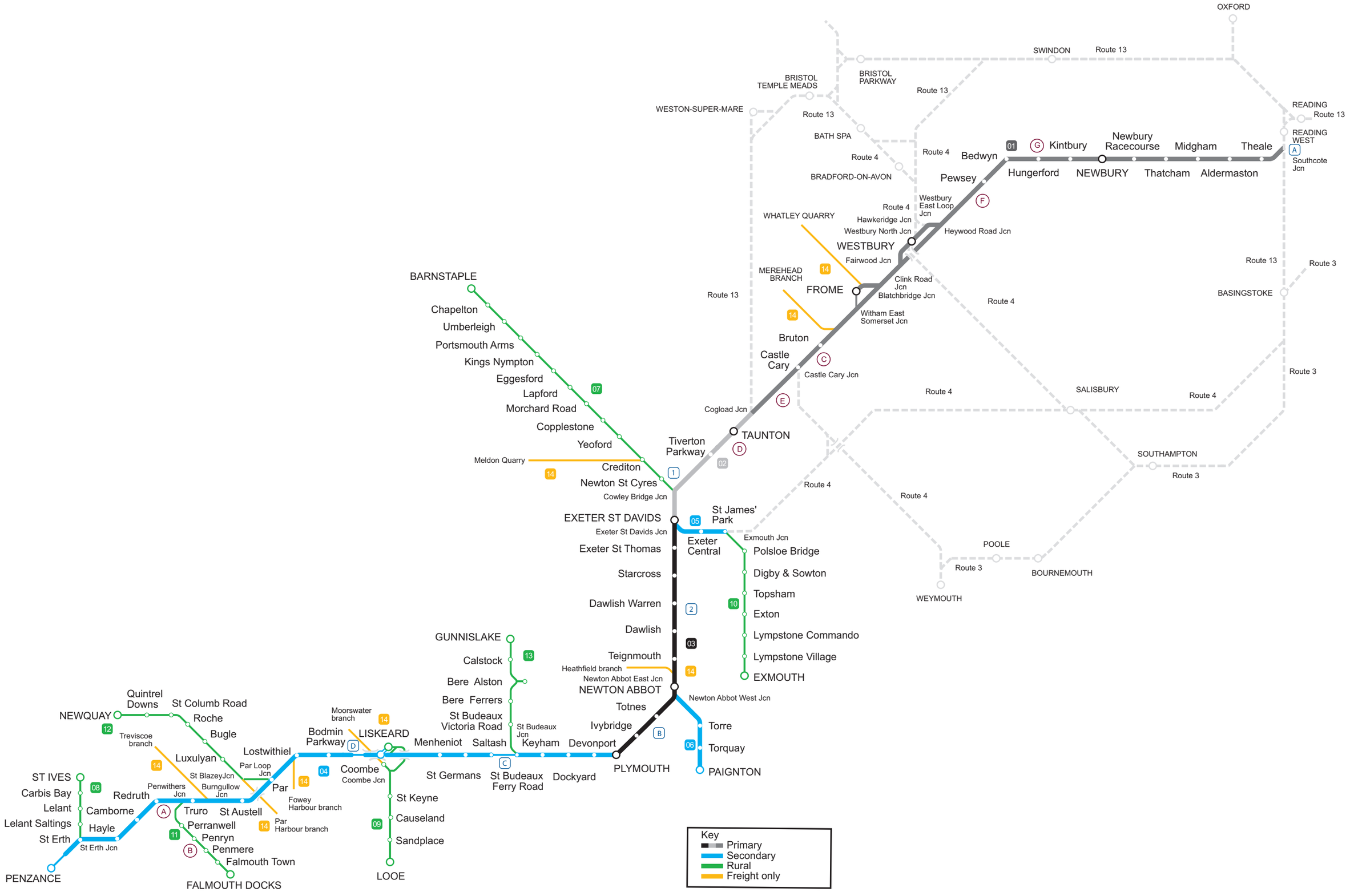
Today's route

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 (Aller Junction) to Paignton (12.06);
- Plymouth (St. Budeaux) to Gunnislake (12.13);
- Liskeard to Looe (12.09);
- Par to Newquay (12.12);
- Truro (Penwithers Junction) to Falmouth (12.11); and
- 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, Fowey, and Drinnick Mill; 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.

Route 12 Reading to Penzance



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 (DfT) Regional Planning Assessments (RPA) for the South West and the Thames Valley identifies the role of rail 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; supporting wider social connectivity in the South West by providing important regional links, 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 Exeter and Plymouth; inter-urban travel between main centres in the south west and London and the Midlands; intra-regional inter-urban travel; access to airports; leisure and tourism, and the social dimension of local branch lines.

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. Growth in local journeys to Exeter and Plymouth is fairly static.

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

There is very little through freight movement between the home counties and the far west of England, although the Reading to Westbury section of the route is heavily utilised by long and heavy freight trains conveying aggregates eastwards from the Mendips.

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 twice weekly to Moorswater on the Looe branch.

Current services

First Great Western operates the broadly hourly London Paddington to Plymouth services, which 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 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 2 car or 3 car formations and a more intensive service is operated during morning and evening commuter peaks. The most intensively used Devon branch, to Exmouth, enjoys half-hourly frequencies whilst the other west of England branches have hourly or less frequent interval services.

Freight services are operated by English, Welsh and Scottish Railway and Freightliner Heavy Haul.

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 St	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	7 trains per day
Liskeard – Looe	1
Par – Newquay	4 trains per day
Truro – Falmouth	1
St Erth – St Ives	2

Figure 3 Tonnage

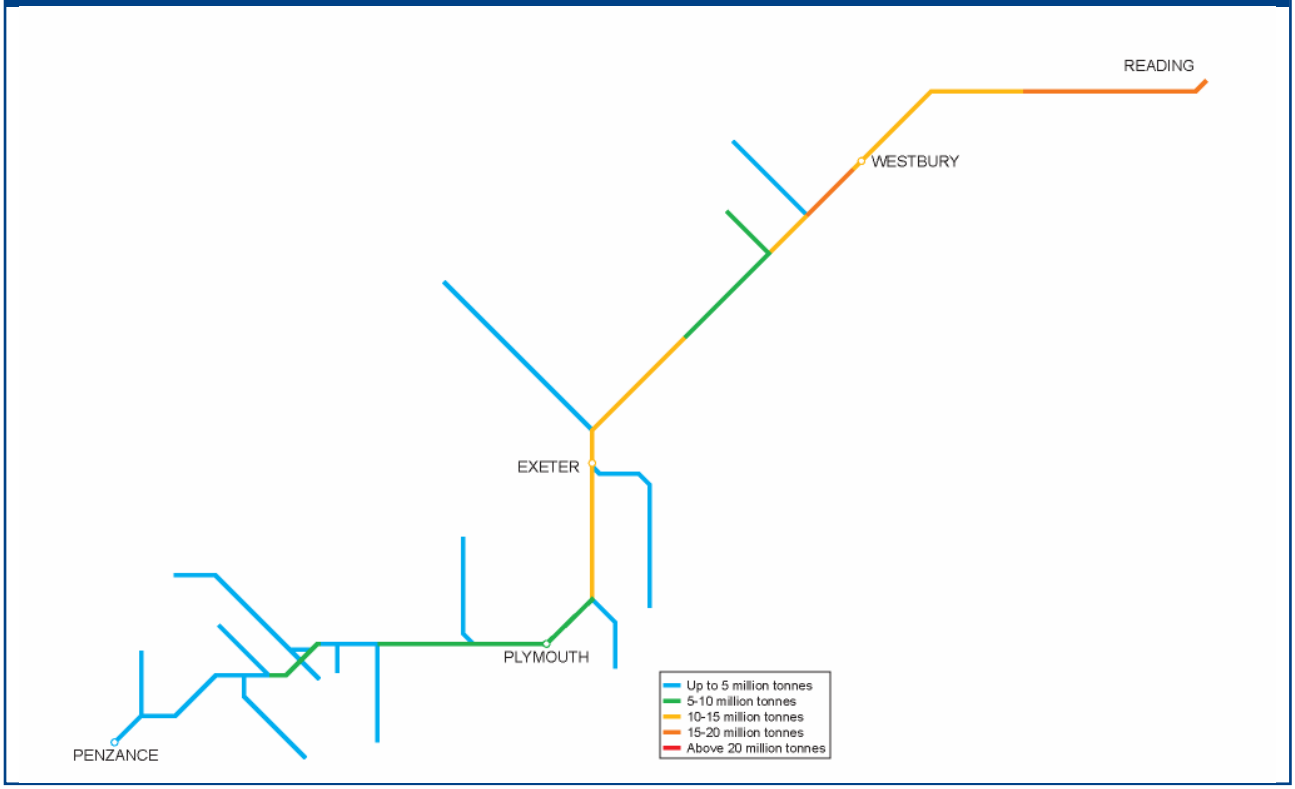


Figure 3 shows the total annual tonnage levels on the route.

Traffic volumes are summarised in Figure 4.

Figure 4 Current use

	Passenger	Freight	Total
Train km per year (millions)	12	1	14
Train tonne km per year (millions)	3,273	1,300	4,573

Current infrastructure capability

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

Figure 5 Linespeed

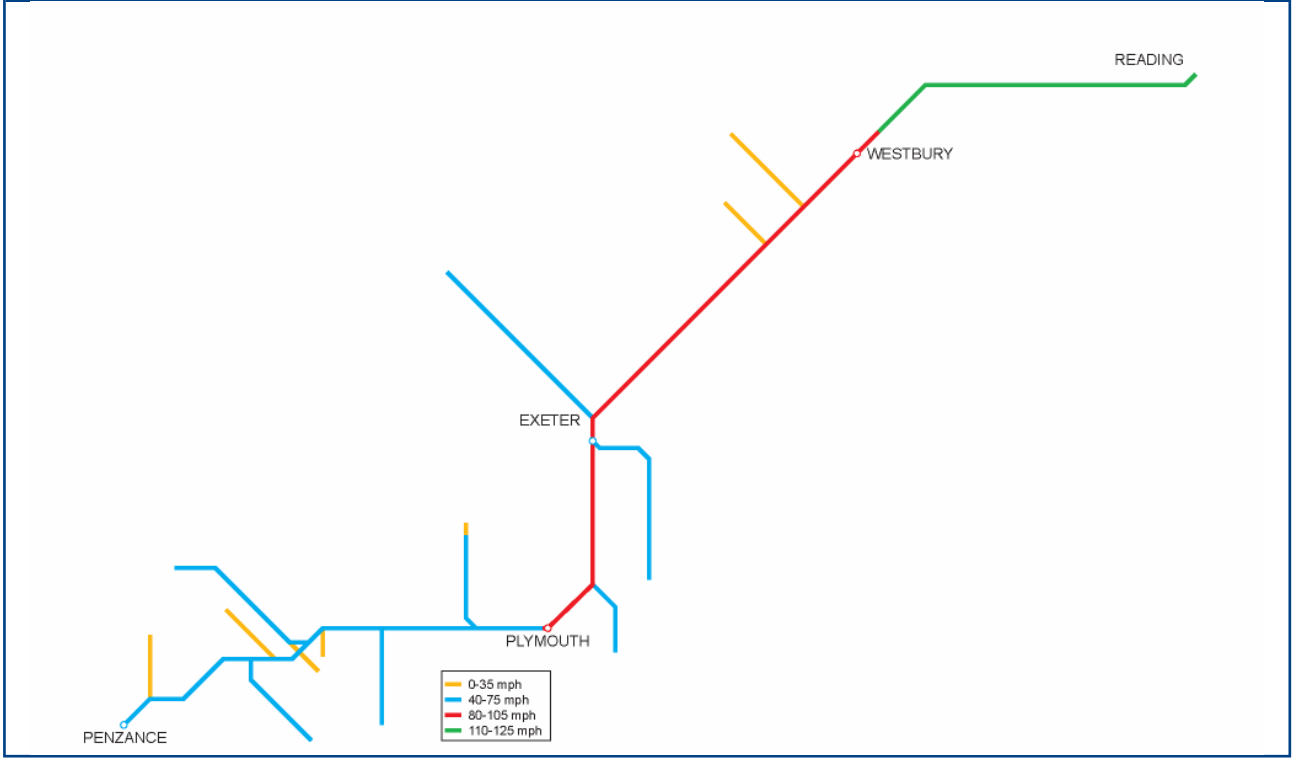


Figure 6 Electrification

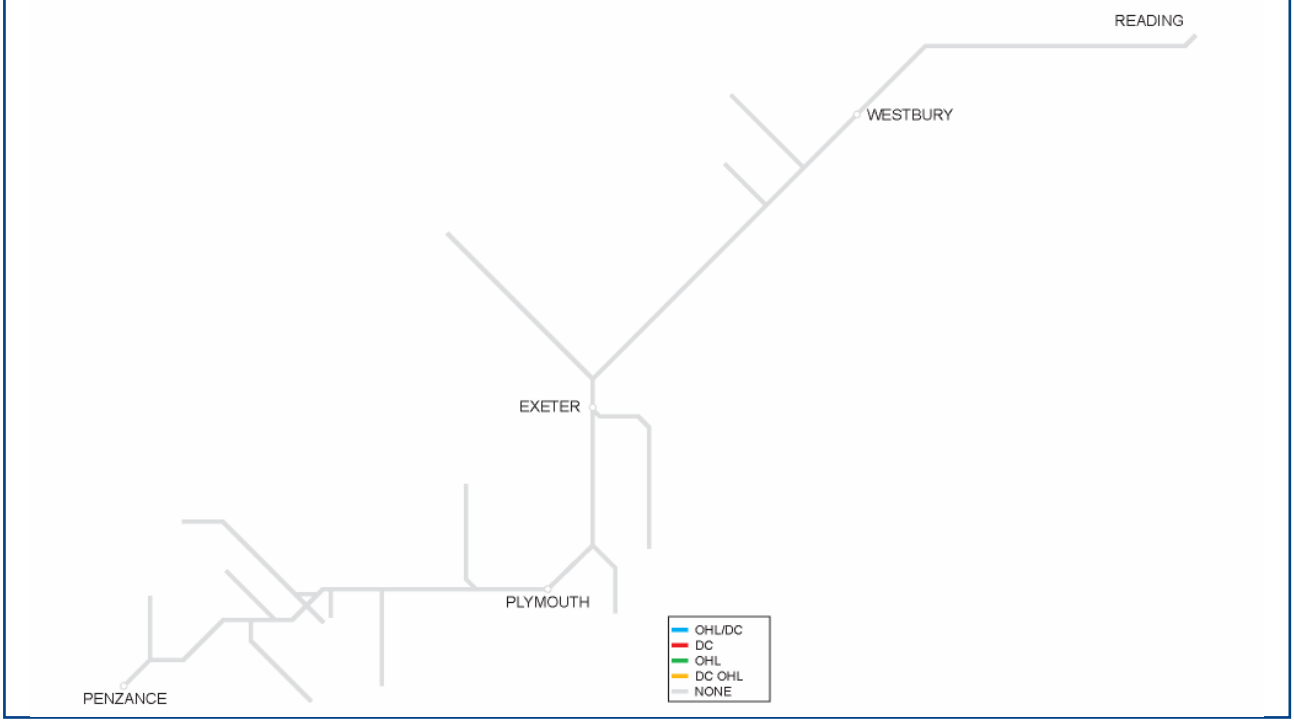


Figure 7 Route availability

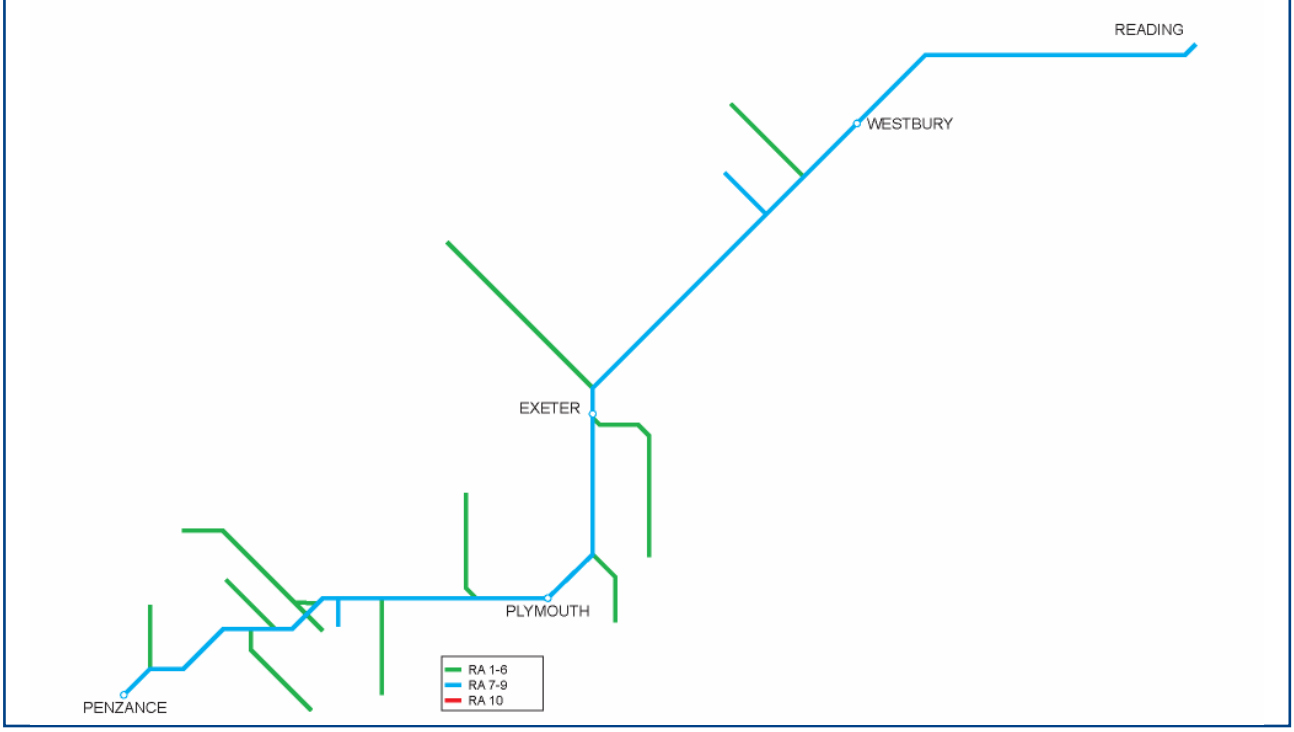
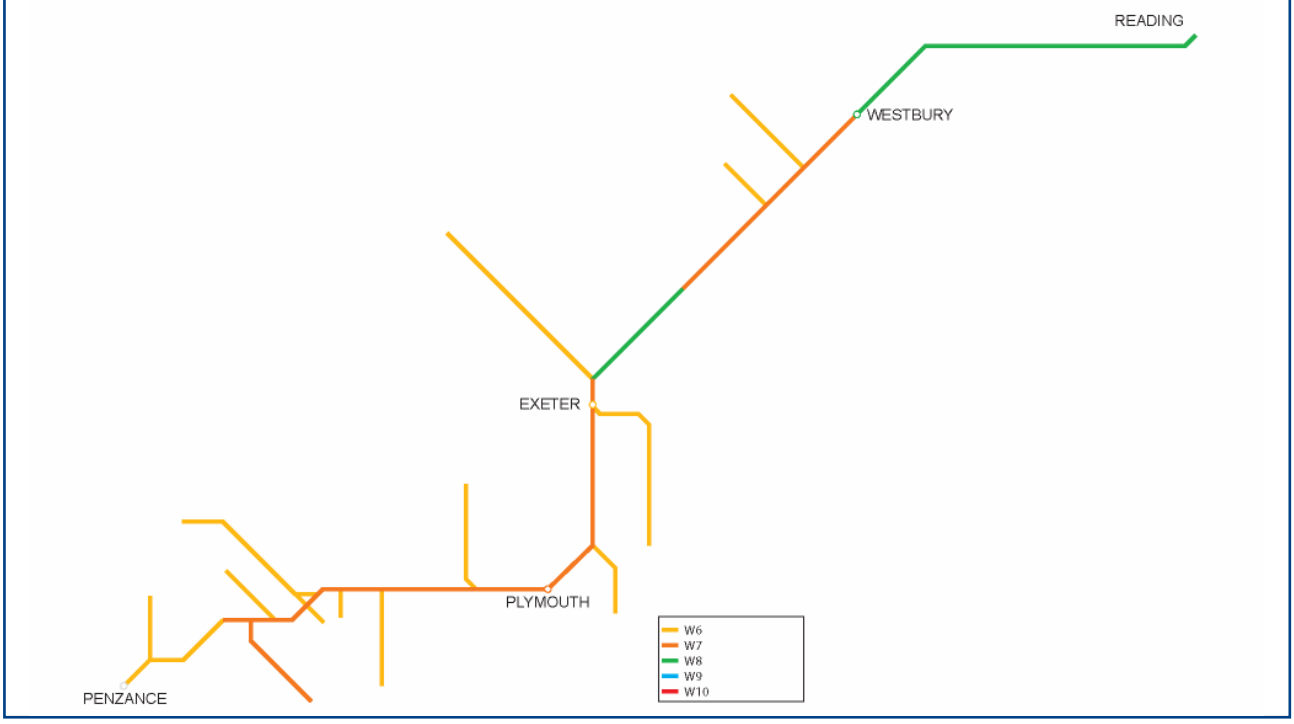


Figure 8 Gauge



Current capacity

The highest take-up of train paths is at the eastern end of the route, between Reading and Newbury, where West of England services 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 capacity constrained Reading station restricts the ability to deliver additional paths on the route to meet future demand, particularly freight traffic for the construction of the Olympic Games sites and Crossrail.

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.

Improvement in the performance of First Great Western services remains a challenge for both FGW and Network Rail. Work is taking place to reduce temporary speed restrictions, signalling and track failures.

We are undertaking a programme of track renewal to remove Temporary Speed Restrictions by the end of March 2009. The Temporary Speed Restriction (TSR) reduction strategy aims to reduce the number of TSRs on the route to 19 by 31 March 2009. We intend to increase handback speeds post engineering possessions, for example, handback at 80 mph delivers 65 percent reduction in delays compared to a 50 mph TSR. We are also embarking on a sustained High Output Track Renewal programme throughout the route.

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 107 have been delivered to date.

Figure 10 shows the current 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	2
Falmouth branch (Cornwall)	1

Figure 10 Current PPM MAA (2007/08)

TOC	MAA	As at period
First Great Western	83.0%	12
CrossCountry	86.9%	12
South West Trains	92.2%	12

Section 2: Tomorrow's railway

HLOS output requirements

Figure 11 Total demand to be accommodated by Strategic Route

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

Future demand

Demand for passenger traffic from the south west to London 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 is also on the increase and is expected to continue under the new franchise.

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. All of the 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.

Section 3: Proposed strategy

Figure 12 summaries 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
2009/10	Additional vehicles for increased train lengths on Kennet Valley services		Increased seating capacity
2009/10		Reading – Exeter linespeed increase	Improved reliability and capacity
2011/12		Woodborough loop extension and increased entry speed	Improved reliability and capacity
2011/12		Hungerford loop extension and increased entry speed	Improved reliability and capacity

Strategic direction

The South West Regional Assembly's emerging Regional Spatial Strategy (RSS), covering the period until 2026, focuses on the implementation of an integrated transport corridor approach where local authorities will work with the rail industry to develop opportunities to facilitate modal shift, address overcrowding, improve strategic interchanges and improve use of the network to deliver spatial growth and congestion targets.

The RSS also recommends that commercial developments which generate high volumes of freight movements should be located close to appropriate rail freight facilities to support more sustainable distribution.

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 RPAs will inform the Network Rail led Great Western RUS planned for publication in 2009. The GW RUS will consider a thirty year period.

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 is extremely important to the business community.

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:

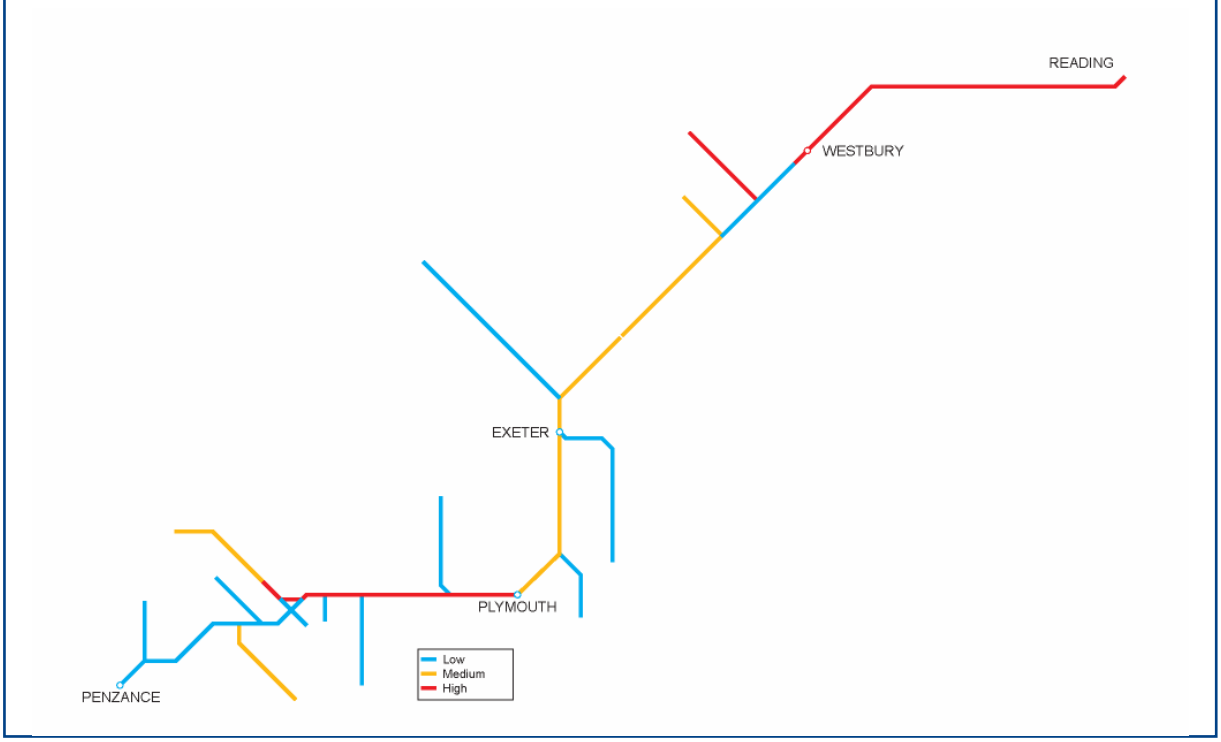
- maximise the efficient use of existing rail assets by increasing service frequency;
- lengthening existing train services;
- enhance infrastructure to improve both frequency and capacity;
- simplify service patterns; and
- make step-changes in infrastructure.

Further interventions on the GWML, such as Intercity Express Programme (IEP), Crossrail and European Rail Traffic Management System (ERTMS) towards the end of the next regulatory control period 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) on part of the route, replacing the current fleet of High Speed Trains, in 2016 will bring additional seating capacity through the proposed longer formations. Infrastructure enhancement, such as platform extensions and re-alignment, 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.

The phased implementation of European Rail Traffic Management System (ERTMS) onto the GWML will commence in 2017. ERTMS is an in-cab system supported by the GSM-R radio network, replacing the need for fixed lineside equipment and 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.

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 2017.

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 class 142, 143, 150, 153 and 158 carriages to provide an improved passenger environment is due to be completed during 2008.

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	87.0%	88.2%	89.1%	89.7%	90.1%
CrossCountry	87.9%	88.7%	89.7%	90.4%	90.9%
South West Trains	92.5%	92.8%	93.1%	93.2%	93.3%

Figure 15 Forecast PPM MAA - proposed local commitments

	2009/10	2010/11	2011/12	2012/13	2013/14
First Great Western	86.1%	87.3%	88.2%	88.8%	89.2%
CrossCountry	86.7%	87.4%	88.4%	89.1%	89.7%
South West Trains	90.7%	91.0%	91.2%	91.4%	91.5%

Future capability

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

Network Rail is developing a national programme for station improvements and car park expansion; the 'National Stations Improvement Programme' (NSIP) for enhancements and improvements of Stations in CP4 – and at selected sites commencing during CP3. 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 David's, St Austell, Truro and Penzance.

The Department for Transports Access for All Programme also targets improvements to station access at a number of locations. The current programme includes Westbury, Taunton, Exeter Central and St Erth.

Future capacity

In order to deliver our strategy of developing core high speed routes it will be necessary to provide additional capacity for slower moving traffic. Whilst this would be predominantly 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 cross country 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 reducing the signalling headways between Newton Abbot and Plymouth with the implementation of ERTMS.

At Reading we aim to redevelop the whole of the station area in order to provide additional capacity and improve reliability. Phase 1 implementation, which mainly focuses on developing the station structures and remodelling the track layout starts in March 2009 and runs to March 2012. Phase 2 commences in April 2011 and continues to March 2016 and focuses mainly on the west end grade separation element as well as the Waterloo lines platform alterations. This project is government and third party funded. A new maintenance depot is being provided at Reading West, replacing the existing depots which are to be demolished to facilitate the revised layout.

We are evaluating linespeeds and little-used level crossings on the Barnstaple branch to deliver a more robust timetable to meet future needs.

Future performance

Figure 14 sets out the planned PPM for each train operator. Figure 15 sets out the trajectory we propose as local commitments with each operator. These are lower than planned given the need for flexibility in achieving the HLOS targets and to reflect the greater uncertainty and risk associated with projecting performance at a disaggregated level. Reasonable requirements will finally be established for CP4 in our 2009 Business Plan. In some cases the services covered by the franchises will change; this means that the forecast PPM figures are not directly comparable with the current PPM figures.

Our strategy of developing core high speed 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.

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 the proposed West of England Integrated Control Centre is yet to be determined.

First Great Western (FGW)

The performance of the FGW franchise is currently 83.0 percent PPM. Both Network Rail and First Great Western are working together to improve the PPM performance across the whole franchise, with a joint focus on the successful implementation of timetable changes which are critical to the achievement of improved PPM. The 2008/09 Joint Performance Plan targets a PPM of 86.0 percent by April 2009.

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

- construction works risk due to the remodelling of Reading Station;
- timetable review for FGW services ;
- enhancement opportunities in evaluation, including Reading Station benefits;
- reduction in the impact of trespass, vandalism and fatalities;
- Autumn management;
- improved infrastructure reliability in the Thames Valley;
- implementation of GSM-R allowing widespread use of the Turbo fleet; and
- 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 90.1 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. The franchise was re-mapped from 11 November 2007 bringing together parts of former Virgin Cross Country and former Central Trains routes. Additional capacity in the form of HSTs as well as additional seating on Class 220/221 and Class 170s will be introduced in the period between May 08 and Summer 09.

Performance Levels

PPM MAA for the remapped franchise at the end of period 12 2008 is 86.9 percent. The target contained in the 2008-09 JPIP is 87.3 percent.

Franchise plans developed during bidding based on TOC on Self improvements have a PPM figure of 88.7 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. The PPM figures shown for CP4 represent Network Rail's forecasts but while there have been some high level discussions, CrossCountry has not yet been able to agree formally a PPM figure for the end of CP4.

Significant lateness

Network Rail nationally is developing plans for a 25 percent reduction in trains over 30 minutes late over Control Period 4. 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 repay 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.

Extreme weather

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 services. CrossCountry's geographic coverage means that 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 deal with such incidents. Of particular concern to CrossCountry 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.

Engineering access

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 for the next two years. 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.

CrossCountry, like other operators has aspirations for a 7 day railway. The nature of CrossCountry, Sunday carries the second highest volume of passengers (with Friday peak having the greatest volume). Therefore, some weekend line closures, extended journey times and bus replacement services can impact on the revenue of the business. Possession overruns resulting in unplanned service changes are particularly damaging.

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 on to the GWML from 2017 will deliver reliability, capacity and capability improvement opportunities throughout the route.

Enhancements to be completed by end of CP3

Figure 16 CP3 enhancements

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2007/08	Ⓐ Penwithers Junction	Increase junction speed from 40mph on the Falmouth branch to 50mph	Improved reliability – increased capacity on branch	Network Rail Discretionary Fund	7
2008/09	Ⓑ Falmouth branch capacity enhancement	Platform extension and passing loop at Penryn	Improved reliability – increased capacity on branch	Third Party	6
2008/09	Ⓒ Reading – Exeter	Linespeed increase	Improved reliability	Network Rail	5
2008/09	Ⓓ Taunton Down Relief Line	Linespeed increase	Improved reliability – operational flexibility	Network Rail Discretionary Fund	6

Proposed enhancements in CP4

Figure 17 Proposed enhancements in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2009/10	Ⓔ Reading - Exeter	Linespeed increase	Improved reliability and capacity	Network Rail Renewals	5

NRDF candidate schemes in CP4

Figure 18 Candidate NRDF schemes in CP4

Implementation date	Project	Project description	Output change	Funding	GRIP stage
2011/12	Ⓕ Woodborough loop extension	Increased loop length and entry speed	Improved reliability and capacity	Network Rail Discretionary Fund	1
2011/12	Ⓖ Hungerford loop extension	Increased loop length and entry speed	Improved reliability and capacity	Network Rail Discretionary Fund	1

Maintenance and renewals activity

Figure 19 shows the estimated maintenance and 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 & 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 small proportion of the activities in these areas will slip to subsequent years.

Figure 19 Summary of estimated maintenance & renewals costs and activity volumes

£m (2006/07 prices)	2009/10	2010/11	2011/12	2012/13	2013/14	Control Period Totals CP4	CP5	CP6	CP7
Maintenance expenditure									
Track	15	14	14	14	13	70	59	58	57
Signalling	3	3	3	3	3	14	13	12	12
Electrification	0	0	0	0	0	0	0	0	0
Telecoms	2	1	1	1	1	7	6	6	6
Plant and Machinery	0	0	0	0	0	2	1	1	1
Other (overheads / indirect)	13	13	13	12	12	63	57	54	54
Total	**33**	**32**	**31**	**30**	**29**	**156**	**136**	**132**	**130**
Renewals									
Track	30	30	28	24	24	136	135	74	105
Signalling	4	3	5	6	4	22	44	118	14
Civils	23	17	16	16	15	87	77	74	74
Operational Property	6	6	6	6	5	28	27	27	27
Electrification	0	0	0	0	0	0	0	0	0
Telecoms	10	7	5	4	1	27	9	7	10
Plant and Machinery	7	2	3	5	2	19	10	10	11
Total	**80**	**66**	**63**	**61**	**52**	**321**	**303**	**309**	**241**
Renewals Volumes									
Rail (KM)	31	30	31	31	30	153	224	71	63
Sleepers (KM)	35	35	35	35	35	177	177	87	195
Ballast (KM)	39	39	39	39	39	194	233	176	284
S&C Units	13	20	14	6	8	61	53	43	44
SEUs commissioned	0	0	0	0	0	0	0	821	61

Appendix

Figure 20 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 20 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, inter-urban 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

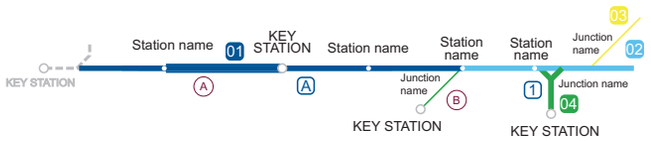
Other Issues on Route	
1	Flood plain to the north of Exeter requires constant monitoring
2	Dawlish Sea Wall defences require constant monitoring and enhanced maintenance

Note

This Route Plan forms part of the April 2008 update of Network Rail's Strategic Business Plan. The Route Plan supersedes the version published on 1 November 2007.

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

Key to route diagrams



Capacity and operational constraints
A — Location: capacity or operational constraint

Issues on the route
1 — Location: issue on the route

Key planned projects
A — Location: planned project on the route

Strategic route sections
01 — Listed in the appendix of the route plan

Other symbols
- Key station location
- KEY STATION — Key station on this route
- KEY STATION — Key station on another route
- Other station location
- Station name — Other station on this route
- Junction name — Junction / other landmark

Track descriptions

The colour of the line denotes the route classification
- Primary
- London and South East commuter
- Secondary
- Rural
- Freight only

The line shading indicates strategic route sections which are numbered on the map

The width of the line denotes the number of tracks
- Multiple track
- Double track
- Single track

Other lines are shown as follows:
- Line on other route
- Non Network Rail infrastructure
- Non operational line

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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Network Rail
40 Melton Street
London NW1 2EE

Tel: 020 7557 8000

www.networkrail.co.uk

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